

Veterans Accounts



BULLETIN

**arizona state
college**

TEMPE

CATALOG
ISSUE
1953 • 1954

NEW SERIES

MARCH 1953

No. 3

CALENDAR 1953

JULY							AUGUST							SEPTEMBER						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
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12	13	14	15	16	17	18	9	10	11	12	13	14	15	13	14	15	16	17	18	19
19	20	21	22	23	24	25	16	17	18	19	20	21	22	20	21	22	23	24	25	26
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..	30	31
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CALENDAR 1954

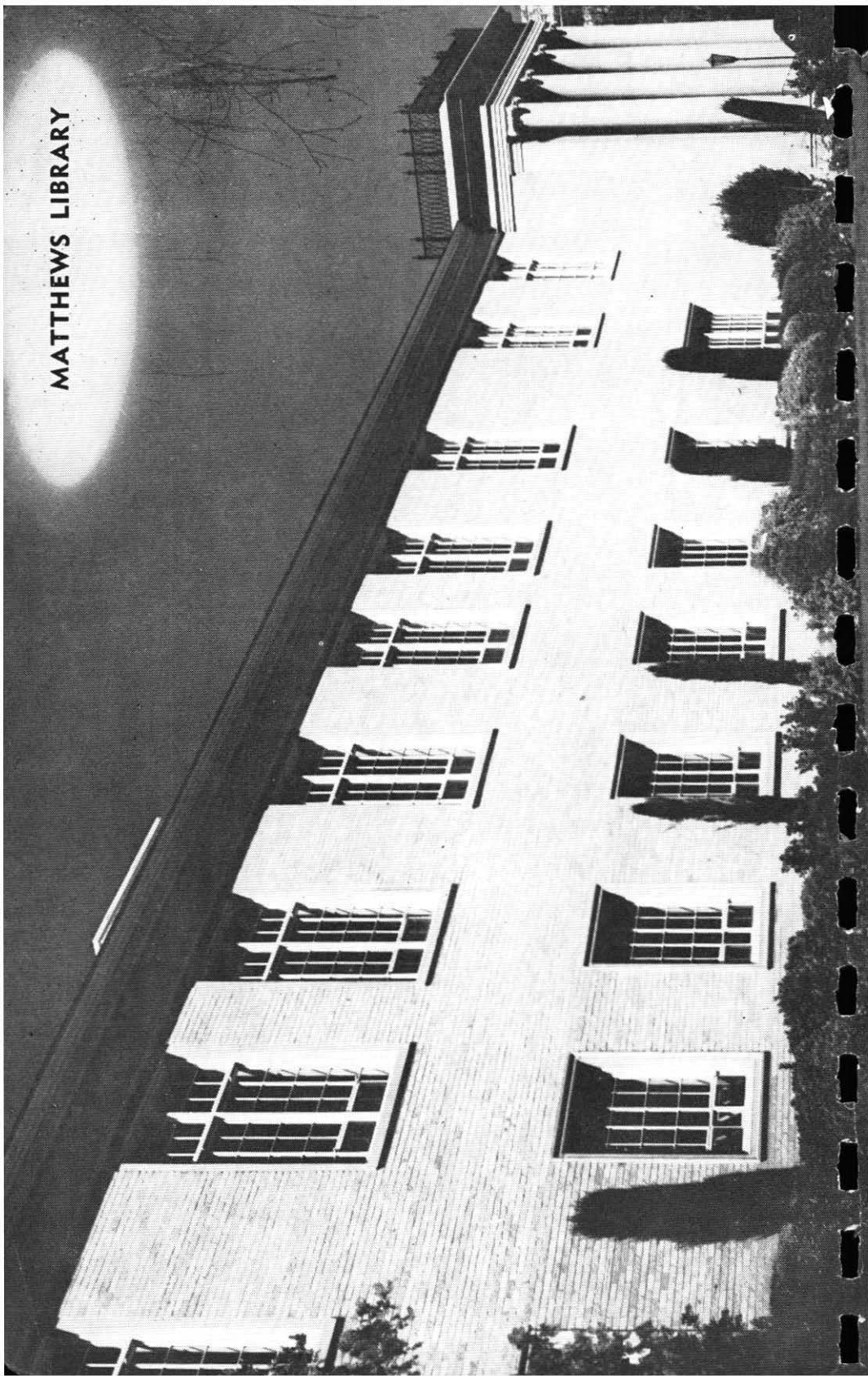
JANUARY							FEBRUARY							MARCH						
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31
APRIL							MAY							JUNE						
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PUBLISHED SIX TIMES A YEAR DURING THE MONTHS OF JANUARY, FEBRUARY, MARCH, APRIL, MAY AND JUNE AND ENTERED AS SECOND CLASS MATTER NOVEMBER 30, 1931, IN THE POST OFFICE AT TEMPE, ARIZONA, UNDER THE ACT OF AUGUST 24, 1912.

ADMINISTRATION



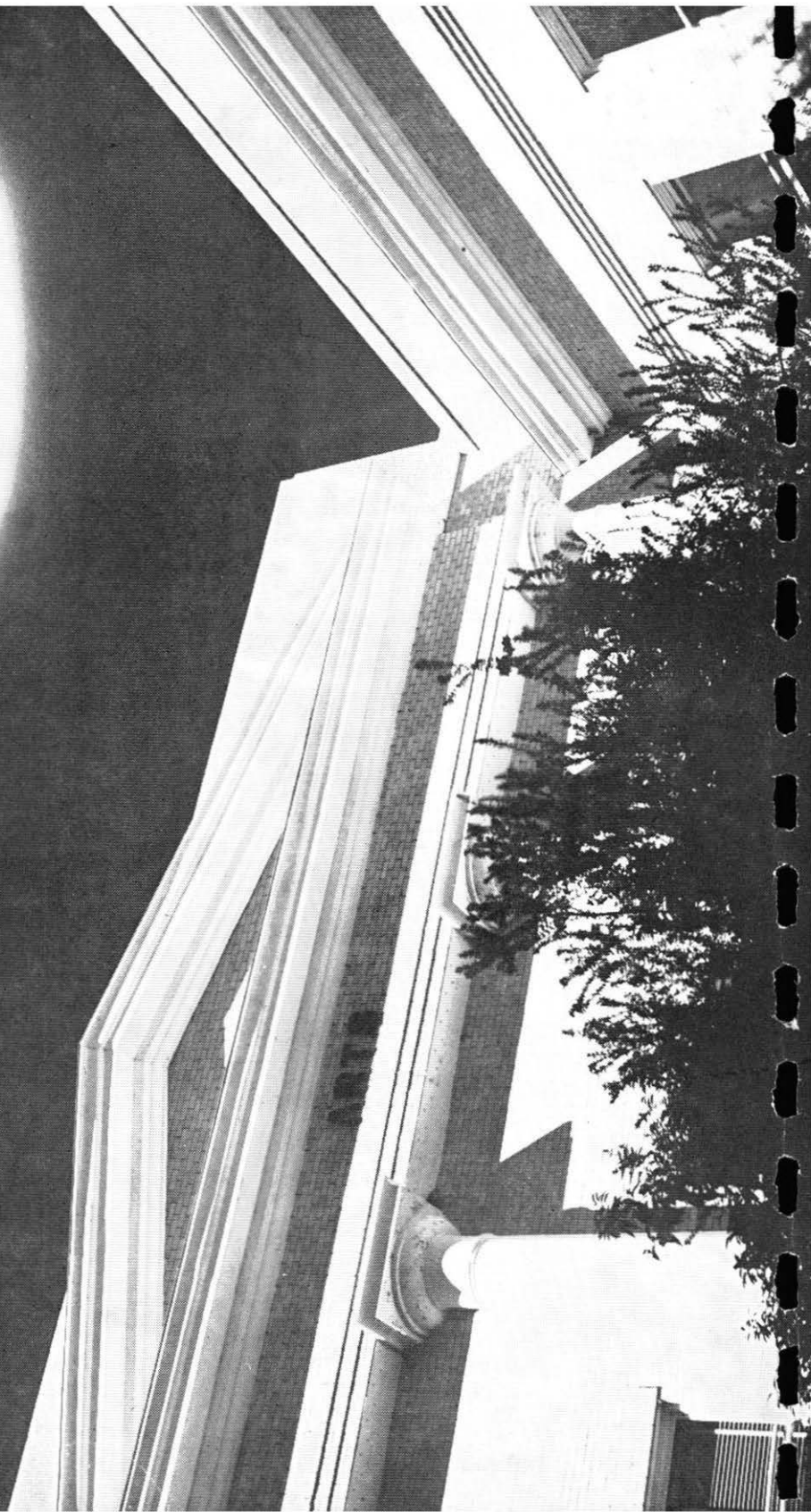
MATTHEWS LIBRARY



A black and white photograph of a school building with a modern architectural style, featuring large windows and a flat roof. Several palm trees are in the foreground, partially obscuring the building. The image is oriented vertically on the page.

PHYSICAL EDUCATION

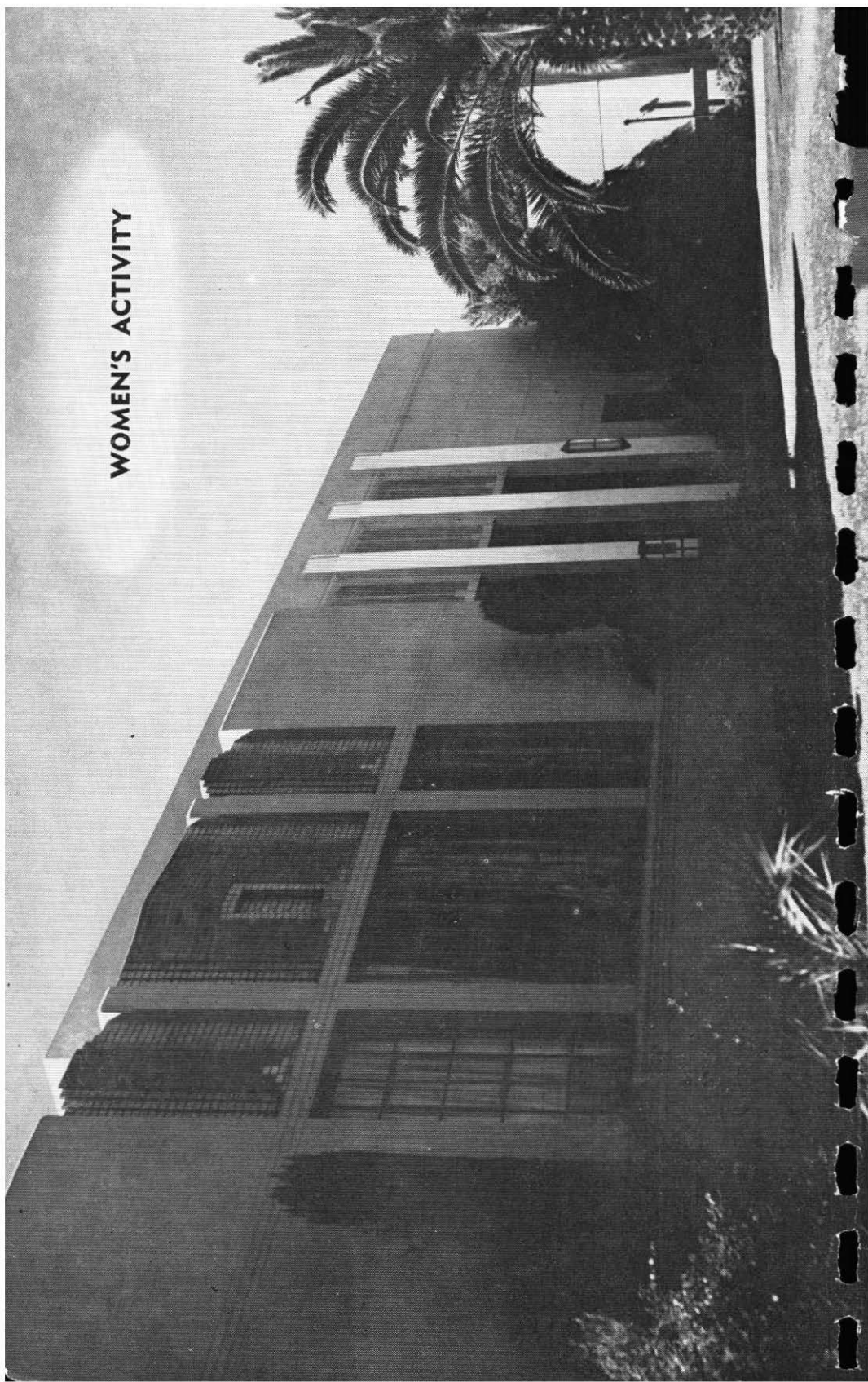
ARTS
MUSIC AND ART



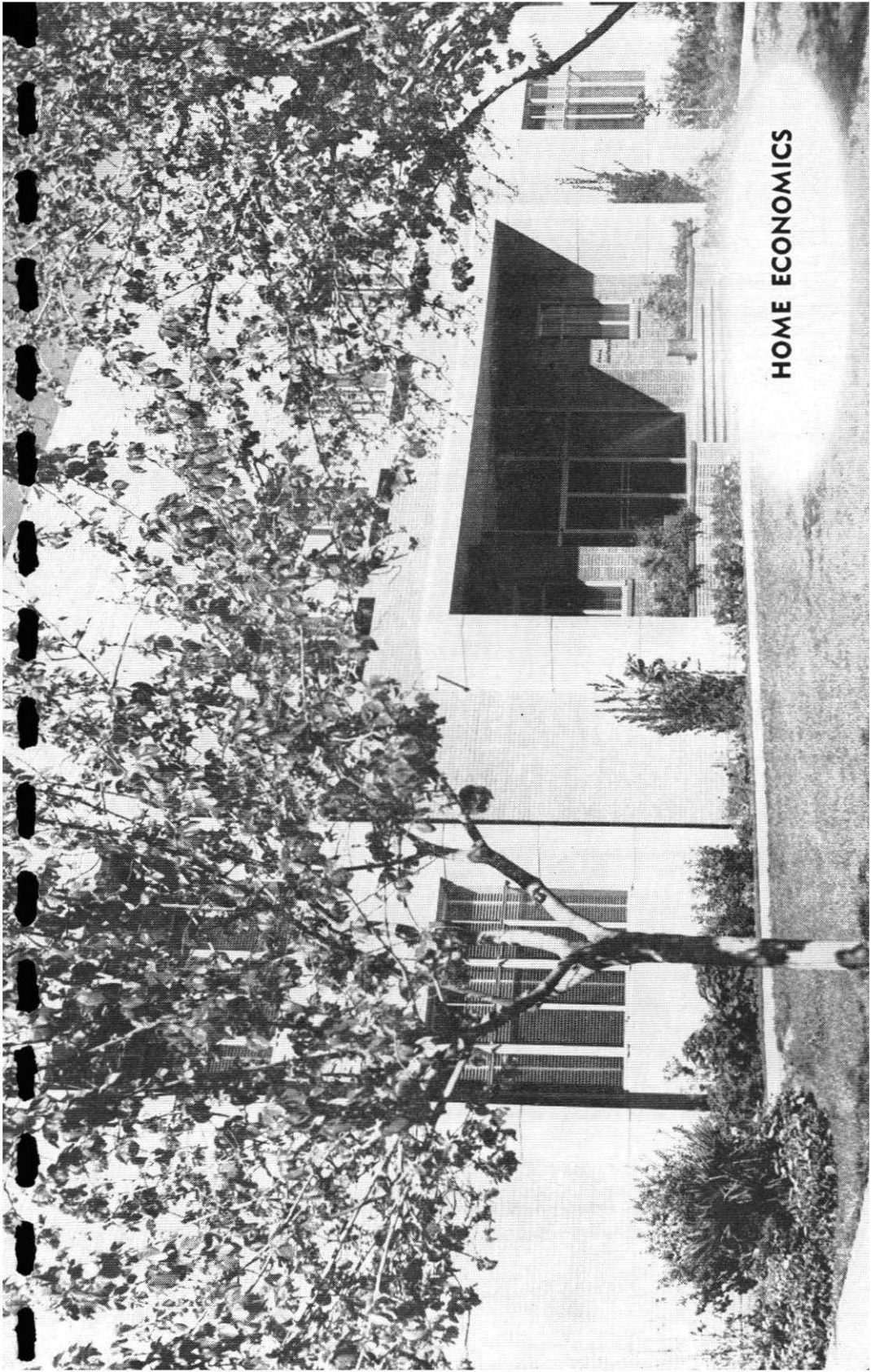
A black and white photograph of a modern building with a grid-like facade. Several palm trees are in the foreground, casting long shadows on the building's surface. The scene is brightly lit, creating high contrast between the dark shadows and the light-colored building. The overall composition is vertical, with the building's facade running from top to bottom.

BUSINESS ADMINISTRATION
and **AGRICULTURE**

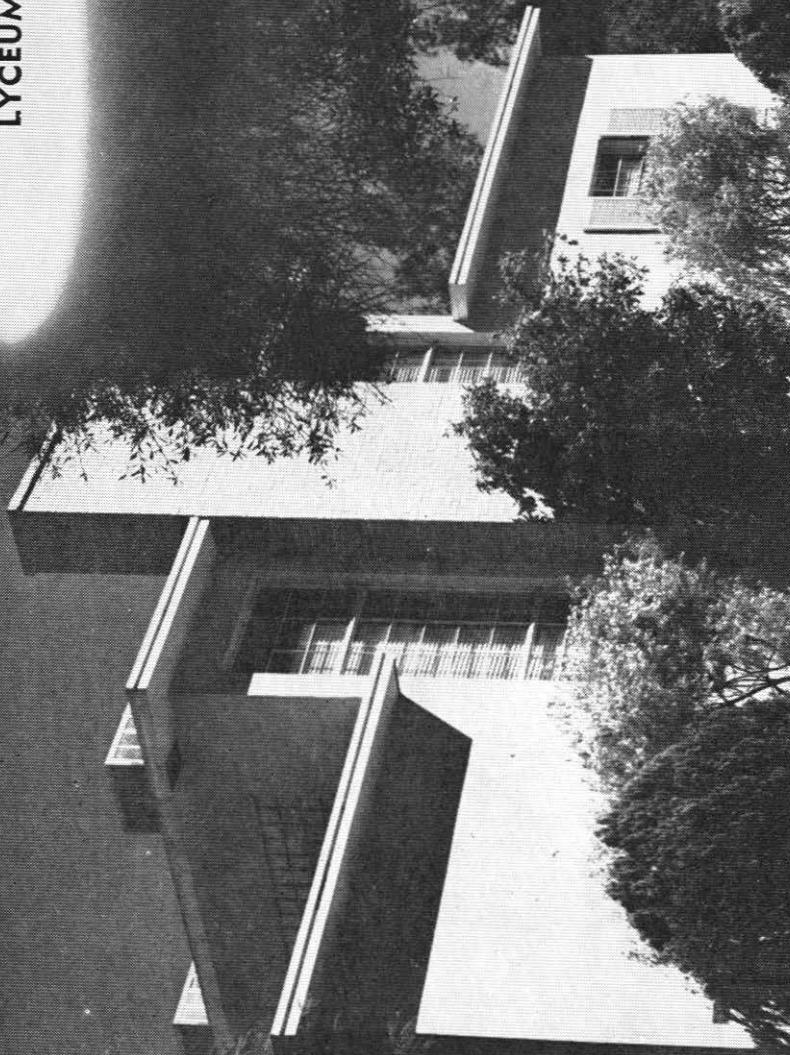
WOMEN'S ACTIVITY



HOME ECONOMICS



LYCEUM



BULLETIN OF
arizona state college

TEMPE, ARIZONA



CATALOG ISSUE 1953 • 1954



NEW SERIES

MARCH 1953

No. 3

Table of Contents

College Calendar	4
Board of Regents	6
Officers of Administration	6
Officers of Instruction	7
Assistants in Administration	16
Assistants in Maintenance Department	18
The College	
Purposes	19
History	20
Recognition by Accrediting Agencies	21
The College Setting	22
Environment	22
Grounds	22
College Buildings	23
Administration	23
Auditoriums	23
College Libraries	23
Classroom and Laboratory	25
Physical Education and Recreation	26
Residences	26
Residence Halls	27
Student Services	27
Maintenance	28
Entrance Information	
Admission to College	29
General Requirements	29
High School Graduates	30
Conditional Admission	30
Non-Graduates of High Schools	30
Special Information for Veterans	31
Admission with Advanced Standing	32
Admission to Summer Session	32
Registration	32
The College Guidance Program	36
Housing	37
Fees, Deposits, and Expenses	39
Regulations Affecting Students	
Attendance	43
Conduct of Students	43
Graduation Requirements	44
Requirements for the Bachelors' Degrees	44
Requirements for the Masters' Degrees	46
Marking System	46
Services to Students	
Placement Bureau	49
Health Service	49
Honors and Awards	50
Loan Funds and Foundations	55
Scholarships and Fellowships	56
Student Affairs	
Student Government	61
Student Organizations	62
Departmental, Interest, and Recognition Organizations	62
Sororities and Fraternities	65

Special Group Activities	66
Music Activities	66
Physical Activities	66
Speech and Dramatics	67
Student Publications.....	67
General Information	
Alumni Association	68
Extension Division	69
Residence Center Classes	69
Correspondence Courses	69
The Summer Session	70
The Graduate Division	
The Graduate Program	71
Admission to Graduate Work	72
Master of Arts in Education Degree	72
Doctor of Education Degree	73
Graduate Courses	75
Graduate Bulletin	76
The Curriculums	
Teacher-Education Curriculums	78
Directed Teaching	79
Kindergarten-Primary Curriculum	80
Elementary Curriculum	81
Secondary Curriculum	83
Arts and Sciences Curriculums.....	85
Professional and Preprofessional Curriculums	86
Architecture	86
Pre-Veterinary and Pre-Forestry	87
Pre-Dietetics	88
Pre-Engineering	88
Pre-Law	89
Medical Technology.....	90
Pre-Medical and Pre-Dental	91
Nursing and Pre-Nursing	92
Pre-Optometry	94
Pre-Pharmacy	95
Technical and Semi-Professional Curriculums	95
Departments of Instruction	
Agriculture	96
Air Science and Tactics	104
Art	107
Biological Sciences	113
Business Administration	120
Education	133
English	145
Foreign Languages	154
Home Economics	159
Industrial Arts	163
Library Science	180
Mathematics	183
Military Science and Tactics	186
Music	189
Health Education and Physical Education	197
Physical Sciences	208
Psychology	217
Social Studies	222
Statistics	
Summary of Registration, 1951-52	231
Summary of Graduates, 1951-52	232
List of Graduates and Honor Students 1951-1952	233

College Calendar, 1953-54

Fall Semester

Faculty Planning Conference	Sept. 4, Fri.
Residence Halls and Dining Hall Open	Sept. 5, Sat.
First Freshman Assembly	Sept. 8, Tues., 8:30 a.m.
Orientation and Guidance for Freshmen.....	Sept. 8, 9, 10, Tues., Wed., (All Freshmen are expected to be in Thurs. attendance on these days for the special orientation programs, aptitude tests and physical examination.)
Freshmen Students will Complete Regis- tration and Pay Fees	Sept. 11 to Noon Sat., Sept. 12.
Sophomores, Juniors, Seniors and Gradu- ates Receive Registration Materials and Complete Registration	Sept. 10, 11 to Noon Sat., Sept. 12.
Instruction Begins	Sept. 14, Mon.
Last Day of Registration for Credit	Sept. 26, Sat. Noon
Deficient Scholarship Reports Due	Nov. 6, Fri., 4:00 p.m.
Armistice Day, No Classes	Nov. 11, Wed.
Thanksgiving Recess	Nov. 25, Wed., 10:00 p.m. to Nov. 30, Mon., 8:00 a.m.
Christmas Vacation	Dec. 19, Sat., 12:00 Noon to Jan. 4, Mon., 8:00 a.m.
Final Examinations	Jan. 15, 18, 19, 20, 21, Fri., Mon., Tues., Wed., Thurs.
First Semester Grade Reports Due	Jan. 22, Fri., 4:30 p.m.

Spring Semester

Residence Halls Open to New Students	Jan. 22, Fri. Noon
New Freshmen and Transfer Students Get Registration Materials, Take Apti- tude and Physical Examinations.....	Jan. 22, 23, Fri., Sat.
Registration Days	Jan. 26, 27, Tues., Wed. (All Students will Complete Registra- tion and Pay Fees.)
Instruction Begins, Second Semester	Jan. 28, Thurs.
Last Day of Registration for Credit	Feb. 10, Wed.
Washingtons' Birthday, No Classes	Feb. 22, Mon.
Deficient Scholarship Reports Due	Mar. 19, Fri., 4:00 p.m.
Easter Vacation	Apr. 15, Thurs., 10:00 p.m. to Apr. 20, Tues., 8:00 a.m.
Senior Scholarship Reports Due	May 17, Mon. Noon
Graduate Scholarship Reports Due	May 17, Mon. Noon
Commencement Rehearsal—Goodwin Stadium	May 21, Fri., 8:00 a.m.
Honors Assembly	May 21, Fri., 10:30 a.m.
R.O.T.C. Honors Ceremony and Parade	May 21, Fri., 8:00 p.m.
Baccalaureate Service	May 23, Sun., 8:00 p.m.
Commencement Exercises	May 25, Tues., 8:00 p.m.
Final Examinations	May 24, 25, 26, 27, 28, Mon., Tues., Wed., Thurs. Fri.
Final Semester Grade Reports	May 31, Mon. Noon

Summer Session

Pre-Session Begins, Registration	May 29, Sat., 8:00 a.m.
Pre-Session Ends	June 5, Sat. Noon
First Summer Session Begins, Registration..	June 7, Mon.
First Summer Session Ends	July 10, Sat.
Second Summer Session Begins, Registration	July 12, Mon.
Post Session Registration	July 17, Sat.
Second Summer Session Ends	Aug. 14, Sat.
Post Session Begins	Aug. 16, Mon.
Post Session Ends	Sept. 4, Sat.

Board of Regents of The University and State Colleges of Arizona

Ex-Officio

HOWARD PYLE, LL. D.....Governor of Arizona
M. L. BROOKS, M.A. in Ed.....State Superintendent of
Public Instruction

Appointed

	TERM EXPIRES
WALTER R. BIMSON, President.....	January, 1955
LYNN M. LANEY, B.S., J.D., Asst. Treasurer.....	January, 1955
JOHN G. BABBITT, B.S.....	January, 1957
MICHAEL B. HODGES, Treasurer.....	January, 1957
JOHN M. JACOBS.....	January, 1959
EVELYN J. KIRMSE, A.M., Asst. Secretary.....	January, 1959
ALEXANDER G. JACOME, B.S.....	January, 1961
WILLIAM R. MATHEWS, A.B., Secretary.....	January, 1961

Officers of Administration

1952-53

GRADY GAMMAGE.....President of the College
A.B., M.A., LL.D., Arizona; Ed.D., New York University

HAROLD D. RICHARDSON.....Dean of the College;
Professor of Education
Ph.B., Ph.M., Wisconsin; Ph.D., Northwestern

FRED CRAWFORD.....Director of Graduate Study;
Professor of Education
A.B., Santa Barbara State; M.S. in Ed., Ed.D., Southern California

J. O. GRIMES.....Director, Correspondence; Professor of Psychology
A.B. in Ed., Ohio; M.A., Ph.D., Michigan

ROY C. RICE.....Director of the Summer Session and Extension;
Professor of Education
B.S., New Mexico; M.S., Massachusetts State; Ph.D., Texas

GILBERT L. CADY.....Comptroller; Chairman,
Division of Business Management
B.A. in Ed., Arizona State, Tempe

W. P. SHOFSTALL.....Dean of Students; Chairman,
Division of Student Affairs
B.S. in Ed., Northeast Missouri State; M.A., Ph.D., Missouri

CATHERINE G. NICHOLS.....Associate Dean of Students
A.B., M.A., Kentucky; Ed.D., Teachers College, Columbia

- GEORGE C. YATES.....Director of Special Services;
Associate Professor of English
B.S., M.A., Missouri
- HAROLD W. BATCHELOR.....Head Librarian;
Associate Professor of Library Science
B.A., Oregon; B.S., M.S. in L.S., Illinois
- ALFRED THOMAS, JR.....Registrar and Director of Admissions
B.A. in Ed., M.A. in Ed., Arizona State, Tempe
- ROBERT F. MENKE.....Director of Placement;
Associate Professor of Education
B.S., Oshkosh State College; M.A., Ph.D., Northwestern

Officers of Instruction

1952-53

- GAMMAGE, GRADY - - - - - President of the College
B.A., M.A., LL.D., Arizona; Ed.D., New York
- ADAMSON, DONALD L., CAPTAIN - - - - - Assistant Professor
of Air Science and Tactics
B.S., Arizona
- ANDERSON, MARGERY M. - - - - - Instructor in Education
B.A., Yankton; M.A., Chicago
- AUSTIN, GLENN - - - - - Assistant Professor of Education
B.A., M.A., Kansas; Ph.D., Ohio State
- AUTENRIETH, BERTHA H. - - - - - Assistant Professor of Music
B.M., New England Conservatory; M.M., Michigan
- BALL, RACHEL STUTSMAN - - - - - Associate Professor of Psychology
A.B., Cornell; Ph.D., Chicago
- *BARGER, JAMES D. - - - - - Special Lecturer in Medical Technology;
Pathologist—Good Samaritan Hospital
A.B., B.S., Dakota; M.D., Pennsylvania; M.S. (Pathology) Minnesota
- BARKLEY, BESS - - - - - Associate Professor of Music
B.A., Arizona
- BARRETT, THOMAS W. - - - - - Assistant Professor of Agronomy
B.S., Brigham Young; M.S., Ph.D., Cornell
- BATCHELOR, H. W. - - - - - Associate Professor of Library Science;
Head of Department; Head Librarian
B.A., Oregon; B.S., M.S., in L.S., Illinois
- BATEMAN, GEORGE M. - - - - - Professor of Chemistry;
Head, Department of Physical Sciences
B.S., Utah State Agricultural; M.S., Ph.D., Cornell
- BEALS, ARTHUR R. - - - - - Assistant Professor of Accounting
B.A. in Ed., M.A. in Ed., Arizona State, Tempe; C.P.A., Arizona
- BELL, RICHARD H. - - - - - Instructor in Education
B.A., Miami University; M.A., Columbia
- BENEDICT, JOEL A. - - - - - Associate Professor of Education;
Director, Bureau Audio-Visual Aids
B.A. in Ed., M.A. in Ed., Arizona State, Tempe
- BERGERON, THEODORE S., M/SGT. Instructor in Military Science
and Tactics
- BOLLING, REXFORD - - - - - Assistant Professor of Psychology
B.Ed., Fredonia State Teachers College; M.S., Syracuse

* Part Time

- BOWERS, CHARLES O. - - - - - Assistant Professor of Music;
Director of Orchestra
B.S., Southeast Missouri State; M.M., Eastman School of Music
- BRATCHER, AUSTIN S. - - - - - Professor of Marketing
B.A., Trinity; M.A., M.B.A., (Statistics), Texas; M.B.A. (Marketing),
Chicago
- BROWN, DUANE - - - - - Assistant Professor of Chemistry
B.S., Brigham Young; Ph.D., Cornell
- BROWN, HOWARD - - - - - Assistant Coach
B.S., Indiana
- BRYANT, FRED O. - - - - - Instructor in Physical Education
B.S. in P.E., Springfield College; M.Ed., Illinois
- BULLOCK, ARNOLD - - - - - Associate Professor of Music
Mus.B., Yale; M.A. in Ed., Arizona State, Tempe
- BURGESS, GWEN - - - - - Assistant Professor of Art
B.S., James Millikin University; M.A., Columbia
- BURGOYNE, EDWARD E. - - - - - Assistant Professor of Chemistry
B.S., Utah State; M.S., Ph.D., Wisconsin
- BURK, KARL W. - - - - - Assistant Professor of Industrial Arts
B.A., M.A., Arizona State, Tempe
- BURKE, DONA BOYLE - - - - - Assistant Professor of English
B.A., M.A., Michigan
- BURKHARD, SAMUEL - - - - - Professor of Education
B.A., Goshen; M.A., Columbia; Ph.D., New York
- BURTON, A. R. - - - - - Professor of Accounting
B.S., M.S., Kansas State; Ph.D., Nebraska; C.P.A., Arizona
- BYERS, FRANK R. - - - - - Professor of English;
Director of the Drama Workshop
B.A., M.A., Cincinnati
- BYERS, NELLIE B. - - - - - Assistant Professor of Education
B.A., Cincinnati; M.A., Ohio State
- CASTILLO, SENON A. - - - - - Instructor in Physical Education;
Track Coach
B.A., M.S., Arizona State, Tempe
- CAVALLIERE, WILLIAM A. - - - - - Asst. Professor of Industrial Arts
B.A. in Ed., M.A. in Ed., Arizona State, Tempe
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B.S., M.Agr. Ed., Arizona
- CONLIN, DAVID A. - - - - - Assistant Professor of English
A.B., Syracuse; Ph.D., Yale
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Director of Graduate Study
A.B., Santa Barbara State; M.S. in Ed., Ed.D., Southern California
- CRAWFORD, MARILYN - - - - - Instructor in Health Education
and Physical Education
B.S. in P.Ed., Women's College, North Carolina; M.A., North Carolina
- DALE, MANLEY H., JR., MAJOR - - - - - Assistant Professor
of Air Science and Tactics
- DAVIES, MADOC W. - - - - - Assistant Professor of English
B.A. in Ed., M.A. in Ed., Arizona State, Tempe
- DEAN, ERNEST H., T/SGT. - Instructor in Air Science and Tactics
- DICKINSON, ARTHUR L. - - - - - Instructor in Physical Education;
Trainer, Department of Intercollegiate Athletics
B.A., Iowa State; M.S., Indiana
- DOUTHIT, J. C. - - - - - Instructor in Industrial Arts
B.E.E., Arkansas; M.A. in Ed., Arizona State, Tempe
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- DRESSKELL, MILES A. - - - - - Professor of Music
A.B., San Jose State; B.M., Northwestern; M.A., Columbia
- DRESSKELL, NADINE - - - - - Assistant Professor of Music
B.S., Bowling Green State; M.A., Columbia
- ELLSWORTH, LOLA - - - - - Associate Professor of Home Economics
B.S., Brigham Young; M.A., Columbia
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A.B., Nebraska; M.S. in Architecture, Columbia
(Registered Architect in Arizona)
- ENSIGN, MEL C. - - - - - Assistant Professor of Industrial Arts
B.Arch., Southern California; M.Arch., Harvard
(Registered Architect in Arizona)
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Walter Reed Hospital
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B.A., Concordia; B.P.E., Springfield; M.A., Southern California
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B.S., B.Mus., Illinois; M.S., Idaho
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- MAMMEN, JOHN H., CAPTAIN - - - Assistant Professor of Air
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B.S., M.A., Ball State; Ph.D., Indiana
- MAUGHAN, GEORGE H. - - - Associate Professor of Zoology
B.S., Idaho; A.M., Utah; Ph.D., Cornell

* Part Time

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and Tactics
- MCCLEARY, JAMES A. - - - - Associate Professor of Botany
B.A., Asbury; M.S., Ohio; Ph.D., Michigan
- MCGRATH, G. D. - Professor of Education; Head of Department
A.B., Findlay College; M.A., Michigan; Ph.D., Colorado
- MCKINNON, ANNA MARY - - Associate Professor of Accounting
B.S., Illinois; M.B.A., Northwestern; C.P.A., Arizona
- MCLEROY, GEORGE B. - Assistant Professor of Animal Husbandry
B.S., Texas Technological College, Lubbock; M.S., Iowa State;
Ph.D., Oregon State
- MCSLOY, DEAN F. - - - - Associate Professor of Speech
B.A., Yankton; M.S., Northwestern
- MENKE, ROBERT F. - - - - Associate Professor of Education;
Director of Placement
B.S., Oshkosh State; M.A., Ph.D., Northwestern
- SMERRITT, CHARLES - - - Associate Professor of Industrial Arts
B.A. in Ed., M.A. in Ed., Arizona State, Tempe
- MILLER, PAUL THEODORE - · Professor of Geography and Geology
A.B., Simpson; M.S., Ph.D., Iowa
- MOODY, E. GRANT - - - Assistant Professor of Dairy Husbandry
B.S., Arizona; M.S., Kansas State; Ph.D., Purdue
- MOORE, MARION L. - - - - Instructor in Education
B.A., Arizona; M.A., Chicago
- MORRIS, MARY VIRGINIA - - - Assistant Professor of Speech
B.A., Oregon; M.A., Washington
- MORTENSEN, MARTIN - - Associate Professor of General Science
B.A., Brigham Young; M.A., Arizona
- MOUNT, DICK - - - Associate Professor of Business Education
B.A., Simpson; M.S., Drake
- MULLIGAN, WILLIAM T., COL. - - Professor of Air Science and
Tactics; Head of Department
B.A., U.C.L.A.
- MURPHY, NINA L. - - - - Professor of Physical Education;
Director of Women
B.S. in Ed., Arizona; M.A., Southern California
- MYERS, LOUIS M. - - Professor of English; Head of Department
B.A., St. Stephens; M.A., Columbia; Ph.D., California
- NEEB, LEWIS S. - Professor of Industrial Arts; Head of Department
B.A., M.A., Arizona
(Registered Mechanical Engineer in Arizona)
- NELSON, DAVID V. - - - - Instructor in Secretarial Science
B.A. in Ed., M.A. in Ed., Arizona State, Tempe
- NELSON, ERWIN K., M/SGT. Instructor in Air Science and Tactics
- NEWLAND, MARTIN K., LT. COL. - - - Assistant Professor
of Air Science and Tactics
- NORTON, NAOMA - - - Assistant Professor of Home Economics
B.A., Highlands; M.A., Colorado A. & M.
- ONOFRIO, ALBERT J. - Assistant Professor of Physical Education
B.A. in Ed., M.A. in Ed., Arizona State, Tempe
- OSENBURG, FREDERIC C. - - - Associate Professor of English
B.A., M.A., Michigan; Ph.D., Illinois
- PARKER, ERNEST L. - - Associate Professor of Animal Husbandry
Ph.D., Leipzig, Germany
- PAVLICH, MARY - - - - Instructor in Physical Education
B.S. in Ed., Arizona; M.S. in P.E., Smith College

- PAXTON, KAY - - - - - Teaching Assistant
B.S., Arizona State, Tempe
- PAYNE, IRA DAWSON - - - - - Professor of Education
B.A., M.A., Stanford
- PEABODY, STANLEY - - - - - Instructor in Electricity and Electronics
B.S., Arizona State, Tempe
- PHILLIPS, GENE DAVID - - - - - Assistant Professor of Education
B.A., M.S., Butler; Ed.D., Indiana
- PIERCE, WILBUR R., COLONEL - - - - - Professor of Military Science
and Tactics; Head of Department
B.S., U.S. Military Academy, West Point
- PITTMAN, ANNE M. - - - - - Assistant Professor of Physical Education
B.S. in P.Ed., Texas; M.A. in Ed. Admin., New York University
- *PLUMMER, ROBERT N. - - - - - Professor of Speech
B.S., Oklahoma A & M.; M.A., George Peabody; Ph.D., Louisiana
- PODLICH, WILLIAM F. - - - - - Associate Professor of Education;
Director of Teacher Training
B.S., Maryland State; M.A., Columbia; Ph.D., Iowa
- POOLE, ROBERT H. - - - - - Assistant Professor of French and Spanish
Ph.B., Chicago; M.A., Nebraska; Ph.D., Stanford;
Certificat d'etudes, Paris
- PORTNOFF, COLLICE, H. - - - - - Professor of English
B.A., M.A., California; Ph.D., Stanford; F.A.A.R., M.A., American
Academy in Rome
- QUAID, HAZEL HARVEY - - - - - Associate Professor of Music
B.A. in Ed., Arizona State, Tempe; M.A. in Mus. Ed., Northwestern
- RANNELLS, JESSIE M. - - - - - Professor of Home Economics;
Head of Department
B.S., Iowa State; M.S., Cornell; Ph.D., Wisconsin
- RASMUSSEN, ROBERT - - - - - Assistant Professor of Animal Husbandry
B.S., Iowa State; M.S., Washington State
- RAWLS, WILLIAM S. - - - - - Assistant Professor of Physics
B.S., Murray State; M.S., Tulane
- RENNER, GEORGE T., III - - - - - Instructor in Geography
B.A., Stanford; M.A., Columbia
- RICE, ROSS R. - - - - - Instructor in Political Science
M.A., Chicago
- RICE, ROY C. - - - - - Professor of Education; Director
of Summer Session and Extension
B.S., New Mexico; M.S., Massachusetts State; Ph.D., Texas
- RICHARDSON, HAROLD D. - - - - - Professor of Education;
Dean of the College
Ph.B., Ph.M., Wisconsin; Ph.D., Northwestern
- RICKEL, HARRY - - - - - Assistant Professor of Music
B.M., M.M., Arizona
- RIGGINS, L. F. - - - - - Agricultural Mechanics
- ROBINSON, DANIEL O. - - - - - Associate Professor of Agronomy;
Head of Department
A.B., Brigham Young; M.A., Arizona; Ph.D., Ohio State
- *ROSENTHAL, MAURICE - - - - - Special Lecturer in Medical Technology;
Pathologist—Memorial Hospital
M.D., Medical College of Virginia
- ROVER, R. CRAIG - - - - - Assistant Professor of Education
B.A., Upsala College; M.A., St. Lawrence; Ph.D., Cornell
- SANDERSON, R. PHILLIPS - - - - - Assistant Professor of Art
School of the Art Institute, Chicago; Kansas City Art Institute

* Part Time

- SCHILLING, DOROTHY C. - - - - - Professor of English
B.A., M.A., Ph.D., Stanford
- SCOUJAR, DAVID B. - - - - - Associate Professor of Music
A.B., Texas Christian; M.A., Columbia
- SCRAFFOLD, ELMER J. - - - - - Assistant Professor of Music;
B.S., Ohio State; M.A., New York Assistant Band Conductor
- SHUGART, BERNACE, M/SGT. - - - Instructor in Military Science
and Tactics
- SKINNER, H. CLAY - Professor of Psychology; Head of Department
B.S. in Ed., Ohio; M.A., Ohio State; Ph.D., New York
- SMITH, CLYDE B. - - Associate Professor of Physical Education;
Head Football Coach
A.B., Geneva College; M.S. in Ed., Indiana
- SMITH, MARION W. - - - - - Instructor in Voice
B.S. Mus. Ed., Capital University; M.M., American Conservatory
- SMITH, SYDNEY RUSSELL - - Associate Professor of Psychology
B.A., M.A., Ph.D., California
- SOMERS, MADELINE - - - - - Instructor in Physical Education
B.A., Chestnut Hill College; M.S., Smith College
- SOUTHERN, CLARENCE EDWARD - Associate Professor of English
B.A., Evansville; M.A., Stanford
- SPENGLER, MARGARET V. - - - - - Instructor in Library Science
A.B., Diploma in Library Science, Denver
- STAHNKE, HERBERT L. - - - - - Professor of Zoology; Director,
Poisonous Animals Research Laboratory;
Head, Department of Biological Sciences
B.A., La Grange; B.S., Chicago; M.A., Arizona; Ph.D., Iowa State
- *STAPLEY, LOREL AARON Special Lecturer in Medical Technology;
Assistant Pathologist—St. Joseph's Hospital
B.S., B.M., M.D., Northwestern
- STEVENS, MILDRED L. - Associate Professor of Physical Education
B.S., Stephen F. Austin State; M.A., Texas State; P.Ed., Indiana
- STEVerson, NORRIS J. - Associate Professor of Physical Education
B.A. in Ed., Arizona State, Tempe; M.S., Southern California
- STEWART, KENNETH M. - - - - - Associate Professor of Sociology
A.B., M.A., Ph.D., California
- SWANGER, JOE N., MAJOR - - Assistant Professor of Air Science
and Tactics
- TAYLOR, LOUIS - - - - - Assistant Professor of English
B.S. in Ed., M.A., Ohio State
- THOMSON, RONALD G. - Associate Professor of Physical Education
B.S., Springfield; M.A. in Ed., Arizona State, Tempe
- TILDEN, ARNOLD - - - - - Professor of History
B.A., M.A., DePauw; Ph.D., Southern California
- *TURNER, F. BERNADETTE - - Associate Professor of Sociology
B.S., Minnesota; M.A., Northwestern; Ph.D., Washington University
- TURNER, KATHERINE C. - - - - - Associate Professor of English
B. Ed., Illinois State Normal; M.A., Ph.D., Michigan
- VAN PETTEN, DONALD R. - - - - - Professor of Political Science;
Director of Intercollegiate Athletics
B.A. in Ed., Arizona State, Tempe; M.S., Southern California; Ph.D.,
Stanford
- VON DER HEYDT, ALFRED - Asst. Professor of Foreign Languages
University of Frankfurt-on-the-Main; M.A., Yale; Ph.D., Cornell
- WAGER, ALAN T. - - - - - Professor of Physics
B.S., Hobart; M.A., Cornell; Ph.D., Chicago

- *WALL, ANNA SOKOLNIKOFF - Instructor in Foreign Languages
B.S., Idaho
- WALLACE, HERBERT S. - - - - Assistant Professor of Zoology
B.A., Denver; M.A., Kansas; Ph.D., Iowa State
- WARD, HAL G., CAPT. - - - Assistant Professor of Air Science
and Tactics
- WEBB, DAVID R., M/SGT Instructor in Military Science and Tactics
- WELSH, RICHARD K. - - - - Assistant Professor of English
A.B., DePauw
- WESTBROOKE, JACK G., MAJOR - - - - Assistant Professor of
B.S., Oklahoma Military Science
- WEXLER, CHARLES Professor of Mathematics; Head of Department
B.S., M.S., Ph.D., Harvard
- WHITE, ROBERT S. - - - - Assistant Coach
B.S. in Ed., Indiana
- *WILLIAMS, O. O. - - - Special Lecturer in Medical Technology
B.S., M.D., Vanderbilt University at St. Joseph's Hospital
- WILLSON, LORETTA - - - - Assistant Professor of Speech
B.A., South Dakota; M.A., Northwestern
- WILSON, IRMA - - - - Professor of Foreign Languages;
B.A., Montana; M.A., Ph.D., Columbia Head of Department
- WOCHNER, RAYMOND E. - - - - Professor of Education
B.S., York College; M.S., Nebraska; Ph.D., Wyoming
- WOODS, HUBERT K., M/SGT. Instructor in Air Science and Tactics
- WYLLYS, RUFUS KAY - - - - Professor of History;
Head of Department
B.A., Hillsdale; M.A., Michigan; Ph.D., California; Litt.D., Hillsdale
- YALE, FRANCIS G. - - - Assistant Professor of Physical Science
A.B., M.A., Colorado State
- YATES, GEORGE C. - - - - Associate Professor of English;
B.J., M.A., Missouri Director of Special Services
- YOUNG, GEORGE P. - - - - Associate Professor of Psychology
B.A., Colorado State; M.A., Colorado; Ph.D., Yale
- ZACHER, ROBERT V. - - - - Associate Professor of Marketing
B.S., M.S., Alabama
- ZIDNAK, PETE - - - - Instructor in Economics
B.S., Loyola University of Los Angeles; M.A., Southern California
- ZIMMERMAN, J. E. - - - - Associate Professor of English
B.A., M.A., Baylor

Training School Staff

- COOL, DWIGHT W. - - - - Principal
B.A., Colorado; M.A., Colorado State
- ASHBY, NANCIE I. - - - - Lunchroom Supervisor
- BAUMGARTNER, BERNARD G. - - - - Eighth Grade
B.A. in Ed., M.A. in Ed., Arizona State, Tempe
- BOLLING, BETTY HUGHES - - - - First Grade
B.S. in Ed., Buffalo State; M.A., Syracuse
- BOWYER, IRENE - - - - Fourth Grade
B.A., in Ed., M.A. in Ed., Arizona State, Tempe
- CASSITY, FRANCES PERRY - - - - Kindergarten
B.A., in Ed., M.A. in Ed., Arizona State, Tempe

* Part Time

CHASE, VERA A.	Librarian
B.A., M.A., Southern California	
DAVIS, RICHARD D.	Seventh Grade
B.A. in Ed., M.A. in Ed., Arizona State, Tempe	
KANE, AILEEN	Third Grade
B.A., Trinity College; M.A., Harvard Graduate School of Education	
*KASPER, VERNE	Shop
B.A. in Ed., M.A. in Ed., Arizona State, Tempe	
LEWIS, DWIGHT P.	Second Grade
B.A. in Ed., M.A. in Ed., Arizona State, Tempe	
MILARDOVICH, JOSEPH J.	Sixth Grade
B.A. in Ed., M.A. in Ed., Arizona State, Tempe	
MORRIS, MARY SCOTT	Supervisor of Art
A.B., Western Kentucky State; M.A., Northwestern	
ROBINSON, DOROTHY F.	Fifth Grade
B.A., M.A., Southern California	
THOMAS, CATHERINE R.	Music
B.A. in Ed., M.A. in Ed., Arizona State, Tempe	

Matthews Library Staff

BATCHELOR, H. W.	Head Librarian; Associate Professor of Library Science
B.A., Oregon; B.S., M.S. in L.S., Illinois	
ARNHOLD, KATHRYN	Loan Service Manager
B.A. in Ed., Arizona State, Tempe	
BLACKBURN, F. M.	Acquisitions Librarian
A.B., M.A., M.A. in L.S., Kent State	
BLAYLOCK, EDNA THOMAS	Library Clerk
CASE, WILMYTH	Library Clerk
B.A., Arizona State, Flagstaff; M.A., Columbia	
CORY, LUELLE	Catalog Librarian
A.B., Kansas; B.L.S., Illinois	
FANNING, WYNEMA	Library Clerk
*HARKINS, ALICE	Library Clerk
*HICKS, REBA M.	Library Clerk
HOOVER, GRACE V.	Reference Librarian
A.B., Nebraska; B.S. in L.S., Denver	
HOWE, CHARLES EDWARD	Assistant in Cataloging
B.D., Bexley Hall, Kenyon College	
JONES, ROBERT C.	Reference Librarian
A.B., M.A. in L.S., Denver	
LEIGH, OLIVE PATRICIA	Library Clerk
B.A., Colorado College	
MAXWELL, RUTH	Assistant in Cataloging
MORGAN, FLORENCE B.	Catalog Librarian
B.A., Colorado; B.S. in L.S., Illinois; M.S., Columbia	
PELLIPS, RUTH F.	Catalog Librarian
B.A., Cornell College; Library Science Certificate, Wisconsin	
SPENGLER, MARGARET	Instructor in Library Science; Reference Librarian
A.B., Library School Diploma, Denver	
*SWEENEY, RUTH	Library Clerk
TERRILL, CHARLOTTE	Library Clerk
WHETTEN, WILLMIRTH	Library Clerk

* Part Time

Assistants in Administration

ASHLEY, ALETHA	- - - - -	Assistant to Dean of College
*AXEL, BEN JOHN, M.D.	- - - - -	-College Physician
BAAS, BARBARA	- - - - -	Secretary, Comptroller
BELTZ, V. V.	- - - - -	Section Head, Veterans Accounts, Business Office
BENEDICT, FRANCES, A.B.	- - - - -	Librarian, Curriculum Laboratory
BLUNDELL, SHIRLEY	- - - - -	Secretary, Veterans Accounts
BUNTE, MARY L., M.A. in Ed.	- - - - -	Secretary to President
BUSTAMANTE, TONY, B.A.	- - - - -	Sales Manager, Intercollegiate Athletics
CADWELL, RITA V.	- - - - -	Head Resident, Irish Hall
CADWELL, ROBERT C., B.S.	- - - - -	Head Resident, Irish Hall; Assistant to the Dean of Students
CONNOLLY, GRACE	- - - - -	Secretary, Department of Education
COOK, RUTH L., B.A.	- - - - -	Head Resident, East Hall
CORNO, VERLA H.	- - - - -	Secretary, Division of Special Services
COSSELL, HAZEL M., M.A.	- - - - -	Head Resident, Gammage Hall
COSSEY, IDA H.	- - - - -	Secretary, Department of Biological Sciences
CRANCE, T.T., A.B., C.P.A.	- - - - -	Internal Auditor, Business Office
CREASMAN, JAMES W., A.B. in Ed.	- - - - -	Alumni Secretary
DES JARDIN, MARGARET	- - - - -	Piano Accompanist, Women's P.E.
DOBBS, LAURA	- - - - -	Clerk, Victory Village
DUBLIN, ARLENE F.	- - - - -	Supervisor of Mimeographing
EVANTS, FLORENCE J., M.A.	- - - - -	Head Resident, Hayden Hall
FANNING, PEARL	- - - - -	Kitchen Supervisor
FIX, RACHEL E.	- - - - -	Film Librarian, Audio-Visual Aids
GARNATZ, NORMAN L.	- - - - -	Financial Manager, Associated Students
GELLER, MARY	- - - - -	Switchboard Operator
GREEN, MAVIS A., B.A.	- - - - -	Section Head, Accounts Payable, Business Office
GUNVILLE, ANNA MAE	- - - - -	Stenographer, ROTC (Air Science and Military Science)
HADDOCK, LUCILLE	- - - - -	Secretary, Bookstore
HAIRE, L. RAY, B.A.	- - - - -	Manager of Bookstore
HANNA, THOMAS C.	- - - - -	Multilith Operator
HUBELE, ALIDA	- - - - -	Secretary, Summer Session and Extension
HUBELE, HAL C., B.A.	- - - - -	Information Specialist—Sports
JEPSEN, ROGER W., B.S.	- - - - -	Veterans' Adviser and Assistant Registrar
JONES, SIMON RAY, JR.	- - - - -	Band Manager
KOUNTZ, EDWARD	- - - - -	Manager, Devil's Den
KRAMER, BEULAH MAE	- - - - -	Section Head, Registrar's Office

*Part Time

KRENKEL, MARGARET A.	Secretary, Registrar's Office
LINDSTROM, JAMES, B.A.	Assistant in Special Services
LORD, RALPH C.	Military Property Custodian
MACDONALD, ESTHER, R.N.	Staff Nurse
MARX, EUGENE H.	Cashier, Business Office
MATTHEWS, JAMES	Photographer
MAY, SYBYL S.	Purchasing Clerk, Business Office
MCCLAINE, JUNE	Secretary to Registrar
McFARLAND, MARY ELAINE, M.N., R.N.	Director, Student Health Service
McSLOY, ELAINE	Staff Nurse, Student Health Service
MENARD, MARYPEARL	Section Head, Payrolls, Business Office
MINNICK, EVELYN P.	Head Resident, Matthews Hall
MORRELL, GEORGE W., B.A. in Ed.	Assistant Comptroller
MUNRO, CLARE W.	Office Manager, Business Office
MYERS, HAZEL C.	Secretary, Alumni Office
NELSON, MATTIE COOPER, B.A.	Head Resident, South Hall
NORTMAN, RICHARD	Filming Director
OAKLEY, RUTH	Secretary, Placement Bureau
PARKER, CLARA N.	Head Resident, North Hall
PARKER, ERIKA	Staff Nurse, Student Health Service
PATTEN, DOROTHY I.	Secretary, Dean of Students
PEPPLÉ, JEANNE, B.S., B.Lit.	Secretary, Laboratory Technician, Health Service
POOR, ROBERT E.	Head, Book Department—Bookstore
RANDOLPH, ANN, B.S.	Dietitian, Dining Hall
RENNER, JANE HUSSEY, B.A.	Admissions Stenographer
RHOTON, DREW	Section Head, Housing, Business Office
RISPOLI, FRANK V., B.A.	Assistant to the Director of Athletics
RUSSEK, MARION C.	Secretary, Director of Interscholastic Athletics
SIMMONS, DOROTHY L.	Head Resident, Alpha Hall
SIMS, JOSEPH J.	Manager, General Stores
SOUTHERN, JUANITA R.	Secretary, Director of Graduate Study
STAFF, GENEVIEVE E., B.S.	Director, Dining Hall
STEARNS, FREDERICK S.	Business Office Expediter
STEPHENSON, CHARLES N.	Head Resident, Stadium Hall
STEPHENSON, ESTELLE	Head Resident, Stadium Hall
TeSELLE, HOWARD N.	Purchasing Agent
THOMPSON, MARGIE	Secretary, Department of Industrial Arts
TIPTON, FRANCES BRAWNER	Head, Records Section, Registrar's Office
VIDAL, RAMONA	Secretary, Business Office and Purchasing

WALDENVILLE, DAVID B. · · · Storekeeper, Chemistry Department
 WALSH, IRENE R., R.N. · · · Staff Nurse, Student Health Service
 WALSH, MARGARET, B.M. · · · · · Head Resident, West Hall
 *WESTERVELT, MARCUS W., M.D. · · · · · College Physician
 WESTMORELAND, JOHN D. · · · · · Supervisor, Mail Room
 WHITING, EARLE F. · · · Assistant in Charge of Student Placement
 WILLIAMS, GENE LEE · · · · · Secretary, ROTC (Army)
 WRIGHT, J. ELINOR · · · · · Kitchen Supervisor, Dining Hall

* Part Time

Assistants in Maintenance Department

HARRIS FENN Superintendent, Buildings and Grounds	MAZEY, THOMAS R. Head Mechanic
BLALOCK, WALTER S. Victory Village Maintenance	MCGINNIS, CHARLES Head Watchman
CRUMBAKER, JAMES W., B.S. Superintendent of Farm	RANNOU, WILLIAM F. Head Electrician
DUPREE, WILLIAM Head Carpenter	SCHWEIKERT, PETER Head Painter
HENRIE, WILLIAM Head Custodian	SMITH, VICTOR F. Head Engineer
	SVOB, ROBERT Head Gardener

The College

Purposes

Arizona State College aims to serve the people of Arizona by providing an over all educational program appropriately reflecting the community interests of the people of the State as a whole as well as the needs and desires of individual students who enroll. Present institutional objectives which define the educational program of the college are the result of the evolution of the institution over a period of more than sixty five years.

The original scope of instruction as set forth in the act creating the Territorial Normal School was confined largely to "the instruction of persons . . . in the art of teaching . . .". As the State and the College have grown, that original scope has been expanded until today, operating under the authority of the Board of Regents of the University and State Colleges of Arizona, the College has become a multi-purpose institution.

The general purpose of the College is to provide means by which all who pass through its doors may become, through increased vocational competence, improved moral and ethical standards, and expanded cultural horizons, finer citizens of the state, the nation, and the world.

Attainment of this general purpose is made possible through specific programs of academic and other activities which are designed:

(1) To provide a basic program of general education. Provision for a broad social cultural base is an essential in programs of education for all vocations. Objectives related to good citizenship, personal efficiency, aesthetic appreciation, general knowledge, and vigorous health are, after all, fundamental and basic in all programs of higher education.

(2) To provide a number of programs of work in the arts and sciences which broaden and extend the basic program of general education and provide the beginning specialization necessary for advanced graduate and professional education. Areas of concentration in the arts and sciences leading to occupational competency and the degree of Bachelor of Arts or Bachelor of Science are offered in the following departments: Agriculture, Art, Biological Sciences, Business Administration, Education and Sociology, English, Foreign Languages, Home Economics, Industrial Arts and Technology, Library, Mathematics, Music, Physical Education, Physical Sciences, Psychology and Social Studies.

(3) To provide programs for the selection and preparation of teachers and administrators for the elementary and secondary schools of Arizona. The people of the State have a right to expect that their

children will be taught by teachers possessing high mentality, broad social cultural background of general education, high ideals of citizenship, thorough knowledge of subject matter, objective and scientific point of view, professional training and spirit, proven skill in the art of teaching, culture and efficiency in social relationships, wholesome personality, vigorous health, and sound character. The College aims to serve in the selection, development, and preparation of teachers of this type. Four-year programs in teacher education lead to the degree of Bachelor of Arts in Education. The completing of a fifth year of approved graduate work leads to the degree of Master of Arts in Education.

(4) To provide programs of pre professional training in a number of fields. Preprofessional curriculums are offered in architecture, veterinary medicine, dietetics, forestry, engineering, law, medicine, dentistry, medical technology, nursing and optometry.

(5) To provide a number of less than degree programs of a practical type to give students the general education, skills, knowledge, and understanding needed for entrance into the vocations of their choice.

(6) to provide a rich and balanced program of out-of-class activities through the residence halls, student government, professional and special interest groups, organizations, fraternities, and sororities, that provide abundant opportunity for the development of wholesome individual personalities, refined social living, and effective citizenship.

(7) To provide a program of help, guidance, and personal counseling that reaches all students.

(8) To provide a program of cultural and educational leadership and service in the community and the state as a whole. These professional and community services are provided through special evening courses, resident credit centers, correspondence courses, summer sessions, educational conferences, dramatic performances, musical concerts, speech clinic services, published bulletins, radio services, placement services, alumni organizations, school visitation, and speaker and consultant service.

History

Arizona, the Baby State, has a culture that is exceedingly old. It is an historical coincidence, perhaps, that one of the most advanced cultures known to American archeologists was that of the Ho Ho Kam Indian (700 A.D. to 1400 A.D.), the center of which, was but a few miles from the campus of Arizona State College. The touch of the white man to this region goes back to 1539 when, only 47 years after the landing of Columbus, Fray Marcos de Niza came into Arizona, passing a short distance from Tempe. He was soon followed by the colorful but illstarred expedition of Coronado.

Settlement by white men proceeded at an extremely slow rate until the mid-19th century when sufficient numbers gathered within

the borders of the State to form the Territory of Arizona, organized in 1863. Education in the frontier State progressed slowly until 1885, when on March 12th, the Thirteenth Legislative Assembly made provision for the establishment at Tempe of a Normal School. The Normal began classes on February 8, 1886. Thirty-one students met in a single room under the supervision of Hiram Bradford Farmer. The Normal School, forerunner of the present Arizona State College, was the first institution of higher learning to be opened in the State.

The College has had a variety of names starting with Arizona Territorial Normal School and proceeding to Arizona Normal School, The Normal School of Arizona, The Tempe Normal School of Arizona, and the State Normal School of Tempe, Arizona. In 1925, through the activities of the Alumni Association, the Seventh State Legislature approved a bill providing that the Tempe Normal School become State Teachers College and establishing a four-year college curriculum. The Ninth Legislature changed the name of the College to read Arizona State Teachers College at Tempe and authorized the College to grant the degree of Bachelor of Arts in Education. In March, 1937, the Thirteenth Legislature authorized the College to grant the advanced degree of Master of Arts in Education, which degree was conferred the first time on May 31, 1938.

A complete revision of the system of governing the state institutions of higher learning took place on March 9, 1945, when the legislature established a Board of Regents of the University and State Colleges of Arizona, and changed the name of the College to Arizona State College at Tempe. This Board has broad powers. It has authorized new curriculums and courses, and during the past seven years, has authorized the College to award the Bachelor of Arts and the Bachelor of Science degrees, and, most recently, the degree of Doctor of Education.

The College has had a gradual, positive evolution from the limited curriculum of a Normal School to an institution composed of eighteen strong departments. From the original single building, there has grown a campus containing forty-two buildings on approximately 120 acres, and the original attendance of thirty-one has expanded to 4328 for the academic year of 1952-53.

Recognition by Accrediting Agencies

Arizona State College is fully accredited by the recognized agencies of evaluation in its field. The College ranks Class A in the North Central Association of Colleges and Secondary Schools, and in the American Association of Colleges for Teacher Education. It has institutional membership in the Association of American Colleges, the American Council on Education, and the Western College Association. Students transferring from this College to other colleges and universities are given the same recognition in respect to transfer of credits, graduate study, and other privileges as are enjoyed by other universities and colleges of the country.

The College Setting

Environment

Location. Arizona State College is located in the City of Tempe in the heart of the Salt River Valley and nine miles from metropolitan Phoenix, the state capital, and one of the fastest growing areas in the nation. Tempe is located on the Southern Pacific Railroad main line and connections with the Santa Re Railway are available at Phoenix. Four transcontinental highway systems run by the college grounds, affording easy access to all parts of the country. One of the nation's outstanding airports is located halfway between Phoenix and Tempe and provides frequent services via Trans World Airlines, American Airlines, Frontier Airlines, and Bonanza Airlines. The airways network extends in all directions and there are at least ten transcontinental flights daily. There is regular metropolitan bus service between Tempe and Phoenix and other adjacent communities.

Climate. The great adventure of this country has always been the act of heading West. That holds good today. Only in the West can the classic American combination of frontier informality and a civilization in the making still be found. In Arizona—above all, the district around Tempe—there is the additional blessing of the nation's most perfect climate. Here prosperity can be found in a land suited to its enjoyment. Cloudless skies and bright constant sunshine permit much of the college activity to be conducted outdoors. There is virtually no snow, rain is seldom, and high winds are infrequent.

Historical and Scenic Features. Within easy reach are found such exciting landmarks as Superstition Mountain, Apache Trail, Roosevelt and Coolidge Dams, Canyon Lake, Hieroglyphic Canyon and, somewhat distant, the internationally famous Grand Canyon of the Colorado. Papago Park, a natural scenic attraction retaining much of the original desert flora, lies just north of the campus. This beauty spot and the 1200-acre park is an ideal center for hiking, horse-back riding and picnicking.

Grounds

The Campus. There are 120 acres in the college grounds, of which 85 comprise the campus proper. Arranged in a most attractive setting with broad shady lawns, the campus provides a profusion of orange trees, palm trees and other southwestern flora, typical shrubs, and gayly blooming flowers.

The forty-two buildings comprising the main campus are distributed over the grounds in two groups, commonly designated by students as the north campus and the south campus. The prospective student needs to see the orange, palm, pecan and olive trees growing on the campus, to marvel at the desert's rare coloration, visit the warm comfortable climate, the fabulous mountains nearby to really appreciate the campus. It's a friendly, democratic campus, where students from every state in the Union seek a source of power and happiness—the gold of knowledge for a richer, fuller life.

The recently completed new Mens Physical Education Building, of latest type construction, and fully equipped to provide a modern physical education program, becomes the most important element in the athletic plant of the institution. An integral part of the new building is an outstanding basketball court which will ultimately seat 6,000 spectators. A second principal element in the plant is Goodwin Stadium, seating more than 15,000 spectators, and equipped with an outstanding lighting system for night games. The men's athletic field is located between the Stadium and the Men's Physical Education Building and contains a baseball diamond, football field, and an excellent track. The women's athletic field is located in the southwest section of the campus, and equipment in both areas is completely adequate for the needs of a dynamic physical education department.

The campus is well supplied with new tennis courts, volleyball, softball, and archery areas. Splendid golf course facilities are but a short distance from the campus. The city of Tempe maintains an outstanding official AAU swimming pool located near the College.

College Farm. The model farm of seventy-five acres is located one mile south of the campus. It is used for experimental and practical work in various phases of agriculture.

College Buildings

Administration

Administration Building. The administrative offices of the College are housed in the north wing of this imposing structure, the largest on the campus. In it are located the President's Office, office of the Dean of the College, the Registrar's Office, the Business Office, the Division of Student Affairs, the Alumni Office, and other administrative sections. It is especially noted for a magnificent entrance mural in fresco, done by Jean Charlot.

Auditoriums

College Auditorium. The Auditorium is located on the west side of the old quadrangle. It seats 1,000 persons. Its forty-foot stage and modern equipment permit the staging of dramatic work of high order.

Lyceum. This attractive building contains an auditorium, a stage, a lovely reception room, a kitchen and a large basement room. It is used by students and faculty for social and educational functions.

College Libraries

Matthews Library. This modern, fire-proof air-conditioned building provides outstanding facilities, and a growing collection of materials to meet the needs of undergraduate and graduate students and the faculty. Recently remodeled and enlarged at a cost of more than half-million dollars, the functional plant and the beautiful decor contribute to make the Library a most attractive, comfortable, and efficient place for intensive study or for casual reading. It is indeed a "great new heart" of the institution. Arranged for subject specialization,

there are reading rooms for Education, Humanities, Science and Technology, and the Social Sciences. In addition to these special reading rooms, there are: a well stocked General Reference Room, a Periodical Room with over twelve hundred current subscriptions, and a Browsing Room for recreational reading. A splendidly equipped Music Room, a gift of Mrs. Mary Redewell, widow of the late music patron Eugene Redewell, permits students to listen through individual devices, the finest in classical recordings and radio programs. There are sixty individual study carrels available in the stacks for graduate student pursuing theses or practicums. The significant Collection of American Art is hung in the library's gallery and reading rooms.

Training School Library. In addition to the general library, there is a children's library in the Training School. This collection contains more than 5,000 carefully selected juvenile books covering all types of literature. The book collection is supplemented by a file of pamphlets, pictures, and other materials; by a selection of outstanding juvenile periodicals; and by a textbook collection for the enrichment of directed teaching as well as for the children's use.

Curriculum Center. The Curriculum Center housed in the new Library Building is a functional part of the teacher education program of the College. It is designed to serve teachers in training and Arizona teachers in service by maintaining extensive collections of teaching materials and providing laboratory space for producing materials.

The library of printed materials includes courses of study issued by school systems, publication of various state departments of education, textbooks used in Arizona elementary and secondary schools, monographs, teaching units, and other pertinent publications.

Facilities are available for curriculum workshops, discussion groups, curriculum study and research effort and all types of curriculum production activities.

Bureau of Audio-Visual Aids. The Bureau of Audio Visual Aids is an audio visual service agency for the instructional program of the College and for the schools of Arizona.

Audio-Visual Library. The Audio-Visual Library, valued at more than a hundred thousand dollars, is the largest library of films in the state of Arizona. The films are cooperatively owned by the forty-four member schools, by Arizona State College, and by a number of government agencies and industries which deposit films in the Audio Visual Library. These films are available on a rental basis to any responsible organization or school in Arizona.

A library of educational radio programs on tape recordings is being developed. Schools wishing to acquire these tape programs may send their tapes to the Audio Visual Library and obtain any program which the Library has.

The Library maintains and services all audio visual equipment used by the various College departments.

Photography Section: The Photography Section of the Bureau of Audio Visual Aids handles all of the photography for the College

for both instructional and publicity purposes. A group of nine dark rooms and a photographic studio provide facilities for carrying on the work of the Photographic Section, and provide laboratory facilities for courses in photography and the production of audio-visual aids. These dark rooms are also used by members of the State Camera Club.

In addition to the more usual types of photography, the Photographic Section is also equipped for microfilming, making of identification pictures, making negatives for multilithing, and producing motion pictures with magnetic sound tracks.

Radio Television Section: KASC, a "wired wireless" campus radio station is operated by the Radio Television Section of the Bureau of Audio-Visual Aids. Students of the various aspects of radio use this station as a practical training center, while providing cultural, entertainment, and informational programs to the students in residence on campus.

The Radio-Television section also makes available to radio stations throughout the state the various educational radio series of the Arizona State College on the Air. These are provided to radio stations free of charge in the interests of public education in Arizona. Similarly, regular educational television series are presented by the College over the television stations in Phoenix.

Classroom and Laboratory

Agriculture and Business Administration Building. One of the most modern and functional classroom and office structures in the Southwest, this building comprises the south section of the building which includes the Administration section.

Arts Building. This is a modern, fire-proof building of concrete construction faced with cream brick. It houses the departments of Art, Music, and Social Studies. The College Book Store is located in the building.

Band Building. This building is located southeast of the heating plant and is the headquarters for the band. It contains rooms for band rehearsal, ensemble, and private practice, instrument storage, and offices.

English Building. This building, formerly known as *Old Science*, has been remodeled to house the English Department. In addition to classrooms and offices for English, speech and journalism, the offices of the student publications are located here.

Farm Buildings. A home and barns are located on the college farm one mile south of the campus.

Home Economics Building. A splendid, completely equipped new structure which houses the Home Economics Department has been constructed at the north edge of the campus adjacent to the Arts Building and in close proximity to the Home Management House and Nursery School. This new structure provides the latest facilities for technical courses in homemaking.

Home Management House and Nursery School. A fine, new building in which students majoring in Home Economics live for a part of a year.

Industrial Arts Building. The Industrial Arts Building is the west wing of Goodwin Stadium. The building houses one of the best equipped shops in the Southwest. Close by are quarters for architecture and mechanical arts.

Old Main. The early traditions of the college cluster about Old Main with its three-stories of ivy-covered brick. Erected in 1894, the building is now being completely remodeled inside, and new entrance ways are being installed. It is devoted to classrooms and offices for academic work.

Ira D. Payne Training School. This is a one story structure of brick in the Spanish Colonial style with open corridors or colonnades enclosing an attractive patio. The classrooms, furniture, apparatus, and equipment are in keeping with a modern, progressive elementary school system.

R.O.T.C. Building. This temporary building located just north of the Moeur Building contains offices and classrooms for the Departments of Military and Air Sciences.

Science Building. This fine, modern building offers outstanding classroom and laboratory facilities for students in the biological and physical sciences.

Physical Education and Recreation

Men's Physical Education Building. Completed early this year, the magnificent new Men's Physical Education building is the newest addition to the campus. It is of the latest type construction, contains ample gymnasium space, classroom, offices and many other features which make it outstanding. The basketball area will ultimately provide seating for 6,000 spectators.

B. B. Moeur Activity Building. This is the instructional center for women's physical education. Many of the large social functions of the college are held here. The building was named in honor of the late Governor Moeur.

Goodwin Stadium. The stadium was named after the late Garfield Goodwin, an early graduate of the Territorial Normal School, and a member of the Board of Education for many years. The west unit has a seating capacity of over 4,000. Another unit located on the east side of the field increases the seating capacity about 7,000. Additional bleacher seats allow 15,000 persons to be seated.

Residences

President's Residence. This is a substantial, two story, brick structure located on the east side of the campus.

North Campus Cottage. An attractive brick home used for temporary academic offices.

South Campus Cottage. A brick cottage used for temporary offices.

Residence Halls

Alpha Hall. This dormitory for women is located on the east side of the campus.

Carrie J. Matthews Hall. This hall for women was named after Carrie J. Matthews, the wife of the late president, Arthur J. Matthews.

North Hall. This women's hall is located on the north side of the dormitory quadrangle.

South Hall. South Hall accommodates women. It is located on the south side of the dormitory quadrangle.

West Hall. This fine, large dormitory for women is located on the west side of the dormitory quadrangle.

Dixie Dees Gammage Hall. This is a modern structure for women. The hall was named in honor of Dixie Dees Gammage.

Dirie Gammage Annex. A new addition to Dixie Gammage Hall has recently been completed, providing accommodations for 108 women students. It is located directly north of Dixie Gammage Hall and embodies the very latest developments in resident hall construction.

East Hall. This dormitory for men is located at the center of the campus.

Irish Quadrangle. This comprises three men's dormitories located just west of Goodwin Stadium. These are designated Unit A, Unit B, and Unit C.

Charles Trumbull Hayden Hall. A new men's dormitory accommodating 146 students has been constructed on the south edge of the campus, facing federal highways. It is modern in construction and contains many conveniences and facilities for pleasant living.

Green Gables. Green Gables is a men's dormitory. It consists of four frame buildings obtained from the United States Government.

Stadium Hall. This dormitory for men is located underneath the east section of Goodwin Stadium.

Victory Village. In this village there are about 66 apartments for the accommodation of veterans and their families.

Palm Grove. These apartments are located one mile south of Tempe and will accommodate 16 families.

Student Services

Student Health Center. An expanded and reconstructed College Health Center will be opened for service in mid 1953. This building located in a quiet section on the east side of the campus, will provide most adequate facilities to care for the health needs of college students.

Dining Hall. The dining hall is centrally located, and is conveniently reached from all dormitories. The building and its equipment are thoroughly modern and meet the highest sanitary and health standards. The dining hall is under the supervision of a graduate dietitian.

Danforth Meditation Chapel. A chapel for devotions by individuals and small groups made possible by a gift of \$5000.00 by William Danforth supplemented by gifts from numerous students, faculty, and friends of the college.

Maintenance

Maintenance Building. This new building located just north of the Men's Physical Education Building is the center for the receiving, storage, and disbursement of all supplies and equipment. The switchboard and the mimeograph office are located here.

Heating Plant. The plant is located centrally just south of the dining hall. It furnishes steam heat and hot water to all college buildings.

Entrance Information

Admission to College

General Requirements

Personal Qualities. Arizona State College desires to admit only persons possessing good character, and serious purpose. They should possess such degree of health that success in the vocation selected may be expected. In addition, candidates for the professions should rank high in personality traits including native ability.

Transcripts. Before any student may register for work in the regular sessions of the college, and be admitted to regular standing and classification, his transcripts of high school and previous college work done must be on file in the Office of the Registrar and Director of Admissions. Students should request the high school principal or college registrar to mail the transcript directly to the Registrar and Director of Admissions. Transcripts should be in the hands of the Registrar and Director of Admissions at least thirty days in advance of the registration date. Transcripts are not required at the time of admission of those taking work in the summer session, in extension, or by correspondence.

Vaccination: A certificate of smallpox vaccination signed by a physician must be on file in the Office of Registrar and Director of Admissions before a student may be notified of his admission status.

Health Examination. A health examination, including a Kahn test, is required of all students attending regular session and carrying more than 5 semester hours, prior to registration. This is given without charge by the Health Service staff. Late registrants must secure the examination form from the Student Health Service, and have it completed by an M. D. Such students pay the cost of the medical examination. A physician's certificate of small pox vaccination within the past four years must be furnished at the time of the health examination.

A chest X-ray, to be interpreted by a roentgenologist, is required without exception of all students at a time to be announced by the Student Health Service. Any student who fails to have an X-ray at this time must bear the cost of having it done later.

Aptitude Tests. Several aptitude tests are required of all *new students before registering* with the following exceptions: those registering for not more than five semester hours of work, summer session students, extension students, and those taking late afternoon, evening or Saturday classes only. These tests have nothing to do with a student's entrance. They are used for student guidance. They require several hours; therefore, a new student cannot complete his tests and registra-

tion in one day. Students whose score falls below a critical point in the English achievement test will be required to take Eng. X to improve their reading and study skills before registering for Eng. 101. See the section headed, "The College Guidance Program" for description of tests.

High School Graduates

Graduates of an approved high school may be admitted to freshman standing in any of the curriculums offered by the college.

The units listed below are specified for admission. To meet these specifications, credits will be accepted for any subjects in these fields usually given in high schools. In addition, credits will be accepted for general or unified courses, irrespective of the names or organization of the courses, provided the subject matter covered falls within the fields specified.

English	3 units
Social Studies	2 units
Mathematics (Arithmetic is accepted)	1 unit
Science	1 unit

Conditional Admission

Graduates of Unapproved High Schools. Graduates of unapproved high schools may be admitted provisionally upon passing satisfactorily the regular aptitude tests. Provisional admission will be removed on the successful completion of the first thirty semester hours of college work.

Non-Graduates of High Schools

1. *High School Seniors.* High school seniors under 21 years of age with only a limited amount of work to complete in order to meet the requirements for the high school diploma may be admitted under the following conditions:

- (a) The written recommendation of the high school principal and an affirmative vote of the Admission and Standards Committee.
- (b) A plan for completing high school work with the written approval of the high school principal, and an affirmative vote of the Admissions and Standards Committee.
- (c) The completion of high school graduation requirements prior to the admission to sophomore standing.

2. *Adult Civilians, and Veterans Over 18.* Civilians over 21 years of age, and veterans over 18 years of age who are not graduates of approved high schools may be admitted to undergraduate standing with conditions. These conditions may be removed during the second semester in college as follows: (a) Carry at least 15 semester hours during a regular semester with an index of 1.75 or better. (b) Pass with an acceptable score the G.E.D. Tests, High School Level. (c) An affirmative vote of the Admissions and Standards Committee indicat-

ing that the student's record on his first semester's work, his G.E.D. tests, and on the college aptitude tests is satisfactory.

Students, not graduates of approved high schools, whose records are not satisfactory may continue in college only if approved by the Admissions and Standards Committee. The Veterans' Education Adviser is located in the Office of the Registrar and Director of Admissions. He advises veterans under P. L. 346. A Veterans' Administration representative is located on the campus. He advises veterans under P. L. 16.

Special Information For Veterans

Arizona State College is fully accredited by the Veterans' Administration. Veterans will follow the procedures outlined above under the heading, "Admission to College." In addition, veterans will observe the following special procedures:

1. Veterans not previously in training under the G.I. Bill will obtain from the Veterans' Administration, Regional Office, Phoenix, Arizona, a Certificate of Eligibility and Entitlement to attend Arizona State College.

2. Veterans previously in training under the G.I. Bill will obtain from the Regional Office nearest the institution which he last attended a supplemental Certificate of Eligibility and Entitlement.

3. Veterans will deliver these certificates to the Veterans' Adviser at the College in person at the time of registration.

4. Veterans should bring their records of military or naval experience, and deliver these in person to the Office of the Registrar and Director of Admission *not earlier* than one month after registration if they seek college credit for military science.

5. Only advanced standing credit will be recognized where credit is granted on the basis of G.E.D. examinations, i.e., the student who presents official records of having successfully passed the college level G.E.D. examinations as a part of his admissions credentials may be granted credit as recommended by the American Council on Education Guide Book. Such credit will be granted upon admission, if the G.E.D. tests were taken during the time the student was a member of the armed services. Credit based on G.E.D. examinations taken after discharge from the armed services will be granted upon admission only after the merits in each individual case have been considered.

In no instance will credit be granted on the basis of G.E.D. examinations when such examinations have been taken after the student has been admitted to the Arizona State College at Tempe or other college or university. The purpose of granting credit based on G.E.D. examinations is to recognize educational training and experience acquired while serving in the armed forces in the case of those individuals whose educational program was interrupted or delayed by virtue of that period of service.

6. Veterans must be in continual attendance in training after July 25, 1951. Changes of course and or place of training must be applied

for while the veteran is in actual attendance in a college or university. Failure to comply with either of the above may result in the forfeiture of remaining entitlement by the Veterans Administration.

Admission with Advanced Standing

1. Students from approved institutions of higher education ordinarily will be given credit, hour for hour, for work done in these institutions in so far as it applies to the requirements of the curriculum pursued at Arizona State College. Advanced standing credit for educational experience in the armed services will be granted in terms of the policies and practices recommended for all colleges and universities by the American Council on Education.

2. Failure to report previous college attendance at the time of registration is sufficient cause for cancellation of the student's enrollment, of any credits earned, or both.

3. Students who are disqualified in another college because of scholarship, conduct, or any other reason will not be admitted until such disqualification is removed.

4. Experienced teachers who become candidates for the bachelor's degree may be permitted to substitute academic credits for a part, or, in some cases, all of the required directed teaching, but no academic credit is allowed for teaching experience. A student who wishes to have directed teaching waived must file a petition and letters of recommendation from principals or superintendents with the Director of Teacher Training.

5. Junior-college students planning to transfer to Arizona State College at the end of their first or second year should plan their junior-college courses to meet the requirements of the curriculum selected. Loss of time often results from failure to do this.

The maximum credit that can be accepted from a junior college is sixty-four semester hours or ninety-six quarter hours. In general, required upper division professional courses cannot be taken in junior colleges for credit. Ordinarily, courses transferred from junior colleges cannot be accepted as upper division credit.

Admission to Summer Session

Excepting those who plan to complete the degree requirements in summer sessions only, students will be admitted to the summer session without presentation of transcripts.

Registration

Registration Dates. Students should register on the registration dates announced in the College calendar. New students cannot complete the required aptitude and health examinations and finish registration in one day. Students registering late will be charged a late registration fee. Residence halls will be open to students on the dates scheduled in the College calendar.

Prerequisites to Registration. Before registering in the regular sessions, all students seeking admission must file transcripts of high school or college work, or both, and take the aptitude and health examinations required under the heading, "Admission to College." In addition, students must meet special requirements given hereafter. Undergraduate students file applications for admission and transcripts in the Office of the Registrar and Director of Admissions. Graduate students file theirs in the office of the Director of Graduate Study.

Classification of Students. Freshmen are those students who have acquired less than 30 semester hours of credit; sophomores, those with 30 or more semester hours, but less than 62; juniors, those with 62 or more, but less than 94; seniors, those with 94 or more; graduate students, those holding a bachelor's degree from Arizona State College at Tempe, or other recognized institutions.

Curriculum Advisers. Before entering college a student should study the curriculums outlined in order to determine the curriculum best suited to his interests and needs. Before registering, each student must select, tentatively at least, a curriculum. Each student selects a curriculum adviser. This adviser discusses with the student his proposed curriculum and his choice of courses, and approves both. He also signs his registration cards and advises him as needed throughout his stay in college.

Course Loads. Students carrying twelve or more semester hours of work are classified as full-time students for College classification purposes. *Students attending college under the benefits of Public Laws 346 or 16 must be registered for a minimum of 12 semester hours for G.I. benefit and subsistence purposes. Students attending under the Korean G.I. Bill of Rights must be registered for a minimum of 14 semester hours to be classified as a full-time student for G.I. benefit and subsistence purposes. Male students to qualify as full time college students for Selective Service classification purposes must be registered for and complete, each semester, one eighth of the number of semester hours required for a degree. Thus, male students subject to the draft must be registered for and complete sixteen semester hours each semester.* Students may not be registered at any other college or university when in regular attendance here unless approval has been granted by the Admissions and Standards Committee. Residence Center and Campus enrollment must not exceed the maximum load of $17\frac{1}{2}$ semester hours without an approved overload petition. Students who wish to carry more than $17\frac{1}{2}$ semester hours must petition the Admissions and Standards Committee. Freshmen and lower division transfer students attending Arizona State College for the first time will not be permitted to carry an overload. Students having a low scholarship record may be required to carry a light load. Students carrying a full-time school job will be asked to carry a light load unless their previous records in scholarship and on aptitude tests are high. During the semester in which a student is registered for student teaching, the load should not exceed 16 semester hours.

Planning the Schedule. The schedule of classes covers both morning and afternoon hours, Monday, Tuesday, Wednesday, Thursday, and Friday, and morning hours only on Saturday. Full time students are expected to devote both mornings and afternoons to their program of studies. They should not plan to take classes mornings only, or afternoons only, or less than five days per week.

Course Restrictions. Freshmen may not register for courses numbered 200-299 without the recommendation of their advisers and the approval of the heads of the departments concerned. Courses numbered 300 and above are open to graduate students only.

Freshman Registration. Freshmen, including transfers with 29 semester hours or less of credit, registering for the *first semester*, are expected to be present at all events scheduled for Freshman Week beginning at 8:30 A.M., Monday, on the date shown in the college calendar. Failure to attend any meeting may delay the student's registration, and a late fee will be charged for any examinations missed. See the section on the preceding page headed "Curriculum Advisers."

Freshmen, including transfer students with 29 semester hours or less of credit, registering the *second semester*, will report to Bus. Adm. 203 at 8:30 A.M., Friday preceding the registration dates, and complete their aptitude and health examinations on Friday and Saturday. Those arriving late will be delayed in registering and will be charged late fees.

Registration of Sophomores, Juniors, and Seniors. Sophomores, juniors, and seniors registering in the regular session for the first time the *first semester* will obtain their registration materials beginning Monday morning. They will report for aptitude tests as scheduled on the registration week program. This will enable them to complete their aptitude and health examinations and complete registration before the end of registration week. Those failing to do so will be charged the late fees.

For the *second semester* sophomores, juniors and seniors registering in the regular session for the first time will report for the aptitude and health examinations as scheduled on the registration week program. Those coming later will be delayed in registration and will be charged the late registration fee.

Registration of Graduates. Aptitude tests are not required of graduate students, but the health examinations are; therefore, such students should allot themselves a full day to complete these examinations and registration.

Auditors. Persons wishing to audit courses will register in the regular manner and pay the regular fees. Audited courses carry no credit. Courses audited count toward the student's load. Students once registered for "audit" are not permitted to change to "credit" (and vice versa) after the close of the drop-add period.

Complete Examinations. An undergraduate student regularly enrolled during the academic year may, under certain conditions,

take Comprehensive Examinations for degree credit in courses offered by the college and included in the current catalog. *This procedure is not open to summer session students.*

Students wishing to obtain credit by comprehensive examination will secure application forms from the Chairman of the Examination Committee. The charge for the comprehensive examination shall be five dollars (\$5.00) per semester hour credit. An examination may cover one course only.

Letter grades of A, B, C, D and E will be used in grading the examination, and D is all be considered the lowest passing grade. The number of hours credit granted for the course shall be the number of hours specified in the current catalog.

Late Registration. Late registration fees are charged beginning the day class instruction begins. Ordinarily, students registering during the second week of a semester are required to take less than the normal load. Registration for a given semester is closed Saturday noon of the second week. A student may not register for credit after this date.

Incomplete Registration. Registration is not complete until all fees have been paid and all required examinations have been taken. Failure to satisfy any of the admission or registration requirements is sufficient cause for dropping a student from all classes.

Changes in Registration. Programs should be carefully planned under the guidance of the curriculum adviser so that changes in registration will not be necessary. After a student has completed his registration, changes may be made only through the Registrar's Office by means of a Drop Add card. Changes may be made as late as Tuesday of the second week of the semester. After Tuesday of the second week of the semester, courses may not be added.

Dropping Courses after Tuesday of the Second Week. The courses for which a student is registered at the close of Tuesday of the second week of a semester constitute his official registration and semester load. A student may drop a course from his official registration any time prior to the beginning of the final examination period. To drop a course after Tuesday of the second week, the student will obtain from the office of the Registrar and Director of Admissions recommendation blanks for dropping; have these signed by instructors; return them to the Office of the Registrar and Director of Admissions and obtain an Authorization for Dropping Card; take it to the Business Office; pay the 50 cent fee; take receipt and card to the Office of the Registrar and Director of Admissions. An official drop notice is sent to instructors from the Office of the Registrar and Director of Admissions after the drop card has been filed. The drop notice is attached by the instructor to the student's class card and a final semester grade of Wp or We will be reported by the instructor at the end of the semester.

Withdrawal from College. Students who find it necessary to withdraw from college should withdraw officially. Failure to do so may

result in marks of E in all classes. Withdrawal procedures are as follows: (1) Obtain a withdrawal card from the Office of the Registrar and Director of Admissions. (2) Obtain the signatures of the Associate Dean of Students, Student Health Service (if withdrawing for health reasons), Women's Physical Education Department (women only), R.O.T.C. (men only if registered for R.O.T.C.), Librarian, Veterans' Accounts (Veterans only), Veterans' Educational Adviser (Veterans only), Cashier and return card to the Office of Registrar and Director of Admissions.

Unless the student withdraws officially, he is regarded as registered in all courses and runs the risk of receiving E grades in all subjects at the end of the semester. If a student is unable personally to withdraw officially as prescribed above because of illness or other reasons, he should notify the Registrar and Director of Admissions in writing without delay and request that he be officially dropped and that his instructors be notified.

The College Guidance Program

Excellent instruction is one of the chief responsibilities of a progressive college. Instruction is excellent to the extent that it fits the abilities, interests, and personality traits of the students. The purpose of the guidance and counseling program of the College is to help teachers and students discover and develop those traits possessed by each student in order that he may carry out such a program of education, both in class and out, as will best fit his individual needs, and will inspire him to complete it with genuine satisfaction, and with the highest degree of achievement possible.

Orientation. An orientation program, under the supervision of the Division of Student Affairs, is provided for new students at the beginning of the fall term. It includes introduction of student-body officers and administrative staff, recreational activities, explanations by individuals and groups of college services, curricula, and the guidance program. Throughout the year students are aided in adjustment to college life through group programs, work, faculty assistance, dormitory councils, and printed materials on study skills and personal and social competence.

The Testing and Counseling Program. The counseling program is a part of the program of the Division of Student Affairs. The Associate Dean of Students (Dean of Women) is directly responsible for testing and counseling.

On entering the College each student is given several aptitude tests. The results of these tests are used only in the counseling and guidance of students. The specific purposes of these tests are to discover the student's native ability and his achievement in reading, English, and other subjects.

The College Testing Center in the Office of the Division of Student Affairs, administers group testing programs and provides a

test scoring service for personnel testing programs and for examinations administered by academic departments.

Choosing a Curriculum. During Freshman Week a number of programs are held to assist students in deciding wisely upon a curriculum. In addition, each student will select a curriculum adviser and have conferences with him concerning his proposed choice of curriculum. Choosing a curriculum is an exceedingly important decision for a student. His happiness and success in college depend, in part, upon a selection suited to his abilities, interests, and personality.

Curriculum Advisers. When the student has chosen a curriculum, he will then be assigned a permanent curriculum adviser whose function is to assist the student in his selection of courses. The student remains under the same adviser throughout his college career. Due to the crowded schedules of each adviser, students are urged to take the initiative in seeking counsel about the adequacy of their class programs.

Personal Counseling. Personal counseling is directed by the Associate Dean of Students, and the Dean of the College. In many cases the personal problems of students are referred to other faculty members or the agency best qualified to help. Likewise, the counseling often begins with the faculty and is referred to the deans for assistance.

Housing

Residence Halls. There are six halls occupied by women students. These are Alpha Hall, Matthews Hall, North Hall, South Hall, West Hall, and Dixie Dees Gammage Hall. There are six halls ordinarily occupied by men: East Hall, Stadium Hall, Hayden Hall, and the Units of Irish Quadrangle.

Apartments. The following temporary facilities are available: sixty-six Federal Public Housing Apartments; sixteen Palm Grove Apartments, and twenty apartments for faculty members. All are located on the campus excepting Palm Grove Apartments which are one mile south of Tempe.

Reservations. Accompanying the notification from the Registrar and Director of Admissions that admission has been granted, is an application form for reservation of dormitory space. This should be filled out immediately and mailed to *Housing Clerk, Business Office*, together with a deposit of \$5.00 for residence halls. A \$10.00 deposit is required for an apartment accommodation. Students are placed on reservation lists according to date of receipt of fee.

Preferences of dormitories may be stated at the time of making reservation. Assignments to halls are made by the Housing Clerk. Room assignments are made by the Head Residents under the supervision of the Associate Dean of Students.

Residence in halls, sorority or fraternity houses is restricted to students registered for 12 or more units of regular work. Any excep-

tion must be approved by the Associate Dean of Students. The College reserves the right to change the residence of any student or to deny or cancel residence accommodations of any student in cases where such action is deemed desirable.

Occupancy. Housing accommodations are available for occupancy the Saturday preceding Freshman Week. Students are expected to vacate accommodations by midnight Saturday of the last week of school. Students are admitted to the assigned housing accommodations only upon presentation of the proper assignment card to the head resident or apartment supervisor.

Hall Facilities. All student rooms are provided with electric light, steam heat, and are furnished with a study table, a dressing table, and chairs. Sleeping porches are used the year round. There is a laundry room in each dormitory furnished with ironing boards for the laundering of personal belongings.

Residence Regulations. No single college influence may contribute more to the development of the personality and character of a student than that of dormitory life. The halls are so equipped and managed as to secure the maximum values at a minimum cost. For regulations governing off-campus housing see *Off-Campus Housing*, page 39. No cooking of any kind is permitted in students' rooms. *Vocal or instrumental music may not be practiced in any of the halls.* Arrangements for such practice may be made through the music department. If radios are used, they must be adjusted so as not to interfere with the rights of others. Young women may be absent from the halls overnight only with the written consent of their parents, which must be on file with the head resident at the time of departure. Nominal dues are collected in each hall by the respective Hall Councils. This fee may not be refunded.

Personal Equipment. The following list of equipment is the minimum which students should bring with them when entering a hall: blankets and comforts for a single bed, one bedspread, dresser scarf, and washable laundry bag. All should be clearly marked with the name of the student. *The college provides and launders sheets, pillow slips, hand towels, and bath towels.*

Regulations Concerning Guests. Guests may be accommodated in residence halls when space is available on the following conditions: (a) that the permission of the head resident has been secured; (b) that guests do not accept invitations from residents for the first four nights of the week or during examination time unless absolutely necessary; (c) that guests do not ask for accommodations for more than a three-day period. Visiting student groups may be accommodated when previous arrangements are made in the Office of the Division of Student Affairs. A nominal rental fee is charged for these accommodations.

Care of Halls and Apartments. The College attempts to furnish comfortable and artistic living conditions for students. Students are

expected to cooperate by keeping them so. Should any damage, beyond the usual wear, occur to the decorations and furniture of a room, the cost of redecoration or repair will be charged to the occupants of the room.

Off-Campus Housing. Parents who desire their daughters to live outside the residence halls are requested to fill out the form furnished by the Dean of Women (Associate Dean of Students). The householder must also sign an agreement in which she agrees to maintain college standards for residents in her home. Requests for such housing should be made only in special cases. There is no such regulation effecting men students.

Fees, Deposits, and Expenses

Changes in Fees. The Board of Regents reserves the right to change fees from time to time without notice when necessary.

Extending Credit. The College cannot extend credit, therefore, students must have on hand when registering sufficient funds to pay for registration, incidental fees, books, and board and room for one month.

Definitions. *Regular fees* are those paid by all students. *Special fees* are those paid by certain students only, and under the conditions indicated. *Deposits* are made to cover certain contingencies. All or part of the deposit may be returned depending upon the charges incurred by the student.

Regular Fees

The following are the regular fees paid each semester both by regular students, and by auditors registered for record purposes:

Registration Fee	\$15.00
<small>Paid by all excepting extension and correspondence students.</small>	
Student Activity Fee	\$10.00
<small>Excepting extension and correspondence students, this fee is paid by all who carry more than 5 semester hours. Only those students paying this fee receive activity tickets.</small>	
College Series Fee	\$1.25
<small>Paid by all excepting extension and correspondence students and those students carrying 5 semester hours or less.</small>	
Health Fee	\$2.75
<small>Paid by all excepting extension and correspondence students and those carrying 5 semester hours or less.</small>	
Gymnasium Fee	\$2.00
<small>Paid by all freshman and sophomore students carrying more than five semester hours.</small>	
Student Union Fee	\$5.00
<small>Excepting extension and correspondence students, this fee is paid by all who carry more than 5 semester hours.</small>	
Library Fee	\$2.00
<small>Paid by all excepting correspondence and extension students.</small>	

Special Fees

Special fees are paid by certain students under the conditions given below:

Non-resident Tuition Fee (per semester).....\$125.00

A student to be considered a legal resident of Arizona for the purpose of registering at the Arizona State College at Tempe must present evidence as follows:

(1) If under 21 years of age—that the parent (or guardian) has been a legal resident of the state of Arizona for at least 1 year next preceding registration.

In the event that a legal resident of Arizona is appointed as the guardian of a non-resident minor, such minor does not become a resident until the expiration of 1 year from the time of appointment and then only upon a proper showing that such appointment was not made to avoid the non-resident fee.

(2) If over 21 years of age—that legal residence in the state has been established for at least 1 year next preceding registration, and that he is eligible to become a registered voter. (Sec. 3 of Art. 7, Constitution of Arizona, provides, "For the purpose of voting, no person shall be deemed to have gained or lost a residence . . . while a student at any institution of learning . . .")

(3) If an alien who has taken out first naturalization papers—that residence has been maintained in the state for at least 1 year previous to registration.

In all cases where the college records indicate that the student's home is outside of Arizona, the non-resident fee shall be assessed. Claim for refund may, however, be filed at any time within 30 days.

The student must have the question of his legal residence passed upon previous to registration and payment of fees. The responsibility of registration under proper residence is placed upon the student. If there is any possible question as to the legal residence, the student is responsible for obtaining a blank from the Registrar's Office; filling it out completely; taking it to a notary public in the Business Office, and making a sworn statement concerning the facts given, and returning the blank to the Registrar's Office. Any student found to have made a false or misleading statement as to his residence shall be subject to dismissal from the College.

Room Reservation and Breakage Deposit.....\$5.00

A room will be reserved in one of the dormitories when the student makes a deposit of \$5.00 in the Business Office. On withdrawal from the College this deposit will be refunded less any damage done by the student to College property.

Apartment Reservation Deposit\$10.00

The student's or prospective student's name will be placed upon the waiting list for student apartments upon receipt of a \$10.00 deposit and proper application.

Transcript Fee

There is no charge for the first transcript. For each additional transcript there is a fee of \$1.00. Requests for transcripts should be in the hands of the Registrar and Director of Admissions one week in advance of the time needed.

Senior Check-Out

Each senior is entitled to one official check-out, at the time application for graduation is filed, without charge, under the curriculum designated in his application for graduation. A fee of \$1.00 will be charged for any additional check-outs.

Absentia Fee\$7.50

Students who are granted permission to receive the bachelor's or master's degree in absentia pay this fee.

Auditor's Fees

Those taking courses for record purposes register and pay the regular fees.

Laboratory FeesSee course descriptions

With few exceptions such fees are not returnable.

Master's Thesis Binding Fee\$5.00

Doctoral Dissertation Binding Fee\$10.00

Doctoral Dissertation Micro-Film Fee\$10.00

Special Examination Fee\$1.00

When, because of absence, or for any reason, it becomes necessary for a student to request a special examination in any course, a fee of \$1.00 may be required for this special privilege.

Master's Degree Final Examination Fee\$2.00

Doctoral Qualifying Examination Fee\$4.00

Comprehensive Examination Fee.....\$5.00 per semester hour

Paid by all students seeking to establish credit by examination.

Test Fees—Vocational\$0.50

A nominal fee is charged to pay the cost of test materials only.

¹ The attention of students who have not attained the age of 22 years and whose parents do not live in the state of Arizona is directed to the fact that presence in the state of Arizona for a period of more than 1 year immediately preceding the opening day of the semester during which it is proposed to attend the Arizona State College at Tempe does not, of itself, entitle the student to classification as a resident.

Application for Graduation Fee	\$10.00
<small>See description under another section of the bulletin headed Graduation Requirements and Degrees.</small>	
Cap and Gown Rental Fee	\$2.75 to \$7.50
<small>Bachelor's cap and gown for baccalaureate and commencement exercises, \$2.75. Master's cap, gown, and hood, \$6.90. Doctor's cap, gown, and hood, \$7.50. These are approximate amounts and subject to change.</small>	
Fee for Dropping Course	\$0.50
<small>Charged beginning Wednesday of the second week.</small>	

Late Fees

Late Registration	\$5.00
<small>All students registering on the date specified for the beginning of classes, or thereafter, pay this fee.</small>	
Late Aptitude Tests	\$2.00
<small>Paid by students taking the aptitude tests on the date specified for the beginning of classes or thereafter.</small>	
Late Physical Examination	\$1.00 to \$3.00
<small>Charged beginning at noon of the last day scheduled for registration.</small>	
Late X-ray	Actual Cost
<small>Charged all students who fail to take the X-ray on the date specified by the College.</small>	

Deposits

Deposits are required of those students wishing certain privileges or services. The deposits are returnable less any charges which may have been incurred during the term of the service being rendered.

Science Breakage Deposits

In the following courses students are required to purchase a \$2.50 deposit card. When their breakage exceeds this amount, they will be required to purchase additional deposit cards.
Chem., 110, 111, 112, 114, 131, 141, 142, 150, 180, 211, 212, 215, 231, 251, 252, 271g, 273g, 281g.

Women's Gymnasium Deposit (per semester).....	\$5.00
<small>This deposit will be refunded if the gymnasium suit, towels, leotard, and lock are returned in good condition.</small>	
Military Uniform Deposit (returnable).....	\$25.00

General Expenses

Board and Room (per semester)—Approximately	\$225.00
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Board in a central Dining Hall and Room in Dormitories on campus is available at nominal rates. The college provides and launders sheets, pillow cases, hand towels and bath towels for students living in dormitories.

Meals for Guests.....regular rates per single meal

Textbooks	\$20.00 up
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The outlay for books and stationery will probably vary from \$20.00 to \$30.00 per semester. All books can be obtained at the College Bookstore.

General Summary. The following summary includes the fees and minimum expenses incurred by a student, exclusive of board and room, for one college year:

Registration Fee	\$ 30.00
Activities, Health, etc.	46.00
Tuition (free to Arizona Students)	0.00
Books and Stationery (approximately)	40.00
Laboratory Fees (approximately)	20.00
	\$136.00

A flat fee of \$40.00 per semester is to be charged of students majoring in music under Teacher Education Curriculums and of students electing an area of concentration in music under the Arts and Sciences Curriculums. All non-majors will pay the fees for private instruction listed on page 189, Department of Music.

Payment and Refund of Fees

Payment of Fees

The payment of fees cannot be deferred. By regulation of the Board of Regents based on a ruling of the Attorney General, registration and other college fees are payable on the day of registration.

Method of Payment

Checks, drafts, and post office or express money orders should be made payable to the Arizona State College.

Refunds

Activities and Other Fees Including Laboratory

Students withdrawing not later than Saturday of the first week receive a refund of eighty per cent of all fees paid; sixty per cent at the close of the second week; forty per cent at the close of the third week; twenty per cent at the close of the fourth week; thereafter, no refund is made.

Forfeiture of Refunds

All refunds and deposits due students for any reason whatsoever will be forfeited unless called for on or before June 30 of the College year in which they are due. Should June 30 fall on Sunday or on a day when the Business Office is closed, the refund will be made on the next business day.

Regulations Affecting Students

Attendance

The college has no uniform system of cuts. The loss incurred by a student for absences depends upon the nature and the amount of work missed, of which the instructor is the sole judge. The instructor will recommend that a student be dropped from class whenever, in his opinion, the student's continuation in the course seems unprofitable to the student or detrimental to the class, and will send a memorandum to the Registrar and Director of Admissions who will initiate the "Authorization for Dropping Course" form. All *veteran students* are to be reported to the Office of the Registrar and Director of Admissions when absent for three or more consecutive class periods or when the instructor considers the total number of absences excessive, whether consecutive or not.

No excuses for absence from class are granted either by the administration or by instructors. The student alone assumes full responsibility for all absences. Instructors will permit students to make up tests and other work missed only when the absence was from a cause beyond the control of the student or on account of activities assigned by the College. The instructor is the judge of the validity of the reasons given for absence.

Conduct of Students

It is the policy of the College to give students the largest degree of liberty consistent with good work and orderly conduct. Both within and without the College, students are expected to show such respect for good order, morality, personal honor, and the rights of others as good citizenship demands. Failure in these matters or neglect of academic duties will be considered sufficient cause for removal from the College.

The authority of the College is exercised over all students individually and over all student groups or organizations bearing the name of the College, or representing or purporting to represent the College in any student enterprises, to the extent necessary to safeguard the good name and well being of the College. Any proposed enterprises by such students or organizations must receive the official sanction of the College before announcements are made of such enterprises.

The possession, serving or use of intoxicants of any kind whatsoever is prohibited on the campus, at all social functions held under the auspices of college sponsored organizations or groups, wherever held, or at any other event in which college students participate where

such possession, serving or use may reflect on the good name and reputation of the College.

The College assumes that the act of registering as a student implies full acceptance of these standards of conduct.

Graduation Requirements

The College grants the following five degrees: Bachelor of Arts in Education, Master of Arts in Education, Doctor of Education, Bachelor of Arts, and Bachelor of Science. The degree of Bachelor of Arts in Education is granted to students who complete satisfactorily the requirements of any one of the teacher-education curriculums offered by the College. The degree of Master of Arts in Education is granted to those who complete satisfactorily a thirty semester hour Master's Degree Program in one of the graduate fields of specialization. The degree of Doctor of Education is granted to graduate students who complete satisfactorily an approved program of graduate courses and an acceptable dissertation. (See Graduate Bulletin.) The Bachelor of Arts degree, and the Bachelor of Science degree are granted to those who complete satisfactorily one of the Arts and Sciences curriculums. To obtain a second bachelor's degree, the student must do an additional 30 hours of work or more and meet all of the requirements of the particular degree.

Requirements for the Bachelors' Degrees

The Unit of Credit. The semester-hour is the unit of credit. It represents one fifty-minute class exercise per week per semester with two hours of outside preparation or the equivalent in laboratory work.

Credit Requirements. A total of 126 semester hours is required for graduation with a bachelor's degree.

Curriculum and Course Requirements. Alternate courses may not be substituted for required generalization courses under a particular curriculum nor may any such courses be waived without approval of the Admissions and Standards Committee. Alternative courses may not be substituted for required courses, in the major, minor or area of concentration under a particular curriculum, nor may any such courses be waived without the approval of the curriculum adviser in the department in which such major, minor or area of concentration is offered.

Military and Air Science. All male students entering the college as freshmen or sophomores, unless properly exempted, are required to complete two years of basic military or air science. Male students who elect advanced military or air science, unless properly exempted, shall complete that course as a prerequisite for graduation.

Physical Education. All students, unless exempted by the Admissions and Standards Committee, are required to complete two semester hours of credit in physical education activity courses.

Scholarship Requirements. In order that a student may be eligible for graduation, his cumulative scholarship index must be 1.75 or better for all work taken after September 1, 1941, or for all work taken while a student at this College.

Residence Requirements. A minimum of one year in residence as a regular student is required of every candidate for the bachelor's degree, and the final 12 semester hours immediately preceding graduation must be taken in residence. For purposes of record, a year in residence is defined as 30 semester hours of credit earned in on-campus courses offered by regular members of the teaching staff. The phrase, *in residence*, means in regular classes held on the campus or at established residence center. It has no reference to living in dormitories or in Tempe. Credit earned in correspondence courses cannot be used to meet residence requirements. The 12 semester hours of final residence may be taken during a semester of the regular academic year or during the summer terms. Exception to the residence regulation may be made by the Admissions and Standards Committee. Petitions for an exception must be made in writing and addressed to the Registrar and Director of Admissions.

Application for Graduation and Teaching Certificates. Students who plan to complete requirements for graduation at the end of either summer term or the first semester should pay the Application for Graduation fee and file their application for graduation with the Registrar and Director of Admissions before registering for their final term or semester. Those planning to complete degree requirements during the first semester must file an Application for Graduation prior to April first of the preceding academic year. Those planning to complete requirements for graduation in May should pay the Application for Graduation fee and file their applications for graduation with the Registrar and Director of Admissions before November 15. After November 15 a \$5.00 late fee is charged students planning to graduate in May who do not file the application for graduation by the November 15th deadline. The filing of late applications for May commencement extends from November 16 to the last day of late registration for second semester. No student may file an application for graduation unless his cumulative scholarship index meets the minimum 1.75 required for graduation. Students cannot change their application from one degree to another after the beginning of the final semester's work.

Application blanks are obtained in the Office of the Registrar and Director of Admissions. Candidates who fail to pay the Application for Graduation fee and file applications at the times specified are required to pay the late fee, and may be scheduled for graduation at a later date. Upon filing an application for graduation, a final check on graduation requirements is made by the Office of the Registrar and Director of Admissions. A check sheet showing the remaining requirements for graduation under the curriculum designated in the application is furnished the student as a guide to his final semester's registration.

Applications for teaching certificates should be obtained at the Office of the Registrar and Director of Admissions at the time of filing Applications for Graduation. Applications should be filed promptly after taking the oath of allegiance.

Graduation Fees. The Application for Graduation fee is \$10.00 if paid on or before the dates specified in the preceding paragraph. After that date the fee is \$15.00. Five dollars of this fee is for membership in the Alumni Association. If a student is granted permission to receive a degree in absentia, he shall pay an additional fee of \$7.50.

Attendance at Commencement Exercises. Candidates for degrees are required to be present at the commencement exercises in the prescribed academic costume. Exceptions to this rule will be made only in extreme cases, and upon petition to the Registrar. The \$7.50 absentia fee is to be submitted at the time the petition is filed. If the petition is not accepted, the fee will then be refunded.

Financial Clearance. Before a student may participate in the commencement exercises or receive his diploma, he must obtain financial clearance at the Business Office. Financial clearance indicates that the regular fees, library, dining hall, and all other fees have been paid.

Requirements for the Master's and Doctor's Degrees

See the section of the catalog headed "The Graduate Division."

Marking System

Undergraduate Scholarship Ratings. Scholarship grades on the student's report card and on his permanent record card are indicated by the letters and explanations given below:

A, Highest.	Cr, Credit, without definition.
B, Above average.	E, Failure.
C, Average.	Wp., Withdrew, work passing.
D, Lowest passing.	We., Withdrew, work failing.
Inc, Incomplete, given and removed as specified below.	

Incomplete. A mark of Inc. is given only when a course is unfinished because of illness or other conditions beyond the control of the student. An incomplete may not be given to any student who has taken the final examination for the particular course. Negligence or indifference are never accepted as reasons for giving an Inc. Incompletes must be removed in a manner prescribed by the instructor, not later than the middle of the following semester. If the Inc. is not removed, the instructor will report a mark of Wp. The Department Head will report the mark of Wp. if the instructor in his department who reported the incomplete is no longer in the employ of the College. Incompletes received in summer session courses must be removed in a manner prescribed by the instructor not later than December 31 next following.

Marks of E. Students receiving marks of E must repeat the course in the regular class if they desire credit. Both the E and the new mark remain as a part of the student's permanent record.

Mark of Wp. The mark of Wp is given whenever a course is dropped, and the instructor rates the student's work as passing.

Mark of We. The mark, We, is given if the instructor rates the student's work as failing at the time of withdrawal.

Repetition of Course. Students may repeat a course in which a low grade has been received. In such cases students must secure an Approval Form from the Registrar and Director of Admissions and have it signed by the instructor and curriculum adviser. These forms must be submitted with other registration materials when completing registration.

When a course is repeated, the original grade remains on the student's record and is included in his cumulative scholarship index. Semester hours of credit are counted only once for the course but the honor points are included on the scholarship index both times the course is taken.

Dropping Course at Instructor's Request. A faculty member will drop a student from his class with a mark of Wp or We whenever, because of absence or other reason, he thinks the work of the student is such as to justify it.

Change of Grade. A grade once reported to the Registrar's Office may be changed only if the faculty member certifies in writing the reason for the change on an Authorization for Change of Grade Form.

Grade Points. For the purpose of computing the scholarship index, grade points are assigned to each of the grades as follows: A, 4 points for each semester hour; B, 3 points; C, 2 points; D, 1 point; E, 0 point; and We, 0 point.

Scholarship Index. The scholarship index is obtained by dividing the total number of grade points earned by the number of semester hours in the student's course load. Courses in which marks of Wp, Inc., Cr., and Audit are given are not included in determining the number of semester hours in the course load, but courses in which the mark, We, is given are included.

Disqualification. All students, who, at the close of any semester or term, fail to receive passing marks in fifty per cent of the semester hours for which they are officially registered or who fail to receive a semester scholarship index of 1.00 are disqualified. Students disqualified at the close of the first semester are not eligible for the second semester. Students disqualified at the close of the second semester are not eligible to attend summer session or the first semester of the following college year.

Probation. Where circumstances are deemed sufficient, a student may be reinstated by a vote of the Admissions and Standards Committee.

Any disqualified student has a right to be heard by this committee after making written application to the Registrar and Director of Admissions, who is chairman of the Admissions and Standards Committee. Any students who have been reinstated by the Admissions and Standards Committee are on probation for the semester following reinstatement.

Reports to Students. Each student receives a Deficient Scholarship Report at the mid-semester for courses in which his marks are D or E. At the close of each semester he receives a report showing his standing in each course taken. These Semester Grade Reports are handed to the student by his adviser during a conference held with the student. Only the final semester grades are entered on the student's permanent record card.

Reports to Parents. A duplicate of the report cards of all unmarried students under twenty-one showing their standing in each class is mailed to the parent at the close of each semester. Report cards of other students are mailed to their home address unless the Office of the Registrar and Director of Admissions is notified prior to final examination week.

Services to Students

Placement Bureau

The Placement Bureau is maintained to assist undergraduate and graduate students in obtaining employment according to their training, ability, and experience. It is the purpose of the Bureau to serve the state and region by providing adequately trained personnel for business, industry and education. Although the Placement Bureau does not guarantee placement, every effort is made to aid students and those in the field who desire placement assistance. Candidates may enroll by filling out the appropriate blanks. Upon enrolling, candidates receive full information and instructions relative to securing employment. Complete records are kept on file in the office. *Yearly renewal keeps credentials in active file.*

Students can find information regarding the knowledge necessary, the requirements, and the opportunities in a variety of vocations in the Vocational Information Center. This Center makes available general vocational materials, specific information dealing with special fields of interest, and literature furnished by different types of commercial and educational institutions.

Student Placement. The Placement Bureau aids students attending college in securing part time employment, both on and off the campus, which tends to supplement their educational goals. Students may work from five to twenty hours per week on campus, however, it is recommended that students working twenty hours per week carry a reduced class schedule. All students employed under this program are expected to maintain at least a 2.00 scholarship index.

Teacher Placement. The Placement Bureau assists graduating students in obtaining teaching positions. It seeks, at the same time, to serve the best interests of the superintendents and school trustees of the state who desire to secure teachers adapted to the needs of their particular school.

Commercial Placement. The Placement Bureau also serves graduating students who are interested in commercial and industrial placement. Effort is made to place students in their chosen fields, and at the same time aid industries to obtain properly trained personnel.

All correspondence should be addressed to the appropriate division in the Placement Bureau.

Health Service

Student Health Service. This service is maintained for the purpose of constant supervision over the health of students. It is administered under the Division of Student Affairs. A dispensary and infirmary

are staffed by a consulting physician and registered nurses. The Student Health Service is located on Normal Avenue.

Health Examination. The health examination is required of all students prior to registration. A physician's certificate of small pox vaccination within the past four years must be furnished at the time of the examination. Students are urged to have all remediable defects, such as eyes, ears, teeth, tonsils, etc., corrected in advance of matriculation to prevent possible loss of time from studies. The Student Health Service makes recommendations concerning activities of students in which health may be a factor. Restricted class schedules or physical activity programs based on the findings of the health examination are recommended. See the item headed "Health Examination" under the section on *Admission to College* for further details of the health examination.

Dispensary and Infirmary Treatment. Dispensary services are available during regularly posted hours and at any hour for emergencies to all regularly registered students. No illness will be cared for in the dormitories, nor will any prescription be made for a student not reporting in person to the Health Service. Infirmary care is given according to need as determined by the staff. No student may have more than one week's bedside care without cost. Contagious diseases must receive care off-campus immediately following diagnosis.

Illness or Injury Must Be Reported. Any illness or injury must be reported to the Student Health Service without delay. A campus resident is required to report illness immediately to the head resident of his or her hall. Failure to do so may result in his being asked to leave the hall. Before leaving the campus because of illness, students are to report to the Student Health Service. Upon their return they are to report for approval to re enter classes. In all cases diagnosed as contagious, the student, on his return to the college, will present to the college nurse a written statement from the attending physician. Health reports are sent to the family physician upon request of the student.

Financial Responsibility. With the payment of the health fee of \$2.75 each semester, all regularly registered students are entitled to student health service care according to established policies. Students may be referred to consultant specialists when the college physician considers it advisable, but such fees must be borne by the student. When hospitalization or surgical attention is considered necessary, the college assumes no financial responsibility. Parents are consulted in advance of hospitalization if at all possible. A fee of \$4.00 a day is charged for Infirmary care after one week.

Honors and Awards

Alpha Pi Epsilon Secretarial Award. An award given in the Business Administration Department to the outstanding student of the year in secretarial courses.

Alpha Psi Omega Awards. Two books are awarded each year by the national dramatics fraternity, Alpha Psi Omega—one for outstanding work in drama production, the other for distinction in action.

American Association of University Women, Tempe Branch. An award to a freshman girl for outstanding scholarship during her first semester in college.

The American Legion Medal. A medal is awarded by William A. Bloys Post Number 2, American Legion, to the member of the second year basic course, Army R.O.T.C., displaying the highest academic proficiency and capacity for military leadership.

The Arizona National Guard Award. A trophy is awarded to the outstanding R.O.T.C. cadet who is a member of the Arizona National Guard.

The Arizona Society of Certified Public Accountants' Award. Made to a senior graduating with the B. S. degree with an area of concentration in accounting. Based on scholarship and contributions to business.

Associated Men Students' Award. An award presented by the A.M.S. Council to a senior member of the Associated Men Students in recognition of outstanding service to the College.

Associated Women Students' Recognition Award. The A.W.S. Recognition Award is presented each year to a graduating senior woman who is considered the outstanding woman in her class. She is judged on the basis of leadership, personality, scholarship, and service to the College. Recommendations are received from administrators, faculty, and student organizations.

Association for Childhood Education Award. A silver trophy to a kindergarten primary junior or senior girl outstanding in scholarship and service.

Association of the United States Army Medal. A medal is presented to the member of the second year advanced course, Army R.O.T.C., exhibiting the greatest technical proficiency and highest capacity for leadership.

Bandsman's Award. A decoration is presented to the outstanding member of the R.O.T.C. Regimental Band.

Beta Chi Award. An award is given to the graduating senior chosen for her good scholarship, her contribution to the Home Economics Club, to the Home Economics Department, and to the College, and her promise of future development.

Business Administration Award. A trophy is presented annually to a graduating senior for high scholarship, personality, and service.

Chi Omega Social Science Award. The Chi Omega Social Science Award of twenty five dollars is given to the outstanding woman student in the field of Social Studies. It is judged on scholarship and

general ability in that field. The recipient is chosen by the head of the Social Studies Department and a committee of professors of Social Studies.

Commandants' Award. A decoration is presented to the member of the R.O.T.C. rifle team compiling the highest average during competitive firing.

The Judge Thomas J. Croaff Awards. Two awards of \$50.00 each are given annually by Mrs. Carolyn B. Croaff in memory of her husband Judge Thomas J. Croaff. These awards will be made to two students whose research papers in the fields of education, sociology, or psychology are judged outstanding by the committee.

Dean's Award. A decoration is presented by the Dean of the College to the cadet commander of the battery winning the annual Army R.O.T.C. battalion drill competition.

Delta Sigma Pi Scholarship Key. To encourage high scholarship, Delta Sigma Pi presents annually the Delta Sigma Pi Scholarship Key to the graduating senior who ranks highest in scholarship for the entire course in Business Administration.

Freshman Art Award. An award given to a freshman majoring in art. Selection determined on basis of scholarship, as well as art accomplishments and promise as an artist.

Future Teachers of America Award. An award given by the Arizona State College Chapter of Future Teachers of America to the graduating senior who shows most promise of leadership in the teaching profession.

Bob Gehres Award. An award given each year by Blue Key to the most valuable baseball player in honor of Bob Gehres, an outstanding A.S.C. pitcher, who died in 1950.

Graduating Honors. The honor, "With Distinction," is given to those whose index of scholarship, for all work taken at the College, is from 3.00 to 3.49 points. "With High Distinction" is given those whose index is from 3.50 to 4.00.

Harvard Club Award. A book or set of books given each year by the Arizona Harvard Club for excellence in some field of study designated by the donor.

Hillel Honor Awards. The Hillel Honor Awards are given to students of the Jewish faith, who by their devotion to service, and consecration to duty have made Hillel a worthwhile student organization.

Home Economics Award. An award is given to the sophomore Home Economics major having the highest cumulative scholastic record during her first two years of college.

Interfraternity Council Scholarship Award. Each semester the Interfraternity Council awards a scholarship trophy to the fraternity with the highest scholarship. In addition, a "traveling trophy"

moves to the highest fraternity, and at the end of ten semesters becomes the property of that fraternity earning it the greatest number of times.

The Fred M. Jahn Award. An award of fifteen dollars presented annually to a student doing outstanding work in journalism.

Kappa Delta Pi Award. An award of twenty five dollars by Kappa Delta Pi is made to the student having the highest cumulative index for all courses taken in the freshman and sophomore years at Tempe. The minimum number of hours is sixty.

Kappa Delta P' P'n. This award goes to a graduating senior who attains the highest cumulative index for the junior and senior years under the conditions prescribed for Kappa Delta Pi award.

Kappa Kappa Psi. Beta Omicron Chapter of Kappa Kappa Psi presents an award to the most outstanding senior of the College Band.

Rochester Krueve Award. An award of twenty-five dollars is given to the student ranking highest in a comprehensive examination in the Biological and Chemical Sciences. The examination is held annually on the last Saturday of April.

Lita Panamerican Award. An award given to a sophomore for outstanding work in Spanish.

McClure Prizery Journalism Award. An award of ten dollars to a student doing outstanding work in journalism.

Miskid Sandal Award. A book is awarded each year by Mask and Sandal for all around service to the Drama Workshop.

Moeur Award. This award of \$50.00 is given by Sidney B. and Annie Laurie La Sator Moeur, both graduates of the class of 1914, to the graduate of any four year curriculum who attains the highest standing in academic work during the four years immediately preceding graduation.

Merle Alpha Award. An award given by the honorary fraternity, Mu Rho Alpha, to a senior music major outstanding in musicianship and artistic performance.

Panellenic Scholarship Cup. A Panhellenic Scholarship Cup is awarded each year by the Phoenix Panhellenic Association to that sorority which has the highest scholastic average. Any sorority receiving the award for three consecutive years retains the cup permanently.

Pasteur Scientific Award. An award of the Handbook in Chemistry is given to a freshman outstanding for achievement in general scholarship in freshman chemistry.

Phi Eta Sigma Award. This award is given to the male student who attains the highest cumulative index for all courses taken in the freshman and sophomore years at Tempe.

Pi Kappa Delta. Awards are made annually by this national honorary forensic fraternity to students who achieve forensic proficiency.

Pi Omega Pi Award. Alpha Iota Chapter of Pi Omega Pi presents an award to the graduating senior selected as the most outstanding prospective commercial teacher.

Pleiades Freshman Award is presented at the close of each year to the most outstanding woman in the freshman class.

The Pleiades Plaque. Awarded by Pleiades to the hall having the highest collective undergraduate scholarship index. Off-campus men and off-campus women are considered as two of the groups. The group winning it three times in succession retains the plaque.

President's Award. A decoration is presented by the President of the College to the outstanding member of the second year advanced course, Army R.O.T.C.

Reserve Officers' Association Scholarship and Medal. A scholarship of twenty-five dollars and a medal are presented by the Phoenix Chapter, Reserve Officers' Association of Arizona to the outstanding member of the first-year advanced course, Army R.O.T.C.

Reserve Officers' Training Corps Medal. A medal is presented to the R.O.T.C. cadet making the greatest personal contribution to the Corps of Cadets.

Will H. Robinson Award. An award of twenty-five dollars, in honor of Will H. Robinson, is given annually to a freshman. The award is based on high scholarship for the first semester considering the number of hours the student gives to self-support.

Rosenzweig Trophy. This trophy is given annually by I. Rosenzweig & Sons to an outstanding letterman having the highest total point rating on athletic ability, general aptitude index, and scholarship index.

Tempe Daily News Journalism Award. An award of ten dollars to a student doing outstanding work in journalism.

Theta Chi Epsilon Award. This award is given annually to a senior student for excellence in scholarship and art achievement.

Veterans of Foreign Wars Medal. A medal is presented by Bob Finch Post Number 3632(Veterans of Foreign Wars to the member of the first year basic course, Army R.O.T.C., who exhibits the highest academic proficiency and potentiality for military leadership.

West Hall Award. An award to a resident of West Hall for outstanding achievement in scholarship, and service to the hall and to the College for four years.

Women's Physical Education Award. An award given by the women's division of the Physical Education Department to a senior major for achievement in physical education.

Loan Funds and Foundations

The College is anxious to be of service in assisting worthy students. A number of organizations have loan funds for this purpose.

Alumni Loan Fund. Loans are made to deserving students in small amounts for short terms for necessary college expenses.

Arizona Federation of Women's Clubs Loan Fund. Juniors and seniors may borrow \$100.00 or more from this fund at a low rate of interest.

J. Reuben Clark, Jr. Student Aid Fund. Loans are made to deserving students in small amounts for short terms for necessary college expenses.

D. A. R. Loan Fund. The Charles Trumbull Hayden chapter of the Daughters of the American Revolution has a fund available for the use of responsible and worthy students during their senior year.

DeMund Foundation. Grants for tuition or sustenance are made to deserving and needy Arizona students, based upon character, intelligence, effort, aptitude and need. Recipients must be at least partially self-supporting.

Diron Fagerberg Revolving Fund. Loans are made to junior and senior women at 4% interest to be repaid within two years after graduation.

W. K. Kellogg Foundation Loan Fund. Loans are made in unlimited amounts to students in medical technology, either in their clinical or the pre clinical years of their courses. The interest rate is not to exceed 2½%.

Marshall Charitable Foundation Student Aid Fund. A grant of \$8,000.00 has been given to the Arizona State College at Tempe by the Marshall Foundation, Tucson, Arizona, the income of which is to be available for the aid of worthy and deserving students.

Methodist Loan Fund. Methodist students attending Arizona State College may borrow limited sums of money in their sophomore, junior, or senior year.

Phoenix Pan-Hellenic Loan Fund. Available to undergraduate women approved by the Pan-Hellenic Scholarship Committee. The loan may not exceed \$150.00. No interest is charged.

President's Student Aid Fund. Loans are made to deserving students in small amounts for short terms for necessary college expenses.

Rotary Club Student Loan Fund. Open to junior and senior students who are residents of Maricopa County. Rate of interest, 4%. Loan must be approved by a Rotary Club Committee.

Harold V. Smith Educational Fund. Based on integrity, intelligence, character, competency, and aptitude. Loans are made to students

between the ages of 18 and 25 who are self-supporting in whole or in part. The maximum loan for the school year is \$300.00 at 4% interest.

Tempe Rotary Loan Fund. Loans are made to deserving students in small amounts for short terms for necessary college expenses.

Applications. Students who are in need of financial aid may make application to the Business Office for available loan funds.

Scholarships and Fellowships

Arizona State College at Tempe Scholarships. A number of scholarships are awarded annually to new students and students currently enrolled who have achieved better than average records in scholarship, who are of good character, and who have demonstrated interest and ability in general and special fields of educational activity through regular class work and participation in extra-curricular activities. These scholarships may provide for the remission of one or more of the following fees: regular registration and class fees, fees for private lessons, and the out-of-state tuition fee; and a cash award in amounts up to five hundred dollars. These scholarships may be renewed annually upon re-application and approved by the Scholarship Committee.

A-1 Brewing Company Scholarships. Two scholarships of \$600.00 each are provided annually by the Arizona Brewing Company, Inc. of Phoenix, Arizona to students in the field of Business Administration. These scholarships are awarded on the basis of need, scholarship, and traits of American citizenship. Preference will be given to Arizona students.

Agriculture Scholarships. The Valley of the Sun Kiwanis Club, Phoenix, as one of its service projects, sponsors an agriculture scholarship fund from which a number of scholarships are provided annually to students at Arizona State College at Tempe who are registered under the four-year Agriculture Curriculum. Contributors to the 1952-53 scholarship fund include the following individuals and business firms: Advance Seed Co., Allied Grain Co., Hooper Concrete Pipe Co., and the Valley of the Sun Kiwanis Club. These scholarships provide for a cash stipend of \$300.00, payable \$150.00 each semester. Recipients must be residents of Arizona and be full-time students registered under the four-year Agriculture Curriculum. In making the awards, the primary factors to be considered will include: scholarship, ability and promise, personality, character, leadership, and financial need.

Alpha Kappa Alpha Scholarship. Alpha Sigma Chapter of Alpha Kappa Alpha Sorority presents annually a scholarship of \$50.00 to an outstanding student of the Carver High School.

Elenore Altman Scholarship. One scholarship is given each year to an A. S. C. student majoring in piano. The scholarship defrays all fees for one year's study of piano.

Alumni Scholarships. At least two fifty dollar scholarships are awarded annually to seniors outstanding in ability and service to the college.

American Institute of Foreign Trade Scholarship. The American Institute of Foreign Trade awards annually a tuition free scholarship to a graduate of the Arizona State College at Tempe. This scholarship is valued at \$800.00 and covers the total tuition for a full year at the American Institute of Foreign Trade. In making the award the following qualifications will be given primary consideration: (a) quality of scholarship throughout the undergraduate years, (b) personality and character, and (c) genuine interest in living and serving abroad.

American Legion Scholarships. Ten scholarships are given to sons of deceased veterans of World War I and II. Selections are made from the United States at large. The awards are \$400.00 for the first year, and \$100.00 for three months of actual attendance thereafter.

Miss Arizona Scholarships. The Arizona State Fair Commission each year makes available to each of the three top contestants in the Miss Arizona Contest a \$500.00 scholarship to be used at the Arizona State College at Tempe or Flagstaff or at the University of Arizona. To be eligible for the scholarship the contestant must be qualified to enter one of the State Colleges or the University, or must qualify for entrance within one year.

Arizona Cattle Growers Association Scholarship. A freshman scholarship of \$300.00 is awarded annually by the Arizona Cattle Growers Association to an outstanding boy or girl graduate of an Arizona High School. The primary qualifications for this scholarship include: scholarship, leadership, and character.

Arizona Congress of Parents and Teachers Scholarship. The Arizona Congress of Parents and Teachers awards annually three one hundred dollar scholarships to deserving graduates of Arizona high schools. Recipients must attend the Arizona State College at Tempe or Flagstaff or the University of Arizona. These scholarships are awarded on a regional basis and graduates of small high schools are given special consideration. Applications should be made through the high school principal to the Chairman of the Scholarship Committee, Arizona Congress of Parents and Teachers.

Arizona Sales Executive Club Scholarships. A number of three hundred dollar scholarships known as the Arizona Sales Executive Club Scholarships are awarded to outstanding juniors and seniors, men or women, specializing in marketing. Scholarships were made available in 1952-53 by the following business firms: Arizona Sales Executive Club, J. Douglas Edwards Sales Consultant, The O. S. Stapley Company, Clevenger Realty, Lyle Hiner and Associates, Commercial Benefit Insurance Company, and National Reserve Insurance Company. Scholarships are available in retailing, marketing management, and selling, depending upon the special interests and needs of

the donor in the field of marketing. An unusual feature of these scholarships is the opportunity of employment which may be extended by the donors to the recipients.

Associated Women Students Scholarship. This one-hundred dollar scholarship is awarded to a high-school senior girl, outstanding in scholarship, personality, and extra curricular activities.

Blue Key Scholarships. The Arizona State College Chapter of Blue Key awards a number of scholarships to graduates of Arizona High Schools. These scholarships provide for the payment of registration fees, R.O.T.C. uniform deposit, and books. The awards are made on the basis of scholarship, character, participation in extra-curricular activities and need. The scholarship may be renewed for the sophomore year.

Delta Sigma Theta Scholarship. Beta Theta Chapter of Delta Sigma Theta Sorority presents each year to the girl student of Carver High School who ranks highest in scholarship an award of \$50.00.

Easter Star Scholarship. The Grand Chapter of the Order of Eastern Star of Arizona awards annually a two hundred dollar scholarship to a graduate of an Arizona High School. The scholarship is awarded to a junior or senior in college. The recipient must be a daughter or sister of an Eastern Star member, or must herself be a member of an Arizona Chapter of the order of Eastern Star. In selecting the recipient, character, leadership and scholarship will be given primary consideration.

Foreign Student Scholarships. Eighteen scholarships are available to qualified students from foreign countries. Ability to read and speak the English language is required. Six of the eighteen may be awarded to graduate students. Scholarships cover the regular registration and class fees and out-of state tuition.

Dixie Dees Gammage Speech Scholarship. A scholarship of one hundred dollars given to an outstanding woman speech major by the Associated Women Students.

Dixie Dees Gammage State Press Scholarship. Awarded annually by the State Press to a high school senior in Arizona for outstanding work in the field of journalism.

Dixie Gammage Memorial Scholarship. A scholarship to the Music Camp valued at sixty dollars. The award is made by auditions at the College.

Arthur Emery Harvey Scholarship in Applied Music. A scholarship in applied piano is given yearly by Hazel Harvey Quaid to the freshman ranking highest in piano sight reading, repertoire and general musicianship. Examinations are given during Freshman Week.

W. K. Kellogg Foundation Scholarship. Students in the last or clinical year (within one year of active service) of the medical technology course may be awarded scholarships after they have completed at least

10 weeks of the work of this year. The scholarships are valued at about \$75.00.

Los Conquistadores Scholarships. The club gives each year a scholarship of two hundred dollars to a worthy Spanish speaking high school graduate of Arizona. The scholarship is paid in fifty dollar amounts at the beginning of each semester for four semesters. The award is made on the basis of need, scholarship, character, and promise of future success.

Marshall Foundation Medical Scholarships. The Board of Directors of the Marshall Charitable Foundation has provided a fund of \$3,750.00 to be made available to graduates of the Arizona State College at Tempe as scholarships for medical and dental education. The funds are available only to graduates who are unable to finance such education. Recipients will be expected to return to the State of Arizona and practice their professions for a period of not less than two years. In the event they do not return to Arizona and practice their professions, recipients will be required to return to the College the funds received from these scholarships.

Music Camp Scholarships. The college faculty presents three scholarships to gifted members of the Music Camp—one each in voice, piano, and an instrument. These scholarships pay for private lessons only. Selections are made by auditions given at the College.

Phelps Dodge Scholarships. Four scholarships of \$1000.00 each annually are given by the Phelps Dodge Corporation. One goes to an Arizona high school graduate, and one each to a sophomore, junior and senior now in college. They are awarded on the following basis: (a) high scholarship, (b) high ability and promise, (c) personality, (d) character, (e) leadership.

Phoenix Real Estate Board Scholarship. The Phoenix Arizona Real Estate Board offers a scholarship of \$500.00 annually to a junior or a senior student majoring in Business Administration and interested in the field of real estate. In making the award, scholarship, leadership, character, and financial need will be given primary consideration.

Phoenix Symphony Orchestra Guild Scholarships. Several scholarships are provided annually by the Phoenix Symphony Orchestra Guild and the Arizona State College at Tempe, to full time students registered under a four year music curriculum. These scholarships provide for a cash stipend of two hundred dollars, payable in fifty dollar amounts at the beginning and middle of each semester, and carry the remission of all regular registration and class fees, and the out-of-state tuition fee. Aptitude and proficiency in music as shown by performance on a musical instrument, promise of further growth and development in musicianship, and good character will receive primary consideration in making the awards. Recipients shall audition for membership in the Phoenix Symphony Orchestra.

Phoenix Symphony Orchestra Guild Graduate Scholarships. One or more scholarships of \$500.00 are provided annually by the Phoenix

Symphony Orchestra Guild to graduate assistants in music at the Arizona State College at Tempe. The scholarship is payable in one-hundred and twenty-five dollar amounts at the beginning and middle of each semester. Recipients shall audition for membership in the Phoenix Symphony Orchestra.

Rhodes Scholarships. These are competitive scholarships. Three candidates are chosen from the State of Arizona to compete with candidates from five other states. From these 18 candidates, six Rhodes scholars are chosen for Oxford University. The stipend is \$400 per year and may be held for 3 years. Scholars must be citizens of the United States, unmarried and between 19 and 25 years of age.

Salt River Valley Branch of the Association For Childhood Education International Scholarship. The Salt River Valley Branch of the Association for Childhood Education International offers a scholarship of \$50.00 annually to a second semester junior or senior student enrolled under the Kindergarten-Primary or Elementary Curriculum. In making this award, scholarship, character, leadership, and financial need will be given primary consideration.

Clark Smith Fellowships in Business Administration. Four fellowships of six hundred dollars each known as the Clark Smith Fellowships in Business Administration, are given annually by Clark Smith and Mrs. Clark Smith, (an alumna of Arizona State College), Phoenix, to four outstanding juniors or seniors—men or women—specializing in Business Administration at Arizona State College, Tempe. Applicants must be residents of Maricopa County, Arizona, for the five years preceding the beginning of the academic year for which the scholarship is granted. These fellowships are awarded on the basis of need, scholarship, leadership, character, and social intelligence.

Sunshine-Jack Tracy Agriculture Scholarship. This scholarship of \$750.00 is awarded annually to a worthy student enrolled under the four-year agriculture curriculum. In making the award financial need will be given primary consideration. Other factors will include: scholarship, ability and character.

Tempe Kiwanis Club Scholarship. A scholarship of one hundred dollars is awarded annually by the Tempe Kiwanis Club to a handicapped Arizona student. Preference will be given to a local student and need will be given primary consideration. Other qualifications include: ability, scholarship, and character.

Write for Information. Apply or write to the Dean of the College for information concerning any of these scholarships.

Student Affairs

Student Government

Associated Students. Every student of the college is automatically a member of the Associated Student Body. The Board of Regents, the President, and the faculty challenge every student to accept his individual responsibility for stimulating and regulating student activities, and customs, and for promoting the intellectual, moral, and social welfare of all students in a truly democratic manner. These objectives are attained by encouraging all students to participate in the government of the College. A Council, elected by the student body, functions as the executive body of the Associated Students.

Associated Men Students. Every man registered in the College is a member of the Associated Men Students. The purpose of this organization is to promote the highest standards of college life, to aid men students in problems of adjustment and social relationship, and to make provisions for social activities and for such other functions as may be in the best interests of the men students and the College. The group is governed by officers elected by the members of the organization.

Associated Women Students. Every woman registered in the College is a member of the Associated Women Students. The purpose of this organization is to bring about greater unity and mutual helpfulness among the women of the College. A governing body called the A.W.S. Council is composed of duly elected officers, the presidents of the women's dormitories, and the president of Off-Campus Women. *Off-Campus Women* is a part of A.W.S. and membership is open to all women not living in residence halls. This group offers an opportunity for these women to feel that they are a part of the College and to enjoy social life along with their studies.

The Student Union. Anticipating the time when a permanent student union will be established, the students are operating a temporary student center which includes eating facilities. It is staffed by a trained manager.

The Student Social Program. The college calendar brings together programs and functions held on the campus and elsewhere. The Division of Student Affairs coordinates over 100 groups in their activities. A wide variety of activities is scheduled throughout the year. These include athletic events; social events including dances, dinners, banquets, teas; entertainment and lecture series; music and other cultural gatherings. Both men's and women's residence halls play an important part in carrying out the social program under the supervision of carefully selected personnel officers and faculty members. In addition to the all-college social and cultural functions, the various organizations offer programs and activities varying with their interests and fields of specialization.

Student Organizations

Program. A wholesome, integrated program for the college student is provided through student organizations. According to the individual interest and available time, any student may choose those activities which meet his desire for congenial companionship, his need for group security, his need for recognition, his need for creative effort, his need for growth—physically or socially—or supplement his classroom work in the many activities which are an extension of classroom programs.

Scholastic Requirements. In order to be eligible for admission to membership in any student organization, a student must have a scholarship index of 2.00 or better in all courses carried for the semester immediately preceding. Any member of such an organization whose semester report shows a scholarship index of less than 2.00 may be suspended from active work in the organization for one semester.

Departmental, Interest, and Recognition Organizations

"A" Club (Men). Consists of all varsity letter winners in all major sports.

The "A" Club (Women). An honorary association for women who have earned 1,000 points in varsity, dance, and/or sports activity. Associate membership is open to those women who have earned 800 points.

Aggie Club. Open to all majors and minors in agriculture. Promotes the interest of agricultural education.

Alpha Mu Gamma. A national honorary fraternity for students of foreign language.

Alpha Phi Omega. A national service fraternity which continues the principles of the Scout oath and law.

Alpha Pi Epsilon. A national secretarial honor organization.

Alpha Psi Omega. A national honorary dramatic society open to those who acquire twenty points in dramatics.

Alpha Sigma Kappa. An honorary scholastic society founded to give recognition to those graduate students, seniors, and juniors who show outstanding scholastic ability. Election occurs in the spring and is limited to the following: 10 percent of the number of graduate degrees granted that year; 10 percent of the graduating seniors; not more than 5 juniors. To be eligible for consideration, a graduate student must have a grade point index of 3.0 in his undergraduate work and a cumulative grade point index of 3.5 in his graduate work; a senior must have a cumulative grade point index of 3.5; a junior must have a cumulative grade point index of 3.75.

American Association of Engineers. For all students taking engineering.

American Chemical Society. (Student Affiliate). A professional society for students majoring or interested in chemistry.

American Institute of Architects. For students interested in architecture and its allied fields of building and construction.

Arnold Air Society. A National Honorary Air Force fraternity for members of the Advanced Air Force R.O.T.C. course.

ASC Badminton Club. Composed of men and women students who are interested in playing badminton.

Association for Childhood Education. A branch of the international organization. Promotes kindergarten primary education.

Astronomy Club. An opportunity for those interested in astronomy to congregate with others of similar interests to observe the stars and planets through the seasons of the year, and to construct or help construct small telescopes.

Basic ROTC Club. Membership is restricted to persons associated with or interest in the Basic ROTC unit.

Beta Chi Epsilon. For girls whose major interest is in home economics. Affiliated with the National Home Economics Association.

Bios. An organization of students majoring in Biological Science.

Blue Key. A national honorary service organization composed of men students of the junior and senior class.

Camera Club. The State Camera Club is open to all those interested in photography.

Delta Sigma Pi is the largest national professional fraternity in the field of Business Administration. This fraternity, under the sponsorship of the Department of Business Administration, installed Gamma Omega chapter at Arizona State College on November 4, 1951. The purpose of the fraternity is to foster the study of business; to encourage a high level of scholarship; to foster the association of business administration students for their mutual advancement; to provide a closer affiliation between the commercial world and students of business; to further a high standard of business ethics and culture; and to promote the civic and business welfare of the community.

Future Teachers of America. An organization devoted to the interests of prospective teachers.

Gamma Theta Upsilon. A national honorary professional geographic fraternity open to all majors and minors in geography and geology.

International Relations Club. A national organization interested in national and international affairs.

Kappa Delta Pi. A national honorary education society fostering high professional and scholastic standards and service.

Kappa Kappa Psi. A national band fraternity whose purpose is to promote the best interests of college bandmen.

La Liga Panamericana. A club which promotes friendly relations among those interested in things Spanish.

Los Conquistadores. Promotes the welfare of the Spanish-speaking students on the campus.

Marketing Club. Promotes the interests and welfare of students majoring in marketing management.

Mask and Sandal. Furthers interest in dramatics. Expedites membership into Alpha Psi Omega.

Mu Rho Alpha. An honorary fraternity which aims to recognize and develop musical ability and appreciation.

Off-Campus Women. Provides fellowship and facilities for all women not living in residence halls.

Pasteur Scientific Society. Affords opportunities for student activity in the biological and physical sciences.

Phi Eta Sigma. National honor society for freshman men. Seeks to promote scholarship by granting recognition to those men students who attain a 3.5 average during their first year.

Pi Kappa Delta. National honorary forensic society, is open to those who make outstanding records in inter-collegiate forensics.

Pi Omega Pi. A national honor society for commerce majors interested in becoming teachers of commercial subjects.

Pleiades. An honorary women's service organization composed of twelve women selected from the junior and senior classes.

Pom-Pon Girls of ASC. Composed of women students whose purpose is to promote school spirit and provide colorful entertainment at school events.

Press Club. A club composed of journalistic activities.

Psi Chi. Open to majors and minors in Psychology. Promotes interest in Psychology as a science.

Radio and Television Workship. Membership is open to students who are interested in radio and television.

Religious Council. Composed of representative students from all denominations. Promotes religious programs, and fosters religious living.

Religious Organizations. Opportunity for participation in religious activities is offered through various organizations for college students meeting on the campus.

Baptist Student Union (Baptist); Christian Science Club (Christian Science); Congo Club (Congregational); Delta Phi (L.D.S.); Lambda Delta Sigma (L.D.S.-Phi Alpha, Women; Phi Omega, Men); Lutheran Students Association (Lutheran); Newman Club (Catholic); Wesley Foundation (Methodist); Westminster Foundation (Presbyterian).

R.O.T.C. Officers Club. Composed of officers of the college unit. Promotes Americanism and good fellowship.

Russian Circle. Purpose is a better understanding of Russia and its language and literature.

Sigma Pi Sigma. A local honorary accounting society, stressing originality, scholarship, and sociability.

Social Welfare Club. Interprets social work and explores the opportunities in this field.

Tau Beta Sigma. A national band sorority interested in promoting the best interests of college bandswomen.

Theta Chi Epsilon. An honorary art fraternity which aims to develop the appreciation of art and to extend art experiences.

University Dames of ASC. Composed of wives and mothers of students registered in any department of school.

Women's Athletic Association. This organization is affiliated with the National Athletic Federation of College Women. The association sponsors and provides opportunities for participation in intramural dance and sports activities, varsity dance and sports activities, intercollegiate, state, district, and national tournament competition. Membership in this association is open to all women students who accumulate one hundred (100) points through intramural competition or through membership on varsity teams in either sports or dance activities.

Women's Physical Education Club. For women majoring or minoring in physical education. This organization is affiliated with the American Association for Health, Physical Education and Recreation.

Sororities and Fraternities

Interfraternity Council. Composed of two elected representatives from each member fraternity and the faculty adviser. The Interfraternity Council is the liaison between individual fraternities and the Associated Students and College administration.

Panhellenic Council. The Panhellenic Council is composed of a representative of each sorority and the Associate Dean of Students. Sponsors are members ex-officio.

Ulysses Club. Composed of men and women members of national fraternities not represented on this campus.

Sororities. The following Greek letter societies carry on the traditional objectives of each group:

- Alpha Delta Pi* (national)
- Alpha Sigma Alpha* (national)
- Chi Omega* (national)
- Gamma Phi Beta* (national)
- Kappa Delta* (national)
- Sigma Sigma Sigma* (national)

Fraternities. The following Greek letter societies carry on the traditional objectives of each group.

- Alpha Epsilon Pi* (national)
- Alpha Tau Omega* (national)
- Delta Chi* (national)
- Delta Sigma Phi* (national)
- Lambda Chi Alpha* (national)
- Nu Sigma* (colony of Sigma Nu)
- Pi Sigma Kappa* (national)
- Pi Kappa Alpha* (national)
- Sigma Pi* (national)
- Sigma Phi Epsilon* (national)
- Tau Kappa Epsilon* (national)

Special Group Activities

Music Activities

Opportunities are offered through public recitals for the expression of musical talent by the students of voice, piano, brass and wood wind instruments; the Choral Union; the Concert Choir; and the band and orchestra. College credit is given for regular work in these courses.

Physical Activities

Both the men's athletic field and the women's field afford excellent facilities for the various types of sports, games and athletic events conducted by the College. Goodwin Field is equipped with a system of flood lighting permitting football and track events to be held at night. The Men's Gymnasium cares for all men's indoor events. The Women's Activity Building provides facilities for all women's indoor physical activities and is also the center for the social activities of the College.

Intercollegiate Athletics. The College is a member of the Border Conference and is represented in such sports as football, basketball, field and track, baseball, tennis, and golf. The purpose of the program of intercollegiate athletics at The Arizona State College at Tempe is to provide the following important educational experiences, all of which the faculty of the institution believe are fundamental to the American way of life: (a) To train students in legitimate methods of good sportsmanship, in competition, and in the will to win. (b) To aid in character development which includes cooperation and team work, leadership qualities, group loyalty, clean living and right thinking. (c) To contribute to the development of institutional morale, loyalty and school spirit. (d) To supply wholesome recreation for the participants and other students. (e) To serve as a laboratory for the professional courses of those interested in physical education and coaching as a career.

Intramural Sports. In addition to the intercollegiate program, there are well-planned intramural programs for both men and women.

This program includes all of the major sports with several additions to the intercollegiate program, and in addition, sport and dance activities for women. The women participate in Sports days with other colleges and universities in such activities as: volley ball, hockey, softball, tennis, badminton, archery, dance, and golf.

Speech and Dramatics

Forensics. The College offers an extensive program of intramural and intercollegiate forensics, including debate, extemporaneous speaking, oratory, impromptu speaking, discussion, and radio speaking. The school is affiliated with three forensic leagues — The Arizona Speech League, which sponsors an annual tournament among six colleges in the state; the Western Association of Teachers of Speech, which sponsors a fall tournament for all western states; and the Pi Kappa Delta League which holds a biannual national tournament, as well as tournaments in the western region. Students become eligible for membership in Pi Kappa Delta, national honorary speech fraternity, by a stipulated degree of proficiency in forensics.

Dramatics. The work in dramatics is designed to accomplish the following objectives: (1) To develop talent through participation in plays, recitals, and production. (2) To fulfill the social and therapeutic functions of dramatics in cases of defective personality. (3) To improve audience standards of entertainment. Active participation in dramatics may lead to an invitation to membership in Mask and Sandal, the local dramatics club, or Alpha Psi Omega, national dramatic fraternity.

Student Publications

The State Press. Under the auspices of the Associated Students, there is published, once or twice weekly throughout the college year, a five-column, eight or ten page newspaper. Besides having high rating among college newspapers, the *State Press* also serves as a laboratory for the reporting and editing classes of the Division of Journalism. Its editors are nominated by the student-faculty Board of Publications and confirmed by the Student Council. The head of the Division of Journalism serves as adviser. Advertising and other financial matters are under the control of the Associated Students. Student subscriptions to the paper are included in the activities fee.

The Sahuaro. The college yearbook likewise is published under Associated Student auspices, and its editorship, advisership and business management are organized like those of the *State Press*. Students interested in yearbook activity, including art work, find opportunity on the *Sahuaro staff*. Individual students may have their portraits in the class section of the *Sahuaro* without charge other than the activity fee. The book is financed from four sources: an Associated Students' appropriation, organization fees, advertising, and sales, which may be on a time payment plan.

General Information

Alumni Association

Membership. The Alumni Association was organized under the leadership of President E. L. Stormont, in June, 1894. Keeping pace with the tremendous growth of the College, the association employed a full time executive secretary in September, 1947, and has embarked on a broad program of activities with a permanent staff now expanded to four members and a distinguished board of officers and directors. There are about 10,000 graduates including the class of 1952. All students become active members when they pay their graduation fee. All students who have attended the College at least one semester are listed as associate members.

Memorial Student Union Campaign. The Alumni Association has sponsored a fund drive to raise \$350,000 in public contributions toward a million dollar Memorial Student Union Building for the College. By the end of 1952, this drive had brought in over \$330,000 and the goal is in sight. Charles A. Stauffer, '01, is General Chairman of the campaign.

Endowment Fund. Under the leadership of the late Clarence M. Paldock, '03, and Leona M. Hailot, '02, the Association raised an endowment fund of \$10,000. For the assistance of worthy students. The fund has now increased to more than \$30,000.00, and more than 500 students have received aid from the fund. Loans are made only to juniors, seniors or graduate students.

Alumni' Scholarships. At least two scholarships are given each year to outstanding students. See description under "Scholarships and Fellowships."

Alumni Housing. To meet the need of housing returning veterans and their families, the Alumni Association has financed a \$4,000 emergency housing development on campus.

Alumni' Magazine. The Association's official magazine, the *Statesman*, is published quarterly for all active members. Present circulation is 7500.

Alumni Inductor Ceremony. This ceremony is held annually during Commencement Week. Members of the graduating class receive alumni membership cards and are acquainted with other alumni and with the Alumni Association program.

Alumni Register. The Alumni Association maintains a card file of the names, addresses and occupations of all active members of the Association. This is a difficult task because names and addresses are constantly changing. Alumni and friends can be of real service by sending a post card to the Alumni Secretary giving changes in names and addresses.

Officers of the Alumni Association, 1952-53

Horace B. Griffen, '14, President.....	Phoenix
Robert Ashe '35, First Vice President.....	Glendale
Roberta (Kincaid) Williams, '37, Second Vice-President.....	Hawaii
Richard Payne, '33, Third Vice-President.....	California
Margaret Bouse, '28, Secretary.....	Tempe
Tilman Crance, '40, Treasurer.....	Tempe
Sidney B. Moeur, '14 Board of Directors.....	Phoenix
Hascall L. Henshaw, '41, Board of Directors.....	Tempe
Thomas B. Lillico, '35, Board of Directors.....	Tempe
Lyle Trimble, '34 Board of Directors.....	Mesa
Don Ellis, '44, Board of Directors.....	Tempe
John R. Sandige, '14, Trust Officer.....	Phoenix
Dr. D. R. Van Petten, '33, Board of Directors.....	Tempe
James W. Creasman, '35, Executive Secretary.....	Arizona State College

Extension Division

Many people who desire to continue their studies while actively engaged in their business or professional activities find it impossible to attend the regular sessions of the College. In response to this demand, the Extension Division has been established and offers two special types of service: extension courses offered at residence centers and correspondence course. By these two methods, the regular college courses are made available to these people at a moderate cost.

In addition, the College offers radio service, speaker and consultant service, bureau of audio-visual aids, school visitations, published bulletins, and other means of assistance.

Residence Center Classes

Residence centers will be organized where there is sufficient demand, when approved instructors are available, and when library or laboratory facilities are adequate to provide college-level instruction. A residence center and offering must be approved by the Director of Extension. Two types of programs are carried on at the Residence Centers: (1) recognized and accepted college credit courses that serve to meet degree requirements at the undergraduate and graduate levels, and (2) informal educational experiences for personal pleasure, general cultural advancement, refresher training courses, and the acquisition of new interests, without reference to college-level standards or credit. Courses taken in Residence Centers are counted as residence credit toward Bachelors degree requirements.

The fee for all extension courses is \$7.50 per semester hour, and is payable at the time of registration. For further information concerning residence center courses, write the Director of Extension.

Correspondence Courses

Through the use of the mails, the privileges of the college campus and service of the teaching faculty are extended to the student whose daily occupation prevents enrollment in the regular sessions.

Persons desiring to enroll for correspondence courses will write to the Correspondence Division for an enrollment blank and a copy of the Bulletin which gives a list of the courses offered. When this enrollment blank, properly filled out and accompanied by remittance to cover the fee, is received, the first lesson assignments will be mailed to the student.

The fee for correspondence courses is \$7.50 per semester hour of credit carried. Credit earned in correspondence courses may be applied toward the bachelor's degree; however, not more than 16 semester hours of correspondence work will be accepted toward the degree. Correspondence courses are not accepted for credit toward the degree of Master of Arts in Education.

No student doing work in residence may register for a course by correspondence without obtaining the approval of the Admissions and Standards Committee. All inquiries concerning correspondence courses should be addressed to the Correspondence Division.

The Summer Session

Terms. The summer session consists of a one-week pre session, two terms of five weeks each, and a post session of three weeks.

Air Cooling. Most of the buildings are cooled by refrigeration systems. The other buildings are cooled by evaporative coolers.

Renoon Classes. Most classes meet in the forenoon, leaving the afternoons open for study, reference reading, laboratory work or recreation. This gives students a fine opportunity to have individual conferences with faculty members as desired.

College Cr. lit. Students are permitted to earn a maximum of six semester hours of credit each five week session. Four semester hours is the maximum credit which may be earned in the three-week post session. In three term week summer sessions, the residence requirement of the college can be met. By attending summer sessions, students can graduate in three years or less.

Admission to the Summer Session. In general, applicants for admission are expected to present evidence of graduation from an approved four year high school, or evidence of good standing in an accredited college. Mature students, over 21 years of age, are admitted without the above qualifications, but with the understanding that all admission requirements must be satisfied before they can become candidates for the bachelor's degree.

Graduate Study. The summer session offers an excellent opportunity for superintendents, principals, supervisors, and other teachers, who have already acquired the bachelor's degree, to do graduate work leading to the degree of Master of Arts in Education, without loss of time in their professional capacity.

Fees and Expenses. The summer school fee is \$7.50 per semester hour. Textbooks and supplies may be purchased at the college book store

on the campus. Board and room for the summer are furnished on campus at the prevailing rates.

Bulletin. A preliminary announcement of the offerings will be mailed to the teachers in the State early in 1953. Requests for the Summer Bulletin or other information should be addressed to the Director of Summer Session.

The Graduate Division

The Graduate Program

In March, 1937, an Act of the Thirteenth Legislature authorized the Arizona State Colleges to grant the advanced degree of Master of Arts in Education. A program of graduate work has been offered since the 1937 summer session.

In June, 1952, the Board of Regents of the University and State Colleges of Arizona authorized Arizona State College at Tempe to grant the degree of Doctor of Education.

Organization. The Graduate Council is responsible for the development and formulation of general policies and for the approval of procedures essential to the organization and administration of the graduate program. The members of the Council are appointed by the President of the College. The Director of Graduate Study acts as chairman of the Graduate Council and is directly responsible for the administration of its policies and program. The Committee on the Graduate Offering is responsible to the Graduate Council for the development, supervision, appraisal, and approval of courses that shall constitute the graduate offering. This Committee includes the heads of the departments of the College and the Director of Graduate Study as chairman.

Purposes: The graduate program of Arizona State College at Tempe has for its primary purpose the preparation of professionally competent teachers and other educational workers. To serve this purpose a full year of graduate work leading to the degree of Master of Arts in Education and an additional two years of graduate work leading to the degree of Doctor of Education is provided.

The graduate program is designed to serve not only the needs of students who desire advanced degrees in Education, but to meet the needs of students who may wish to continue their professional preparation, meet certification requirements, or broaden their education without reference to the requirements for a degree.

Admission to Graduate Work

A student who has received the bachelor's degree, or its equivalent, from an approved college or university, may be admitted to the Graduate Division at Arizona State College at Tempe upon filing with the Director of Graduate Study an Application for Admission. Admission to the Graduate Division permits the student to register in any course, graduate or undergraduate, for which he has sufficient background and which meets his needs and interests. *Admission to the Graduate Division does not commit the student to a program of studies leading to an advanced degree, nor does admission to the Graduate Division imply enrollment in the Master's Degree Program or Doctorate Program, or admission to candidacy for the degree.*

Students who declare their intention of entering upon a program of graduate work to meet the requirements for an advanced degree must file transcripts of all college work done elsewhere. These transcripts should be sent to the Office of the Director of Graduate Study. Transcripts filed with the Director of Graduate Study become the property of the College and may not be released.

Graduate students who desire to earn credit which will meet State certification requirements should have transcripts of all undergraduate and graduate work earned in institutions other than Arizona State College at Tempe sent to the Director of Certification, Office of the State Superintendent of Public Instruction, Arizona State Capitol Building, Phoenix, Arizona.

Master of Arts in Education Degree

The interests, needs, abilities, and purposes of each student are utilized in organizing a unified and balanced program of work directed toward the realization of a definite and worthy educational objective. Programs of graduate work leading to the degree of Master of Arts in Education are provided for students who have as a central purpose preparation for primary, elementary, and secondary school teaching, administration and supervision of elementary and secondary schools, and special educational services such as audio-visual education, school library service, and counseling and guidance work. High scholarship and professional competency are required in at least one of these fields.

Enrollment in the Master's Degree Program. Students who wish to earn the master's degree must enroll in the Master's Degree Program as early as possible in the period of their residence so that they will not chance losing credits that might otherwise apply toward the requirements for the degree. Ordinarily, no more than twelve semester hours of graduate credit earned before enrollment in the Master's Degree Program may be applied toward the requirements for the degree.

Students may enroll in the Master's Degree Program at any time after being admitted to the Graduate Division by filing an Application for Enrollment in the Master's Degree Program. Applications and

transcripts will be evaluated and the student will be enrolled when evidence of the following are found:

1. The student has earned a bachelor's degree in an approved institution and has a satisfactory undergraduate scholarship average.
2. The student's scholarship in any graduate work done elsewhere has been satisfactory.
3. The student has earned the prerequisite undergraduate credits in Education and Psychology courses.
4. The student has selected a field of graduate specialization for which he has the prerequisite undergraduate credits.
5. The student has been assigned a graduate adviser.
6. The student has planned a tentative graduate program of studies which has been approved by his graduate adviser.

In cases in which questions arise with respect to the student's qualifications for master's degree work, the student may be required to take a battery of qualifying tests.

Program of Studies for the Master of Arts in Education Degree. Candidates for the Master of Arts in Education Degree shall complete within a period of five consecutive years a program of work which includes a minimum of thirty semester hours of credit distributed according to the following schedule:

1. A minimum of nine semester hours of credit in Education and Psychology courses numbered 300 and above with at least one course in each of the following areas: (9)
 - a. Philosophy and social foundations.
 - b. Curriculum and methods.
 - c. Psychology.
2. Two semester hours of credit in Education 300: Educational Research and Scientific method. (2)
3. Four semester hours of credit earned by either one of the following choices: (4)
 - a. Completing an acceptable master's thesis.
 - b. Completing an acceptable project in a Practicum in the field of graduate specialization.
4. Fifteen semester hours of credit in courses selected in consultation with the graduate adviser and directed toward the student's professional needs in the field of specialization. . (15)

Doctor of Education Degree

The Doctor of Education Degree Program is designed to provide professional training and experience for a variety of workers in the broad field of education. The structure provides flexibility to meet individual needs and interests. The principal groups to be served by this program are as follows: (1) those seeking to increase pro-

fessional competence as school administrators; (2) those seeking further preparation for teaching in elementary, secondary, junior college, and higher education; and (3) those seeking advanced training in other recognized professional education pursuits.

Admission to the Doctoral Program. Students who seek admission to the Doctoral Program must assume the responsibility for:

1. Filing an application for admission.
2. Filing transcripts of all college work completed.
3. Submitting to a qualifying examination.
4. Filing letters of recommendation.

Applications, transcripts, and examination results will be evaluated by the Doctoral Committee on Admissions. This committee will be guided by the complete profile of each individual student and may consider the following questions as criteria in determining his eligibility for the program:

1. Has the student earned a bachelor's degree in an accredited institution, and has he a satisfactory undergraduate record?
2. Has the student satisfactory scholarship in any graduate work completed at Arizona State College at Tempe, or elsewhere?
3. Has the student completed a satisfactory undergraduate program in Education and Psychology courses?
4. Has the student had 2 years successful professional educational experience?
5. Has the student adequate background in general and professional education?
6. Has the student the scholastic aptitude and ability for the successful pursuit of a program of doctoral work in professional education?
7. Has the student filed for consideration three letters or statements from persons in a position to judge his readiness for doctoral work?

Upon being admitted to the Doctoral Program on the basis of the above criteria a doctoral adviser will be appointed. The student should consult his adviser, plan a doctoral program of studies approved by his adviser and the head of the Department of Education, and file that program, in triplicate, in the Office of the Director of Graduate Study. This program should be planned and filed before the end of the first semester or summer session in residence.

Program of Studies for the Doctor of Education Degree. The student admitted to the Doctoral Program may select one of the following major fields of study: School Administration and Supervision, Elementary Education, Secondary Education, or Guidance. He must complete an acceptable program of studies which includes a minimum of seventy-five semester hours of course work beyond the bachelor's

degree. In addition, the student must complete an acceptable doctor's thesis. The seventy-five hours of course work must be distributed to meet the following requirements:

1. Thirty-seven semester hours must be earned in courses at Arizona State College at Tempe.
2. Sixty semester hours must be earned in strictly graduate level courses (courses numbered 300-498) of which twenty-four semester hours are in advanced graduate courses (courses numbered 400-498).
3. Fifty semester hours must be earned in courses in the Department of Education.
4. Ordinarily the final twenty-four semester hours must be earned in on-campus courses within a period of 15 months, with either one semester of full-time residence study or two semesters of half-time residence study.
5. All course work taken beyond the point of admission to the Doctoral Program must be completed, except by petition to and approval by the Graduate Council, within a period of seven consecutive years.

This program generally requires three or more years of study beyond the bachelor's degree. It should be distinctly understood, however, that the attainment of the degree is contingent upon the demonstration of a superior level of performance in the total program rather than an accumulation of credits.

Graduate Courses

Courses approved for graduate credit by the Committee on the Graduate Offering and the Graduate Council constitute the graduate offering. Courses open only to graduate students are numbered 300 and above and 400 and above. Courses open primarily to doctoral students are numbered 400 and above.

Individual Problems. A special type of graduate work is provided through Individual Problem courses. Individual Problem courses carry the number 390 in each department and 490 in the Department of Education.

1. 390. Ordinarily registration for such courses is limited to students who have been enrolled in the Master's Degree Program and have completed, or are currently registered for, five or more semester hours of graduate course work. Ordinarily not more than six semester hours in Individual Problem courses will be accepted toward the master's degree. Prior to registering for an Individual Problem course, the student must prepare a written statement of the title, purpose, and scope of the problem. This statement of the problem must be approved by the staff member under whose direction the problem is to be carried out, the student's graduate adviser and the Director of Graduate Study. Blanks for this purpose may be obtained in the Office of the Director of Graduate Study. A course fee may be required.

2. 490. Registration for Education 490 is limited to students who have been admitted to the Doctor of Education Degree Program. Wide latitude is provided for selection of a problem of major interest toward which the student may devote intensive effort, while under the direction of his major professor. Prior to registering for Education 490, the student must file with the Director of Graduate Study a statement of the problem approved by the major professor and the Head of the Department of Education. A course fee may be required.

Graduate Bulletin

In the Graduate Bulletin will be found a detailed description of the Graduate Program at Arizona State College at Tempe. For a listing of the requirements for the degree of Master of Arts in Education and Doctor of Education, and other regulations governing graduate work, the student should refer to this Bulletin. Copies of the Graduate Bulletin and Applications for Admission to the Graduate Division may be obtained in the Office of the Director of Graduate Study.

The Curriculums

Grouping of Curriculums. The curriculums offered by the college are listed under four headings: (1) Teacher Education, (2) Arts and Sciences, (3) Professional and Pre-professional, (4) Technical and Semi-Professional. Several curriculums are found under each heading.

Selecting a Curriculum. Each student must designate at the time of registration the curriculum he proposes to follow. Selection of curriculums should be made with great care since a change of curriculum may retard the student's progress toward graduation. Students who have their goals well fixed on entering college have a distinct advantage over others who do not. On entering the College, a faculty member will be assigned to each student as a curriculum adviser. See the section entitled, "Curriculum Adviser."

Meeting New Requirements. Students who continue their college work without interruption may graduate under the curriculum requirements and regulations as stated in the catalog for the year the student first registered.

When enrollment is not continuous, the student will be required to meet the curriculum requirements and regulations for graduation as stated in the catalog for the year the student registers for final continuous residence prior to graduation. Any exceptions must be recommended by the student's adviser and approved by the Admissions and Standards Committee.

Withdrawal of Courses. The College does not offer each year all of the courses listed in the catalog. The right is reserved to cancel any offerings if conditions justify it.

Selection of Courses. In any curriculum, freshmen and sophomores should select courses numbered from 100 to 199; juniors and seniors, those numbered from 200 to 299; and graduates, those numbered from 300 to 399 or those numbered 200 to 299 with a "g" attached. Exceptions may be approved by curriculum advisers.

Special Problem Courses. Courses numbered 290 indicate special problem courses. These are really honor courses given only to outstanding students capable of carrying on individual work effectively. The approval of the instructor and the head of the department must be obtained before a student will be registered for a special problem course. Freshmen and sophomores are not eligible to take special problems. A course fee may be required.

Starred Courses. In a number of the curriculums given below, certain courses have a star placed in front of them. This indicates that the course is given both the first and second semester of that year. The desire is to have one-half of the students take the course the first semester, and the other half the second semester.

Morning and Afternoon Classes. Students registered for a full load will generally find it necessary to carry classes both in the forenoon and the afternoon.

Teacher-Education Curriculums

Curriculums and Degrees. There are three teacher-education curriculums: Kindergarten-Primary, Elementary, and Secondary. Each of these curriculums leads to the degree of Bachelor of Arts in Education requiring a minimum of 126 semester hours of work. The secondary curriculum provides a five-year program requiring thirty hours of graduate work. This graduate program, if properly arranged, leads to the degree of Master of Arts in Education. Students who complete the kindergarten-primary, or the elementary curriculum may also arrange for a program of studies leading to the degree of Master of Arts in Education. A program of advanced graduate study is offered leading to the degree of Doctor of Education.

Arizona Certification. The State Board of Education issues the following types of certificates for which preparation at Arizona State College may be obtained: (1) Kindergarten-Primary, (2) Elementary, (3) Pre-Secondary, (4) Secondary, (5) Administrative, (6) Special in Art, Music, Home Economics and Physical and Health Education, (7) Vocational in Home Economics. For complete details concerning certification, students should refer to the Rules and Regulations published by the State Board of Education, or consult with the Director of Teacher Education.

Achieving Certification Through Various Curriculums. The four-year Kindergarten-Primary and Elementary Teacher Education curriculums lead directly to the corresponding Arizona teaching certificates. The Pre-Secondary certificate (good for four years) may be obtained by completing the four-year Secondary Teacher Education Curriculum, and an additional six semester hours of graduate credit. The five-year Secondary Teacher Education Curriculum leading to the Master of Arts in Education degree encompasses all of the requirements for the full secondary certificate. The administrative certificate (either elementary or secondary) may be obtained by completing any of the teacher education curriculums and an appropriately chosen post-graduate program including master's degree program with at least 15 semester hours of education taken subsequent to the bachelor's degree. The special certificates in Art, Music, Home Economics and Physical and Health Education may be obtained by completing the four-year Secondary Teacher Education Curriculum with the appropriate major teaching field. The Vocational certificate in Home Economics may be achieved by following the Secondary Teacher Education Curriculum with a major teaching field in Home Economics, which contains specific course requirements (see page 159).

General Education. It is assumed that all teachers should have a background of general knowledge and culture. Therefore, many of the required courses in the first two years in all of the teacher-

education curriculums are identical. Liberal allowance has been made for electives to meet individual needs and desires for service in public education.

Major and Minor Teaching Fields. A major or minor teaching field is not required of students pursuing the kindergarten primary or the elementary curriculum. In the five-year secondary curriculum the student must complete at least one major teaching field consisting of forty five hours and one minor teaching field of at least fifteen hours.

Directed Teaching

Admission to Directed Teaching. Before admission, all candidates for directed teaching must meet the following requirements: (1) Junior or senior standing. (2) A cumulative scholarship index of 1.75 or better. (3) Have credit in all the required courses of the first two years of a teacher education curriculum being followed. (4) Those pursuing the *Kindergarten-Primary Curriculum* must have credit in Construction Activities, Plays and Games for the Kindergarten Primary School, Kindergarten-Primary Curriculum, Science in the Elementary School, Language Arts, and Educational Measurements. (Educational Measurements may be taken concurrently with directed teaching.) (5) Those taking the *Elementary Curriculum* must have credit in Educational Psychology, Language Arts, Elementary Curriculum, and Educational Measurements. (Curriculum and Measurements may be taken concurrently with directed teaching.) (6) Those taking the *Secondary Curriculum* must have credit in Educational Psychology, Secondary School, Methods of Teaching in Secondary Schools, and Educational Measurements. (Educational Measurements and Secondary Methods may be taken concurrently with directed teaching.) Modification of course sequences may be made for irregular and transfer students by the Director of Teacher Education.

Requirements. All students who are candidates for the bachelor's degree and elementary certification teach in the cooperating schools for one half day for one semester either the first or second half of the third or fourth year. Students who are preparing for secondary certification teach for one quarter day for one full semester in either the first or second half of the fourth year. Students whose programs permit them to devote their full time to directed teaching spend all day in the cooperating schools and receive one semester hour of credit per week of successful directed teaching. Regularly scheduled conferences at the College are held during the directed teaching period. The student's load is limited to sixteen semester hours during the semester in which he is teaching. Student teachers are not permitted to take part in activities that interfere with their directed teaching, conferences, or other activities related to teaching in the cooperating school.

Effective September 1956, student must count full time or part time employment as part of their load while they are doing directed teaching. Each five hours of employment per week will be considered equivalent to a load of one semester hour in calculating the total 16

semester hour load permitted during the semester in which the student is teaching. It is recommended that students plan not to be employed during the directed teaching period.

Training Schools Available. The College has available the following schools for the training of student teachers: The Ira D. Payne Training School, Tempe Elementary School, The Rural School, Phoenix Grade Schools, Phoenix Union High Schools, Mesa Schools. Students are assigned to schools other than those listed above only on special request.

Each of these schools presents its own particular type of organization and problems so that the student may receive training in any type of work desired from the kindergarten through the high school. All of these are regular public schools; therefore, students obtain their training under actual classroom conditions of the public school. Each student teacher is under direct guidance of a cooperating teacher and the Director of Teacher Education.

Kindergarten-Primary Curriculum

Leading to the degree of Bachelor of Arts in Education and to certification for teaching in the kindergarten and grades one, two and three.

FRESHMAN YEAR

First Semester		Hours	Second Semester		Hours
Eng. 101 First Year English.....	3		Eng. 102 First Year English.....	3	
*G.S. 100 Introd. to Phys. Sciences....	4		*G. S. 110 Introd. to Biol. Sciences....	4	
*Psych. 100 Elementary Psychology.....	3		*Soc. 120 Sociology.....	3	
P. E. 101 Basic P.E. (women).....	0.5		P. E. 102 Basic P. E. (women).....	0.5	
P. E. 107 Sports Survey (men).....	0.5		P. E. 108 Sports Survey (men).....	0.5	
M.S. 101 Basic Military Science or			M.S. 102 Basic Military Science or		
A. S. 101 Basic Air Science.....	1.5		A. S. 102 Basic Air Science.....	1.5	
§Humanities.....	3 or 4		§Humanities.....	3 or 4	
Electives.....	0 to 2.5		Electives.....	0 to 2.5	
	16			16	

SOPHOMORE YEAR

*Speech 110 Elements of Speech.....	2		*H. E. 100 Hygiene.....	2	
Psych. 140. Growth and Development....	2		Psych 141 Growth and Development....	2	
Hist. 101 Western Civilization or			Hist. 102 Western Civilization or		
Hist. 103 U. S. History.....	3		Hist. 104 U. S. History.....	3	
Mus. 125 Music Fundamentals for			Mus. 125 Music Fundamentals for		
Kdgn.-Elem. Teachers.....	2		Kdgn.-Elem. Teachers.....	2	
*Ed. 160 Children's Literature.....	3		*Ed 115 Orientation to Education.....	1	
P. E. Activity (men), (women).....	0.5		P. E. Activity (men), (women).....	0.5	
M. S. 103 Basic Military Science or			*Ed. 161 Techniques in Story Telling....	2	
A. S. 103 Basic Air Science.....	1.5		M. S. 104 Basic Military Science or		
Electives.....	2 or 3.5		A. S. 104 Basic Air Science.....	1.5	
	16		Electives.....	2 or 3.5	
	16			16	

JUNIOR YEAR

*Ed. 205 Construction Activities.....	4		*Sci. 231 Science for Elem. School.....	3	
*Ed. 212 Plays & Games for the			H.E. 242 School-Community Health....	3	
K-P School.....	3		*Ed. 203 Reading Problems in the K-P		
Mus. 227 Music in the K.P. Grades....	2		School.....	3	
*Ed. 201 Language Arts.....	3		*Ed. 209 K-P Curric. & Tch. Problems..	4	
*Psych. 200 Ed. Measurements.....	3		*Ed. 233 Audio-Visual Aids in Education	2	
	15			15	

*May be taken either semester.

§Eight semester hours of Humanities, in addition to Freshman English, or Freshman English plus two hours of speech and six hours of literature and/or drama are required. Humanities, in general, include art or music (appreciation or theory), literature, drama, philosophy, and foreign languages.

SENIOR YEAR

*Ed. 260 Directed Teaching.....	10	*Ed. 211 History of Education or	
Electives	6	*Ed. 250 Philosophy of Education.....	3
		*P. S. 200 Constitutional Government...	3
		Electives	10
	16		16

GRADUATE YEAR

For Graduate Degree Programs. See Graduate Bulletin.

Professional Semester. Students in the Kindergarten-Primary curriculum, whose program will permit, may register for Ed. 250g, 3 hours; Ed. 260, 10 hours; and Ed. 200, 3 hours during the same semester. By registering for these courses and no others, students may enjoy a more flexible schedule of classes and a richer student teaching experience.

Students desiring the kindergarten-primary certificate must follow the kindergarten-primary curriculum with directed teaching in the kindergarten and grades, one, two or three.

Recommended courses for electives: Art 100, 211; Ed. 202, 230; Eng. 151, 171; H.Ec. 101, 102, 103, 104, 106; Math. 205; Mus. 117, 118, 121, 122, 123, 124; Psych. 213; Spch. 119, 230, 240.

In addition, kindergarten-primary students must be able to play the piano and to sight sing and sight read with sufficient ability to meet the needs of young children.

Students who play the piano may meet this requirement by examination. Others may take class piano, Mus. 121, 122, 123, and/or 124 to help meet the requirements. All Kindergarten-Primary students are required to register for Mus. 125, 126. During the first two weeks of these courses, individual examinations in sight singing and sight reading will be given upon request. Students passing examinations will not need to take class piano.

Students interested in young children but not in certification may elect any of the Kindergarten-Primary courses.

Students holding a bachelor's degree may work for the Kindergarten-Primary Certificate on the graduate level. These courses are listed in the Graduate Bulletin.

Elementary Curriculum

Leading to the degree of Bachelor of Arts in Education and to certification and teaching in the elementary school.

FRESHMAN YEAR

First Semester	Hours	Second Semester	Hours
Eng. 101 First Year English.....	3	Eng. 102 First Year English.....	3
*G.S. 100 Introd. to Phys. Sciences.....	4	*G. S. 110 Introd. to Biol. Sciences.....	4
*Psych. 100 Elementary Psychology.....	3	*Soc. 120 Sociology.....	3
P. E. 101 Basic P. E. (women).....	0.5	P. E. 102 Basic P. E. (women).....	0.5
P. E. 107 Sports Survey (men).....	0.5	P. E. 103 Sports Survey (men).....	0.5
M.S. 101 Basic Military Science or		M.S. 102 Basic Military Science or	
A.S. 101 Basic Air Science.....	1.5	A.S. 102 Basic Air Science.....	1.5
§Humanities	3 or 4	§Humanities	3 or 4
Electives	0 to 2.5	Electives	0 to 2.5
	16		16

SOPHOMORE YEAR

Psych. 140 Growth and Development.....	2	Psych. 141 Growth and Development.....	2
*Speech 110 Elements of Speech.....	2	*H. E. 100 Hygiene.....	2
*Ed. 160 Children's Literature.....	3	*Geog. 100 Elements of Geography.....	3
Hist. 101 Western Civilization or		Hist. 102 Western Civilization or	
Hist. 103 U. S. History.....	3	Hist. 104 U. S. History.....	3
P. E. Activity (men) (women).....	0.5	*Ed. 115 Orientation to Education.....	1
M. S. 103 Basic Military Science or		P. E. Activity (men) (women).....	0.5
A. S. 103 Basic Air Science.....	1.5	M. S. 104 Basic Military Science or	
Electives	4 or 5.5	A. S. 104 Basic Air Science.....	1.5
		Electives	3 or 4.5
	16		16

JUNIOR YEAR

*Psych. 200 Ed. Measurements.....	3	*Psych. 213 Ed. Psychology.....	3
*Ed. 201 Language Arts.....	3	*Ed. 202 Language Arts.....	3
Math. 205 Arithmetic in the Elem.		*Ed. 233 Audio-Visual Aids in	
School	3	Education	2
Electives	7	*Sci. 231 Science for the Elem.	
		School	3
		*P. E. 220 Playground Leadership.....	2
		Electives	3
	16		16

SENIOR YEAR

*Ed. 260 Directed Teaching.....	10	*P. S. 200 Constitutional Government.....	3
*Ed. 230 Elementary Curriculum.....	3	*Ed. 211 History of Education or	
*Art 210 Public School Art.....	2	Ed. 250 Philosophy of Education.....	3
		H. E. 242 School-Community Health.....	3
		Electives	6
	15		15

GRADUATE YEAR

For Graduate Degree Programs, See Graduate Bulletin.

*May be taken either semester

‡Eight semester hours of Humanities, in addition to Freshman English, or Freshman English plus two hours of speech and six hours of literature and/or drama are required. Humanities, in general, include art or music (appreciation or theory), literature, drama, philosophy, and foreign languages.

Professional Semester. Students in the elementary curriculum, whose program will permit, may register for Ed. 250g, 3 hours; Ed. 260, 10 hours; and Ed. 200, 3 hours during the same semester. By registering for these courses and no others, students may enjoy a more flexible schedule of classes and a richer student teaching experience.

The Elementary Curriculum provides a four-year sequence of courses that leads to the degree of Bachelor of Arts in Education and to state certification in the elementary schools, grades one through nine inclusive.

The following courses are recommended for students planning to teach in elementary grades: Mus. 125, 126, 229; Art 100; P. E. 223; Eng. 171.

Students who wish to secure a special certificate in art, music, or physical and health education, may do so by arranging elective courses to cover the requirements of thirty semester hours of academic work and five hours of directed teaching in the special field.

Students registered under the Elementary Curriculum who wish to specialize in industrial arts, home economics, art, music, or health and physical education, may omit the following required courses in the Elementary Curriculum provided these 13 semester hours are used

together with the existing semester hours of electives to develop a teaching field.

Ed. 160 Children's Literature	3
Math. 205 Arithmetic in the Elementary School	3
G.S. 231 Science for the Elementary School	3
Art 210 Public School Art	2
P.E. 220 Playground Leadership	2

Students who request this option must have the major teaching field approved by the appropriate department head and the entire program must be approved by the Head of the Education Department.

Students who plan to teach at the junior high school level may group their electives in major and minor teaching fields to suit their teaching interests.

Secondary Curriculum

Leading to the degree of Bachelor of Arts and Master of Arts in Education and certification for teaching in the secondary schools.

FRESHMAN YEAR

First Semester	Hours	Second Semester	Hours
Eng. 101 First Year English.....	3	Eng. 102 First Year English.....	3
*G. S. 100 Introd to Phys. Sciences.....	4	*G. S. 110 Introd. to Biol. Sciences.....	4
*Psych. 100 Elementary Psychology.....	3	*Soc. 120 Sociology.....	3
P. E. 101 Basic P. E. (women).....	0.5	P. E. 102 Basic P. E. (women).....	0.5
P. E. 107 Sports Survey (men).....	0.5	P. E. 108 Sports Survey (men).....	0.5
M.S. 101 Basic Military Science or A. S. 101 Basic Air Science.....	1.5	M.S. 102 Basic Military Science or A. S. 102 Basic Air Science.....	1.5
§Humanities.....	3 or 4	§Humanities.....	3 or 4
Electives.....	0 to 2.5	Electives.....	0 to 2.5
	16		16

SOPHOMORE YEAR

*Speech 110 Elements of Speech.....	2	*H. E. 100 Hygiene.....	2
Psych. 140 Growth and Development.....	2	Psych. 141 Growth and Development.....	2
Hist. 101 Western Civilization or Hist. 103 U. S. History.....	3	Hist. 102 Western Civilization or Hist. 104, U. S. History.....	3
P. E. Activity (men) (women).....	0.5	P. E. Activity (men) (women).....	0.5
*Ed. 115 Orientation to Education.....	1	M. S. 104 Basic Military Science or A. S. 104 Basic Air Science.....	1.5
M. S. 103 Basic Military Science or A. S. 103 Basic Air Science.....	1.5	Major, minor or electives.....	7 or 8.5
Major, minor or electives.....	6 or 7.5		
	16		16

JUNIOR YEAR

*Psych. 213 Ed. Psychology.....	3	*Psych. 200 Ed. Measurements.....	3
*Ed. 215 Secondary School.....	2	*Ed. 228 Methods, Secondary School.....	3
Major, minor or electives.....	11	Major, minor, or electives.....	10
	16		16

SENIOR YEAR

*Ed. 211 History of Education or *Ed. 250 Philosophy of Education.....	3	*P. S. 200 Constitutional Government.....	3
*Ed. 260 Directed Teaching.....	5	H. E. 242 School-Community Health.....	3
Major, minor or electives.....	7	Major, minor or electives.....	9
	15		15

GRADUATE YEAR

For Graduate Degree Programs, See Graduate Bulletin.

*May be taken either semester.

§Eight semester hours of Humanities, in addition to Freshman English, or Freshman English plus two hours of speech and six hours of literature and/or drama are required. Humanities, in general, include art or music (appreciation or theory), literature, drama, philosophy, and foreign languages.

In order that students under the Secondary Curriculum may complete a 60 hour major teaching field in music and a minor teaching field in certain subject areas, they may take either G.S. 100 or 110 and omit Speech 110 and H.E. 100 from the above curriculum requirements. Students taking a major teaching field in home economics may substitute H.E. 203 for Psych. 140 in the sophomore year.

Major and Minor Teaching Fields. Under the Secondary Curriculum a major and a minor teaching field is required. A major teaching field shall consist of a minimum of 45 semester hours of work. Twenty-five semester hours shall be in courses in a subject field from one department, and the remaining 20 hours in courses from the same or related departments. A minimum of 18 semester hours in the major teaching field shall be upper division courses.

A minor teaching field shall consist of at least 10 semester hours in a subject field in one department. It is strongly recommended that the major and minor teaching fields be taken in different departments. The major and minor teaching fields must be in accordance with those listed in the catalog under the departmental descriptions headed, Secondary Curriculum. It is recommended that a second minor teaching field be completed if possible.

In selecting major and minor teaching fields, students should keep in mind that a major and two minor teaching fields will increase their opportunities for employment. They should also keep in mind the requirements of the North Central Association, the Arizona State Board of Education, and the combinations of subjects usually assigned beginning teachers in Arizona. Information concerning these matters can be obtained at the office of the Director of Teacher Education.

The required courses found in the Secondary Curriculum count toward the completion of major and minor teaching fields. Students pursuing a major teaching field in science or social studies are permitted to substitute the lower division requirements in the respective major teaching fields for the generalization requirements: G. S. 100 and 110; and History 101 and 102, or 103 and 104.

Recommended Electives: The following electives are recommended for students registered under the secondary curriculum: Art 100; Mus. 130; Eng. 171; Geog. 100; Ed. 232, 233; Math. 105.

Professional Sequence. It is essential that each student plan the proper sequence of professional courses. Education 215, Secondary School, is a prerequisite for all methods courses, History of Education, and Philosophy of Education.

Certification for Teaching in Arizona. Completing the requirements for the degree of Bachelor of Arts in Education under the Secondary Curriculum does not meet the requirements for a certificate to teach in Arizona high schools. Students who graduate under this curriculum must have in addition to the degree of Bachelor of Arts in Education, at least six semester hours of graduate work to qualify for a Pre-Secondary Teaching Certificate.

Arts and Sciences Curriculum

Below there are given in parallel columns the requirements for the Bachelor of Arts and the Bachelor of Science degrees. A total of 126 semester hours of credit is required for graduation with either one of these degrees. For either degree the candidate must meet the Generalization Requirements of 39-53 semester hours, and the Concentration Requirements of at least 36 semester hours as outlined below, and take the remaining hours in electives. The figures given below in parentheses indicate the required minimum number of semester hours.

Generalization Requirements

For the B. A. Degree (47-53)
Eng. 101, 102 First Yr. English (6)
Foreign Language (8)

For the B. S. Degree (39-45)
Eng. 101, 102 First Yr. English (6)
Foreign Language (Optional)

The foreign language requirement may be met by completing satisfactorily one of the following: Span. 101-102, Ger. 101-102, Fr. 101-102, Rus. 101-102, Lat. 101-102. Students who have received a grade of C or above for three years' work in one high-school foreign language or who can show the equivalent by examination, are exempt from this requirement.

FOR THE B. A. AND B. S. DEGREES

H. E. 100 Hygiene (2)
P. E. Activity (2)
Military Science and/or Air Science (6)
Humanities (6)
In Art, Literature, Music, Philosophy,
Speech.
(Not more than 3 semester hours in any
one subject.)

Social Science (12)
In Economics, History, Political Science,
Psychology, Sociology, Geography.
(Not more than 5 semester hours in any
one subject.)
Science and Mathematics (11)
In Biology, Chemistry, Geography or Geol-
ogy, Mathematics, Physics.
(Not more than 8 semester hours in any
one subject, or in Geography and Geology.)

Area of Concentration Requirements

A. Not later than the beginning of the junior year, each student will be required to designate an area of concentration.

B. An area of concentration shall consist of at least 36 semester hours of credit in related courses, in addition to the required generalization courses. When a course listed under the generalization requirements falls within a student's area of concentration, he may, upon approval of his adviser, substitute another course within the same subject-field.

C. The 36 or more semester hours of course work in the area of concentration shall consist of: (1) From 15 to 24 semester hours in a single department or departmental subdivision as described in the catalog. (2) At least 15 of the 36 semester hours from upper division courses. (3) A required sequence or pattern of related courses. (4) A pattern of related optional courses, designed to meet individual needs, to be selected under the guidance of an adviser from a list of recommended courses.

D. Areas of concentration to be offered leading to bachelor's degrees in arts and sciences are:

FOR THE B. A. DEGREE		FOR THE B. S. DEGREE	
<i>Department</i>	<i>Concentration Areas</i>	<i>Department</i>	<i>Concentration Areas</i>
Art	<i>Art</i>	Agriculture	<i>Production and Management Agronomy Animal Husbandry Biological Sciences</i>
Biological Sciences	<i>Biological Sciences</i>	Biological Sciences	
English	<i>English Speech Dramatics Journalism</i>	Business Administration	<i>Accounting Economics and Management Marketing and Advertising Office Training and Management</i>
Foreign Languages	<i>Spanish</i>		
Mathematics	<i>Mathematics</i>	Psychology Home Economics Industrial Arts	<i>Psychology Home Economics Aeronautics Building and Construction Industrial and Architectural Drafting Electronics Industrial Arts Mechanics Mathematics</i>
Music	<i>Music</i>		
Physical Sciences	<i>Physical Sciences</i>		
Social Studies	<i>Social Studies</i>	Mathematics Health Education and Physical Education Physical Sciences Social Studies	<i>Physical Education Physical Sciences Social Welfare</i>

Elective Courses

Sufficient elective courses from the entire offering of the college will be chosen by the student in order to complete the 126 semester hours required for graduation.

Professional and Preprofessional Curriculums

The curriculums outlined below meet the needs of students who desire one, two, or more years of work before transferring to a professional school such as Law or Medicine.

The basic college courses necessary for entering professional schools are given as a part of the regular program of the college. Credits earned in these courses, if properly selected, can be transferred without loss to schools of Law, Medicine, and other fields in which students plan to complete their work.

The following curriculums are arranged so that the general requirements of most of the schools are met. It is important that each student obtain a catalog of the institution to which he plans to transfer, and consult his adviser so that his course of study may be planned most wisely.

Architecture

This curriculum is similar to that of the first three years at Institutions conferring a five-year professional degree in Architecture. Students desiring to obtain such a degree are advised to secure a copy

PROFESSIONAL AND PREPROFESSIONAL CURRICULUMS 87

of the catalog of the school they plan to attend and select their programs accordingly. Students credited with advanced standing on the basis of work done at other institutions and those interested in other fields of building construction or teaching may in any year undertake in part the work of more advanced years, subject to the completion of courses listed as prerequisites. Students are required to earn a mark of C or better in each design course before advancing to the next.

FIRST YEAR

First Semester	Hours	Second Semester	Hours
Eng. 101 First Year English.....	3	Eng. 102 First Year English.....	3
Math. 110 Algebra and Trigonometry..	4	Art 105 Basic Design.....	2
Arch. 100 Introduction to Architecture..	2	Arch. 110 Descriptive Geometry.....	3
Chem. 110 Introductory Chemistry.....	4	Math. 170 Analytical Mechanics- Statistics.....	3
Art 101 Drawing and Perspective (Freehand).....	2	Phys. 110 Introduction to Physics.....	4
M.S. 101 Basic Military Science or A.S. 101 Basic Air Science.....	1.5	M.S. 102 Basic Military Science or A.S. 102 Basic Air Science.....	1.5
P.E. 107 Sports Survey (Men).....	0.5	P. E. 108 Sports Survey (Men).....	0.5
	<hr/> 17		<hr/> 17

SECOND YEAR

Arch. 110 Introduction to Design.....	3	Arch. 121 Architectural Design.....	3
Arch. 160 Elementary Working Drawings.....	2	Arch. 161 Architectural Working Drawings.....	2
Arch. 150 Arch. Sketching & Rendering	3	Arch. 270 Design and Planning in Wood.....	3
Arch. 140 History of Architecture.....	3	Arch. 130 Landscape Design.....	2
Arch. 112 Strength of Materials.....	3	Arch. 141 History of Architecture.....	3
M. S. 103 Basic Military Science or A. S. 103 Basic Air Science.....	1.5	Art 171 Sculpture.....	2
P. E. Activity.....	0.5	M.S. 104 Basic Military Science or A.S. 104 Basic Air Science.....	1.5
	<hr/> 16	P. E. Activity.....	0.5
			<hr/> 17

THIRD YEAR

Arch 220 Architectural Design.....	5	Arch. 221 Architectural Design.....	5
Arch. 260 Architectural Working Drawings.....	2	Arch 261 Architectural Working Drawings.....	2
Arch. 180 Mechanical Equipment in Buildings.....	2	Arch. 181 Mechanical Equipment in Buildings.....	2
Arch. 271 Design and Planning in Steel.....	3	Arch. 272 Design and Planning in Concrete.....	3
Arch. 190 Specifications and Estimating.....	2	Arch. 250 Architectural Sketching and Rendering.....	3
Arch. 240 Theory of Architecture.....	2	Arch. 241 Theory of Architecture.....	2
	<hr/> 16		<hr/> 17

Pre-Veterinary and Pre-Forestry

The requirements for the first two years of courses in forestry and veterinary work vary considerably in the different colleges offering these programs. The student is advised to obtain a copy of the catalog from the school he plans to attend and select his program accordingly. The following course of study will meet most of the requirements if the student carefully selects electives to meet the requirements of the college that he plans to attend.

PRE-VETERINARY

FIRST YEAR

First Semester	Hours	Second Semester	Hours
Eng. 101 First Year English.....	3	Eng. 102 First Year English.....	3
Zool. 111 General Zoology.....	4	Zool. 112 General Zoology.....	4
Chem. 110 or 111 General Chemistry....	4	Chme. 112 General Chemistry.....	5
Math. 107 College Algebra.....	3	Math. 118 Trigonometry.....	3
P.E. 107 Sports Survey (men).....	0.5	P. E. 108 Sports Survey (men).....	0.5
M.S. 101 Basic Military Science or A.S. 101 Basic Air Science.....	1.5	M.S. 102 Basic Military Science or A.S. 102 Basic Air Science.....	1.5
	<hr/> 16		<hr/> 17

SECOND YEAR

Bot. 110 General Botany.....	4	Biol. 204 Genetics & Eugenics.....	3
Phys. 111 General Physics.....	4	Phys. 112 General Physics.....	4
Chem. 211 Gen. Organic Chemistry.....	4	Chem. 212 General Organic Chemistry.....	4
P. E. Activity.....	0.5	P. E. Activity.....	0.5
M.S. 103 Basic Military Science or A.S. 103 Basic Air Science.....	1.5	M.S. 104 Basic Military Science or A.S. 104 Basic Air Science.....	1.5
Electives	3	Electives	3
	17		16

PRE-FORESTRY

FIRST YEAR

Eng. 101 First Year English.....	3	Eng. 102 First Year English.....	3
Bot. 110 General Botany.....	4	Chem. 180 Organic Chemistry.....	4
Math. 107 College Algebra.....	3	Math. 118 Trigonometry.....	3
Chem. 110 or 111 General Chemistry.....	4	Bot. 171 Plant Anatomy.....	4
P. E. Activity.....	0.5	P. E. 107 Sports Survey.....	0.5
M.S. 101 Basic Military Science or A.S. 101 Basic Air Science.....	1.5	M.S. 102 Basic Military Science or A.S. 102 Basic Air Science.....	1.5
	16		16

SECOND YEAR

I. A. 103 Mechanical Drawing.....	3	I.A. 145 Elementary Surveying.....	3
Bot. 172 Plant Physiology.....	4	Bot. 242 Systematic Botany.....	4
Ag. 105 Soils.....	4	Ag. 200 Conservation of Ag. Resources.....	3
Zool. 111 General Zoology.....	4	Zool. 210 Entomology.....	4
P. E. Activity.....	0.5	P. E. 108 Sports Survey.....	0.5
M.S. 103 Basic Military Science or A.S. 103 Basic Air Science.....	1.5	M.S. 104 Basic Military Science or A.S. 104 Basic Air Science.....	1.5
			16

Pre-Dietetics

The following curriculum will meet the lower division requirements for most dietetics courses.

FIRST YEAR

First Semester	Hours	Second Semester	Hours
Eng. 101 First Year English.....	3	Eng. 102 First Year English.....	3
Chem. 110 or 111 General Chemistry.....	4	Chem. 114 General Chemistry.....	4
H. Ec. 101 Elementary Nutrition.....	2	*Soc. 120 Sociology.....	3
*Psych. 100 Elementary Psychology.....	3	H. Ec. 102 Clothing Selection.....	3
H. E. 100 Hygiene.....	2	*G. S. 110 Introd. to Biol. Science.....	4
*Speech 110 Elements of Speech.....	2	P. E. 102 Basic P. E. (women).....	0.5
P. E. 101 Basic P. E. (women).....	0.5		
	16.5		17.5

SECOND YEAR

Chem. 211 General Organic Chemistry or Chem. 141 Quantitative Analysis.....	4	Chem. 212 General Organic Chemistry or Chem. 180 Elem. Organic Chem.....	4
H. Ec. 105 Applied Food Principles.....	3	H. Ec. 206 for Family.....	3
Zool. 171 Human Anatomy-Physiology.....	3	Zool. 172 Human Anatomy-Physiology.....	3
Eng. 171 Introduction to Literature.....	3	*Bus. Ad. 130 Introd. to Economics.....	3
Social Science elective.....	3	Social Science elective.....	3
P. E. Activity (women).....	0.5	P. E. Activity (women).....	0.5
	16.5		16.5

*May be taken either semester.

Pre-Engineering

Completion of the following curriculum will fulfill the lower division requirements for a degree in general engineering. The pre-engineering student is urged to obtain a catalog of the engineering school that he plans to attend, and alter the following curriculum to meet the lower division requirements of that school. The student's choice of courses for electives depends on whether he plans to specialize in civil, mechanical, chemical or electrical engineering.

FIRST YEAR

First Semester		Hours	Second Semester		Hours
Eng. 101 First Year English.....	3		Eng. 102 First Year English.....	3	
Chem. 110 or 111 General Chemistry....	4		Chem. 112 General Chemistry.....	5	
I. A. 113 Engineering Drawing.....	3		Math. 120 Analytic Geometry.....	4	
Math. 119 Algebra & Trigonometry.....	4		I. A. 124 Descriptive Geometry.....	3	
P. E. 107 Sports Survey (men).....	0.5		P. E. 108 Sports Survey (men).....	0.5	
M.S. 101 Basic Military Science or A.S. 101 Basic Air Science.....	1.5		M.S. 102 Basic Military Science or A.S. 102 Basic Air Science.....	1.5	
		16			17

SECOND YEAR

(Civil Engineering Option)

I. A. 145 Surveying.....	3	I. A. 280 Advanced Surveying.....	3
Math. 122 Differential Calculus.....	4	Phys. 122 Engineering Physics.....	5
Phys. 121 Engineering Physics.....	5	Math. 123 Integral Calculus.....	4
I. A. 134 Materials of Construction.....	2	*Bus. Ad. 130 Introd. to Economics or I.A. 224 Estimating & Contracting....	3
P. E. Activity (men).....	0.5	P. E. Activity (men).....	0.5
M.S. 103 Basic Military Science or A.S. 103 Basic Air Science.....	1.5	M.S. 104 Basic Military Science or A.S. 104 Basic Air Science.....	1.5
	16		17

(Chemical Engineering Option)

I. A. 155 Mechanisms.....	3	Chem. 142 Quantitative Analysis.....	4
Chem. 141 Quantitative Analysis.....	4	Math. 123 Integral Calculus.....	4
Math. 122 Differential Calculus.....	4	Phys. 122 Engineering Physics.....	5
Phys. 121 Engineering Physics.....	5	*Bus. Ad. 130 Introd. to Economics....	3
P. E. Activity.....	0.5	P. E. Activity.....	0.5
M.S. 103 Basic Military Science or A.S. 103 Basic Air Science.....	1.5	M.S. 104 Basic Military Science or A.S. 104 Basic Air Science.....	1.5
	18		18

(Electrical and Mechanical Engineering Option)

I. A. 145 Surveying.....	3	P.S. 101 Introd. to Political Science or I.A. 209 Surveying.....	3
Math. 122 Differential Calculus.....	4	Math. 123 Integral Calculus.....	4
Phys. 121 Engineering Physics.....	5	Phys. 122 Engineering Physics.....	5
I. A. 155 Mechanisms.....	3	*Bus. Ad. 130 Introd. to Economics or I.A. 224 Estimating & Contracting....	3
P. E. Activity.....	0.5	P.E. Activity.....	0.5
M.S. 103 Basic Military Science or A.S. 103 Basic Air Science.....	1.5	M.S. 104 Basic Military Science or A.S. 104 Basic Air Science.....	1.5
	17		17

* May be taken either semester.

Pre-Law

The requirements for admission to law schools vary from a minimum of three years of pre-legal college work to a college degree. The pre-law student should obtain a copy of the catalog of the law school that he plans to attend and he should plan his course of study under the guidance of his adviser.

It is of utmost importance that the pre-legal student should follow a plan of study which will assure a thorough grounding in economics, mathematics, political science, English, speech, history, psychology, and elementary accounting. In fact, there is no phase of human knowledge which a lawyer will not find of value in his career. Because of the ever-increasing importance of training in the field of business for present-day law practice, the student is urged to give serious consideration to the combined program of business administration and law.

The following three-year, pre-legal curriculum is presented merely as an aid to the student in planning his course of study in accordance with the foregoing suggestions.

FIRST YEAR

First Semester		Hours	Second Semester		Hours
Eng. 101 First Year English.....	3		Eng. 102 First Year English.....	3	
Bus. Ad. 101 Elementary Accounting.....	4		Bus. Ad. 102 Elementary Accounting.....	4	
*Psych. 100 Elementary Psychology.....	3		*Soc. 120 Sociology.....	3	
Hist. 103 U. S. History.....	3		Hist. 104 U. S. History.....	3	
P. E. 101 Basic P. E. (women).....	0.5		P. E. 102 Basic P. E. (women).....	0.5	
P. E. 107 Sports Survey (men).....	0.5		P. E. 108 Sports Survey (men).....	0.5	
M.S. 101 Basic Military Science or			M.S. 102 Basic Military Science or		
A.S. 101 Basic Air Science.....	1.5		A.S. 102 Basic Air Science.....	1.5	
Electives.....	3 or 2		Electives.....	3 or 2	
		17			17

SECOND YEAR

P.S. 105 Federal Government.....	3		P.S. 102 State & Local Government.....	3	
Eng. 128 Advanced Composition.....	3		Eng. 171 Introduction to Literature.....	3	
P. E. Activity.....	0.5		P.E. Activity.....	0.5	
M.S. 103 Basic Military Science or			M.S. 104 Basic Military Science or		
A.S. 103 Basic Air Science.....	1.5		A.S. 104 Basic Air Science.....	1.5	
Science elective.....	4		Science elective.....	4	
Electives.....	4		Electives.....	4	
		16			16

THIRD YEAR

Bus. Ad. 205 Business Law.....	3		Bus. Ad. 206 Business Law.....	3	
Bus. Ad. 130 Principles of Economics.....	3		Bus. Ad. 132 Principles of Economics.....	3	
Spch. 110 Elements of Speech.....	2		Spch. 220 Public Speaking.....	2	
Psych. 225 Social Psychology.....	3		Hist. 217 Const. Hist. of U. S.....	3	
Electives.....	6		Electives.....	6	
		17			17

* May be taken either semester.

Medical Technology

The following curriculum meets the needs of those specializing in Medical Technology. It is ranked Class A by the American Medical Association. The work of the senior year, twelve months, is given at St. Joseph's, Good Samaritan, and Memorial Hospitals, Phoenix. At the conclusion of the fourth year, the student will take an examination formulated by the Board of Registry of the American Society of Clinical Pathologists. Upon the successful completion of this four-year curriculum the student will be granted the degree of Bachelor of Science. Through the W. K. Kellogg Foundation worthy students in Medical Technology may obtain loans of money and scholarships. The third year of work under this curriculum must be taken in residence at this college, unless arrangements have been approved in advance by the Admissions and Standards Committee. Fee, \$50.00 for the senior year at the hospital plus regular college registration fees.

FIRST YEAR

First Semester		Hours	Second Semester		Hours
Eng. 101 First Year English.....	3		Eng. 102 First Year English.....	3	
Chem. 110 or 111 Gen. Chem.....	4		Chem. 112 General Chemistry.....	5	
Zool. 111 General Zoology.....	4		Zool. 112 General Zoology.....	4	
*Soc. 120 Sociology.....	3		*Psych. 100 Elementary Psychology.....	3	
H. E. 100 Hygiene.....	2		P.E. 102 Basic P.E. (women).....	0.5	
P.E. 101 Basic P.E. (women).....	0.5		P.E. 108 Sports Survey (men).....	0.5	
P.E. 107 Sports Survey (men).....	0.5		M.S. 102 Basic Military Science or		
M.S. 101 Basic Military Science or			A.S. 102 Basic Air Science.....	1.5	
A.S. 101 Basic Air Science.....	1.5		Electives.....	0 or 1.5	
		16.5 or 18			17

*May be taken either semester.

SECOND YEAR

Chem. 141 Quantitative Analysis.....	4	Chem. 180 Organic Chemistry.....	4
Zool. 163 Comparative Anatomy.....	4	Bact. 110 Introd. to Bacteriology.....	4
Social Science elective.....	3	Humanities elective.....	3
Humanities elective.....	3	Social Science elective.....	3
P.E. Activity.....	0.5	P.E. Activity.....	0.5
M.S. 103 Basic Military Science or		M.S. 104 Basic Military Science or	
A.S. 103 Basic Air Science.....	1.5	A.S. 104 Basic Air Science.....	1.5
	16		16

THIRD YEAR

Phys. 111 General Physics.....	4	Phys. 112 General Physics.....	4
Zool. 232 Parasitology.....	4	Chem. 280 Biochemistry.....	3
Zool. 255g Human Mechanism.....	4	Zool. 254 Embryology.....	4
Elective	3	Electives	4
	15		15

FOURTH YEAR

Med. Tech. 240 Laboratory Techniques	4	Med. Tech. 250 Histology.....	4
Med. Tech. 225 Pathogenic		Med. Tech. 265 Serology.....	2
Bacteriology	4	Med. Tech. 271 Parasitology.....	2
Med. Tech. 282 Biochemistry.....	4	Med. Tech. 284 Blood Chemistry.....	4
Med. Tech. 273 Hematology.....	4	Med. Tech. 286 Urinalysis.....	2
		Med. Tech. 288 Chemistry of Digestion	2
	16		16

Pre-Medical and Pre-Dental

The minimum requirement for admission to accredited medical and dental schools is a four-year high school education and two, three, and in many cases four years of work in general education leading to a B.S. or B.A. degree. A four-year curriculum is offered for the guidance of the student.

At the present time many more students qualify for entrance into dental and medical schools than can be admitted. It is advised that those who plan medical or dental careers, select their electives so that they may concentrate either in biological science, chemistry, or medical technology, and qualify in one of these fields in case they are unable to enter medical or dental training. The adviser should be consulted in this matter.

Upon the successful completion of the following four-year curriculum, the student will be granted the Bachelor of Science degree.

If a student desires to be admitted to a medical school, he should maintain an average scholarship index of 3.0 or better in this work.

FIRST YEAR

First Semester	Hours	Second Semester	Hours
Eng. 101 First Year English.....	3	Eng. 103 First Year English.....	3
Zool. 111 General Zoology.....	4	Zool. 112 General Zoology.....	4
Chem. 110 or 111 Gen. Chem.....	4	Chem. 112 General Chemistry	
Math. 106 or 107 Algebra.....	3	and Qualitative Analysis.....	5
P.E. 107 Sports Survey (men).....	0.5	Soc. 120 Sociology.....	3
M.S. 101 Basic Military Science or		P.E. 108 Sports Survey (men).....	0.5
A.S. 101 Basic Air Science.....	1.5	M.S. 102 Basic Military Science or	
		A.S. 102 Basic Air Science.....	1.5
	18		17

SECOND YEAR

Zool. 163 Comparative Anatomy.....	4	Bot. 110 General Botany.....	4
Chem. 141 Quantitative Analysis.....	4	Bact. 110 Introd. to Bact.....	4
Psych. 100 Elem. Psych.....	3	Bus. Ad. 110 Introd. to Economics.....	3
French or German.....	4	French or German.....	4
P. E. Activity.....	0.5	P. E. Activity.....	0.5
M.S. 103 Basic Military Science or		M.S. 104 Basic Military Science or	
A.S. 103 Basic Air Science.....	1.5	A.S. 104 Basic Air Science.....	1.5
	17		17

THIRD YEAR

Chem. 211 General Organic Chem.....	4	Chem. 212 Gen. Organic Chem.....	4
Phys. 111 General Physics.....	4	Phys. 112 General Physics.....	4
French, German, or Elective.....	4	French, German or Elective.....	4
Social Science Elective.....	3	Social Science, Elective.....	3
	<hr/>		<hr/>
	15		15

FOURTH YEAR

Biol. 204 Genetics and Eugenics.....	3	Zool. 254 Embryology.....	4
Zool. 255g Human Mechanisms.....	4	Chem. 231 Elem. Physical Chem.....	4
Humanities Elective.....	3	Humanities Elective.....	3
Electives.....	6	Electives.....	6
	<hr/>		<hr/>
	18		17

Nursing and Pre-Nursing

The college offers a one-year and a two-year curriculum for students planning to go into nursing.

ONE YEAR PRE-NURSING CURRICULUM

Some schools of nursing require one year of college and three years of nursing school.

First Semester		Hours	Second Semester		Hours
Eng. 101 First Year English.....	3		Eng. 102 First Year English.....	3	
*Soc. 120 Sociology.....	3		*Psych. 100 Elementary Psychology.....	3	
H. Ec. 101 Elementary Nutrition.....	2		*G. S. 110 Introd. to Biol. Sciences.....	4	
Chem. 110 Introductory Chemistry.....	4		Mathematics Elective.....	3	
Zool. 171 Human Anatomy.....	3		Zool. 172 Human Physiology.....	3	
P. E. 101 Basic P. E. (women).....	0.5		P. E. 102 Basic P. E. (women).....	0.5	
	<hr/>			<hr/>	
	15.5			16.5	

*May be taken either semester.

TWO YEAR PRE-NURSING CURRICULUM

This curriculum is designed for nursing schools that require two years of general college education. The selection of electives should be made after consulting the catalog of the nursing school that the student plans to attend, and the pre-nursing adviser.

FIRST YEAR

First Semester		Hours	Second Semester		Hours
Eng. 101 First Year English.....	3		Eng. 102 First Year English.....	3	
*Soc. 120 Sociology.....	3		*Psych. 100 Elementary Psychology.....	3	
Chem. 110 Introductory Chemistry.....	4		Chem. 180 Organic Chemistry.....	4	
H. Ec. 101 Elementary Nutrition.....	2		*G. S. 110 Introd. to Biol. Sciences.....	4	
Mathematics Elective.....	3		P. E. 102 Basic P. E. (women).....	0.5	
P. E. 101 Basic P. E. (women).....	0.5		Elective.....	3	
	<hr/>			<hr/>	
	15.5			17.5	

SECOND YEAR

*Eng. 171 Introduction to Literature.....	3	*Speech 110 Elements of Speech.....	2
Zool. 171 Human Anatomy.....	3	Zool. 172 Human Physiology.....	3
Social Science elective.....	3	Social Science elective.....	3
H. Ec. 105 Applied Food Principles.....	3	Electives.....	7
Bact. 110 General Bacteriology.....	4	Physical Education activity (women).....	0.5
Physical Education activity (women).....	0.5		
	<hr/>		<hr/>
	18.5		18.5

* May be taken either semester.

DEGREE CURRICULUM FOR NURSING

A degree curriculum for nurses is offered which combines a general college program and a basic clinical course in nursing. This curriculum is designed to meet the needs of two groups of students: (1) those who wish to pursue a program of training to be taken jointly at the College and at the Good Samaritan Hospital, Phoenix, leading to the Certificate of Registered Nurse in Arizona and to the Bachelor of Science degree, and (2) those who hold the Cer-

tificate of Registered Nurse in Arizona and who wish to complete, in addition, a program of college work that will lead to the Bachelor of Science degree.

I. FIVE YEAR PROGRAM FOR NURSING

Students without nursing training will meet the regular college admission requirements and will take the general college courses during the first year as outlined in the following curriculum. The basic training in professional nursing will be taken during the next three years at the Good Samaritan Hospital. As a part of the nursing program, students must take the courses that are outlined in the second year of the curriculum given below.

As a prerequisite for graduation, the student must pass the Arizona State Board examinations in nursing. Upon passing the State Board Examination, the student must file with the Registrar and Director of Admissions, a statement from the Secretary of the State Board that the student has been granted registration and holds a currently valid license to practice nursing in Arizona. Upon satisfactory completion of the requirements of a registered nurse in Arizona, and those of the college for this curriculum, the student is eligible for graduation with the Bachelor of Science degree.

Before beginning the fifth year of the degree program in nursing, the student is advised to consult with the nursing adviser at the college, and select courses that will best meet her interest and needs. This work may be selected from the following fields, or combinations of them: English, Education and Sociology, Home Economics, Foreign Languages, Physical Education, Psychology, and Science.

FIRST YEAR

(At Arizona State College at Tempe or other accredited college)

First Semester	Hours	Second Semester	Hours
Eng. 101 First Year English.....	3	Eng. 102 First Year English.....	3
*Speech 110 Elements of Speech.....	2	*Eng. 171 Introd. to Literature.....	3
Math. 105 Basic Mathematics.....	3	*G.S. 110 Introd. to Biological Sciences	4
*G. S. 100 Introd. to Phys. Science.....	4	P. E. 102 Basic P. E. (women).....	0.5
P. E. 101 Basic P. E. (women).....	0.5	Humanities Elective.....	2
Social Studies Elective.....	3	Social Studies Elective.....	3
	15.5		15.5

* May be taken either semester.

SECOND YEAR

Good Samaritan Hospital School of Nursing.

THIRD YEAR

Good Samaritan Hospital School of Nursing

FOURTH YEAR

Good Samaritan Hospital School of Nursing

FIFTH YEAR

(At Arizona State College at Tempe)

Soc. 212 Introd. to Social Work.....	3	Chemistry 180 Elem. Organic Chem.....	4
Psych. 208 Mental Hygiene & Abnormal Psychology.....	3	Soc. 220 Modern Social Problems.....	3
Psych. 225 Social Psychology.....	3	Psych. 234 Child Psychology.....	3
Restricted electives.....	8	Restricted electives.....	7
	17		17

II. DEGREE PROGRAM FOR REGISTERED NURSES

Graduates of accredited three-year schools for nurses will, in addition to meeting the regular admission requirements, file with the Registrar and Director of Admissions, well in advance of registration, official transcripts of all work done in high school, college, and nursing schools together with a statement from the Secretary of the State Board that the student has been granted registration and holds a currently valid license to practice nursing in Arizona. Upon acceptance of those credentials, advanced standing credit, not to exceed 46 hours, will be allowed for work completed in an approved school of nursing.

To meet the requirements for the Bachelor of Science degree, students admitted to this curriculum will be required to complete not less than 80 semester hours of credit to be distributed as follows:

English 101-102	6 hrs.
Humanities (see page 85)	6 hrs.
Social Science (see page 85)	12 hrs.
Science—Biol. 110, Bact. 110, Chem. 110, 180	16 hrs.
Restricted electives, to be chosen from English Education, Psychology, Home Economics, Social Studies, Sociology and Science	40 hrs.
Total—not less than	80 hrs.

The restricted electives are to be selected under the guidance of the nursing adviser. Students enrolled are not required to meet the physical education and hygiene requirement for the Bachelor of Science degree.

Pre-Optometry

The following program meets the entrance requirements of most schools of optometry. It is suggested, however, that the interested student obtain a catalog from the school he intends to enter, in order to allow for any deviations from the program suggested below.

FIRST YEAR			
First Semester	Hours	Second Semester	Hours
Eng. 101 First Year English.....	3	Eng. 102 First Year English.....	3
Chem. 110 or 111 General Chem.....	4	Chem. 112 General Chemistry.....	5
Math. 107 Algebra.....	3	Math. 118 Trigonometry.....	3
Zool. 111 General Zoology.....	4	Zool. 112 General Zoology.....	4
P. E. 107 Sports Survey (men).....	0.5	P. E. 108 Sports Survey (men).....	0.5
M.S. 101 Basic Military Science or A.S. 101 Basic Air Science.....	1.5	M.S. 102 Basic Military Science or A.S. 102 Basic Air Science.....	1.5
	16		17
SECOND YEAR			
*Psych. 100 Elementary Psychology.....	3	*Soc. 120 Sociology.....	3
Phys. 111 General Physics.....	4	Phys. 112 General Physics.....	4
Zool. 163 Comparative Anatomy.....	4	*H. E. 100 Hygiene.....	2
*Speech 110 Elements of Speech.....	2	Math. 120 Anal. Geometry.....	4
Elective.....	2	P. E. Activity (men).....	0.5
P. E. Activity (men).....	0.5	M.S. 104 Basic Military Science or A.S. 104 Basic Air Science.....	1.5
M.S. 103 Basic Military Science or A.S. 103 Basic Air Science.....	1.5	Elective.....	2
	17		17

* May be taken either semester.

Pre-Pharmacy

The requirements for admission to a college of pharmacy is limited to one year of pre-pharmacy training. The pre-pharmacy student should obtain a copy of the catalog of the college of pharmacy that he plans to attend and work out his course of study under the guidance of his adviser. The following program will meet the entrance requirements of most schools of pharmacy. The student should have an average of 2.5 or better in this work.

Eng. 101 First Year English.....	3
Chem. 111 General Chemistry.....	4
Zool. 110 Animal Biology.....	4
Math. 106 or 107 Algebra.....	3
M.S. 101 Basic Military Science or	
A.S. 101 Basic Air Science.....	1.5
P. E. 103 Activity.....	0.5

16

Eng. 102 First Year English.....	3
Chem. 112 General Chemistry and	
Qualitative Analysis.....	5
Bot. 110 General Botany.....	4
Math. 118 Trigonometry.....	3
M.S. 101 Basic Military Science or	
P. E. 103 Activity.....	0.5
P. E. 103 Activity.....	0.5

17

Technical and Semi-Professional Curriculums

There is a growing demand for practical curriculums which do not lead to graduation, but are designed to give the student the background of skills needed for entrance into his chosen vocation. These curriculums appeal to returning veterans and many others. They may consist of very few or many courses requiring one or more semesters to complete them. The courses composing these short curriculums vary to fit the background and needs of the student concerned. Students interested in these curriculums should consult the curriculum advisers in the departments concerned for help in planning their programs.

Department of Agriculture

ROBINSON (Head of the Department), BARRETT, CHAVEZ, JUDD,
MCLEROY, MOODY, PARKER, RASMUSSEN, RIGGINS.

Purposes. The Agriculture Department offers courses to meet the needs of the following students: (1) Those who are interested primarily in the production and management phases of agriculture and who wish to obtain a degree of Bachelor of Science with a major interest field in Crop or Livestock Production. (2) Those preparing for some phase of agriculture as a career and who wish to obtain the degree of Bachelor of Science with an area of concentration in either Agronomy or Animal Husbandry. (3) Those desiring to attend Arizona State College at Tempe one or more years and then transfer elsewhere to complete their training in technical and scientific phases of agriculture. (4) Those who desire to do their pre-forestry or pre-veterinary training at Arizona State College at Tempe. (5) Those not planning to graduate but desiring to take one or more years of college training for agriculture pursuits. (6) Those who wish to take certain electives in the agriculture field while pursuing another curriculum at the college.

Arts and Sciences Curriculums

Degree. The completion of a four-year curriculum, including the generalization requirements and an area of concentration in Agriculture as outlined below, leads to the degree of Bachelor of Science.

Generalization Requirements

Each student seeking the Bachelor of Science degree with an area of concentration in agriculture must satisfy the generalization requirements outlined on page 85 in the catalog, and in addition complete one of the areas of concentration as outlined below.

Areas of Concentration

Required Courses. The following courses must be taken by all students selecting an area of concentration in agriculture: Math. 105 or 106 or 107; Physics 110 or 111 and 112; Bot. 110 or Zool. 110 or Zool. 111; Chem. 110 or 111; Ag. 101, 105, 121, and 144.

Production and Management. This area of concentration is designed to prepare students to enter the business of farming and ranching as owners or managers of productive agricultural enterprises. Students may specialize within this area of concentration in either Crop Production or Livestock Production.

In addition to the academic requirements outlined below, students are required to participate in productive agricultural projects under

the guidance of their advisers beginning in their sophomore year. Student agricultural projects may be carried out either on the home farm, or farms or land under the jurisdiction of the college for this purpose, or on any farm which meets the approval of the adviser. The objective of these projects is to provide practical training in both production and management, and should help the student to build equity in a productive agricultural enterprise. This work experience and equity building program may be carried on throughout the year under the direction of the agricultural faculty. Satisfactory performance in this practical training program will be required before clearance for graduation can be given.

(1) *Emphasis on Crop Production:* The following 39 semester hours are required: Ag. 107, 141, 149, 161, 163, 200, 241, 242, 244, 245, 247, 250, 252, 256, and 21 hours to be selected from the following: Ag. 103, 181, 183, 202, 204, 206, 108, 210, 212, 214, 219, 222, 287, 292; Bot. 160; Zool. 210.

(2) *Emphasis on Livestock Production:* The following 39 semester hours are required: Ag. 107, 141, 149, 161, 163, 200, 241, 242, 244, 245, 247, 250, 252, 256, and 21 hours to be selected from the following: Ag. 103, 122, 125, 127, 222, 223, 224, 225, 226, 228, 230, 234, 235, 236, 238, 239; Biol. 204.

Agronomy. To meet the requirements of an area of concentration in agronomy, the following courses are required: Chem. 180; Biol. 204; and 24 hours are to be selected from: Ag. 103, 107, 109, 163, 181, 183, 202, 204, 206, 208, 210, 212, 214, 216, 218, 219, 287, 292; Bot. 160; Zool. 210.

Animal Husbandry. To meet the requirements of an area of concentration in animal husbandry, the following courses are required: Chem. 180; Biol. 204; Ag. 123 and 124 or Ag. 126; and 24 hours to be selected from Ag. 103, 122, 125, 127, 222, 223, 224, 225, 226, 228, 230, 234, 235, 236, 238, 239, 240, 245.

Description of Courses

Agronomy or Crop Production

Ag. 101 *Crop Production.* The principles of field crop production. Special emphasis on cultural practices in Arizona. Prerequisite for all succeeding agronomy courses. Fee, \$100. Two lectures, 3 hours laboratory. Credit, 3 hours.

103 *Forage Crops.* The principal forage crops of the United States with particular reference to the Southwest. Prerequisite: Ag. 101. Fee, \$1.00. Two lectures, 3 hours laboratory. Credit, 3 hours.

105 *Soils.* The formation, classification, and properties of soils; their relation to crop production; soil conservation. Prerequisite: one course in college chemistry. Fee, \$2.00. Three lectures or equivalent. Credit, 3 hours.

107 *Irrigation Principles and Practices*. History of irrigation, extent and importance, water measurements, application and conservation of irrigation water. Prerequisite: Ag. 105. Fee, \$1.00. Three lectures or equivalent in field work. Credit, 3 hours.

109 *Crop Production Practices*. Supervised farm experience in field crop production including operation of farm machinery, methods of tillage, planting, irrigation and harvesting. Prerequisites: Ag. 101 and approval of adviser. One discussion period, 2 four hour laboratories. Credit, 3 hours.

110 *Crop Production Practices*. Continuation of Ag. 109. Credit, 3 hours.

150 *Projects in Agriculture*. Practical experience in agriculture production problems. Prerequisite: approval of adviser and head of department. Credit, to be arranged.

200 *Conservation of Agricultural Resources*. Basic course devoted to developing an understanding of the relationships of agricultural resources to society and the necessity for maximum production from the agricultural resources of land, water, timber, and minerals. Fee, \$2.00. Three lectures or equivalent in field work. Credit, 3 hours.

202 *Weeds and Weed Control*. Identification of weed seeds and plants. The weed problem in agriculture and methods of control. Prerequisite: Bot. 110. Fee, \$1.00. Two lectures, 3 hours laboratory. Credit, 3 hours.

204 *Cereal Crops*. Classification, history, distribution, and cultural methods involved in the production of cereal crops. Fee, \$1.00. Two lectures, 3 hours laboratory. Credit, 3 hours.

206 *Crop Judging and Commercial Grading*. Seed, sheaf, and hay judging of cereal, legumes, grass, and other crops, and the application of the Federal Standard in the grading of field crops. Prerequisite: Bot. 110. Fee, \$2.00. Two lectures, 3 hours laboratory. Credit, 3 hours.

208 *Soil Fertility*. Problems involved in the use of fertilizers, crop rotations, and irrigation water in the management of soils. Prerequisite: Ag. 105. Fee, \$2.00. Two lectures, 3 hours laboratory. Credit, 3 hours.

210 *Alfalfa Production*. Cultural methods concerned with the production and improvement of alfalfa. Fee, \$1.00. Two lectures or equivalent in field work. Credit, 2 hours.

212 *Cotton Production*. Study of the cultural methods and the problems involved in the production and improvement of cotton. Fee, \$1.00. One lecture, 3 hours laboratory. Credit, 2 hours.

214 *Agriculture Seminar*. Current policies concerning agriculture will be considered. Credit, 1 hour.

216 *Plant Breeding*. The principles of plant breeding, and selection and hybridization. Prerequisites: Biol. 204, Bot. 110. Fee, \$2.00. Credit, 3 hours.

218 *Soil Conservation*. The study of soil management as a conservation agency. Prerequisite: Ag. 105. Fee, \$2.00. Credit, 3 hours.

219 *Agricultural Entomology*. Insect pests of major economic importance in agriculture in Arizona and the West, including their recognition, type of damage, distribution, life history and methods of control. Consideration of insecticides will be included. Prerequisite: Zool. 210. Fee, \$1.00. Two lectures, 3 hours laboratory. Credit, 3 hours.

Animal Husbandry or Livestock Production

Ag.121 *Principles of Animal Husbandry*. Principles of livestock management and production. Score card and judging practices. Prerequisite to other animal husbandry courses. Fee, \$1.00. Two lectures, 3 hours laboratory. Credit, 3 hours.

122 *Breeds of Livestock*. Characteristics of breeds of farm animals; origin, history, and development; pedigree studies. Fee, \$1.00. Two lectures. Credit, 2 hours.

123 *Livestock Production Practices*. Supervised farm experience in animal feeding, breeding, fitting for show, keeping records and other practices in the field of livestock production. Prerequisite: Ag. 121. One discussion period, 6 hours laboratory. Credit, 2 hours.

124 *Livestock Production Practices*. Continuation of Ag. 123, Credit, 2 hours.

125 *Principles of Dairy Husbandry*. A study of the principles of dairy husbandry such as feeding, breeding, management, selection, herd improvement, artificial insemination, diseases, calf raising, milking and dairy equipment. Fee, \$1.00. Two lectures, 3 hours laboratory. Credit, 3 hours.

126 *Dairy Production Practices*. Supervised farm experience in dairy feeding, breeding, fitting for show, keeping records and the attainment of proficiency in skills associated with a dairy enterprise. Prerequisite: Ag. 125. One discussion period, 6 hours laboratory. Credit, 2 hours.

127 *Poultry Husbandry*. Poultry management, and application to local and regional conditions. Fee, \$1.00. Three lectures or equivalent in field work. Credit, 3 hours.

128 *Poultry Diseases and Sanitation*. Study of health problems of poultry as encountered on the farm. Description and classification of poultry diseases, their diagnosis, control and prevention. Laboratory includes post mortem examinations and microbiological studies. Prerequisite: Ag. 127. Fee, \$2.00. One lecture, 3 hours laboratory. Credit, 2 hours.

129 *Poultry Production Practices*. Supervised farm experience in poultry feeding, handling eggs, poultry raising for meat production, sanitation practices, and disease prevention (vaccination). Prerequisite: Ag. 127. Six hours laboratory. Credit, 2 hours.

- 222 *Animal Feeding*. Study of the different feeds and feeding methods, physiology of nutrition, and balancing rations. Prerequisites: Ag. 121 and one course in college chemistry. Fee, \$2.00. Three lectures or equivalent in field work. Credit, 3 hours.
- 223 *Animal Nutrition*. Fundamental principles of animal nutrition, in regard to the metabolism of proteins, carbohydrates, fats, minerals, and vitamins. Deficiency symptoms shown in the animal. Prerequisites: Ag. 121, 222; Chem. 110, 180. Fee, \$1.00. Three lectures or equivalent in field work. Credit, 3 hours..
- 224 *Market Milk*. The classes of market milk, sanitation, milk inspection, and scoring of dairies. Prerequisite: Bact. 110. Fee, \$1.00. Three lectures or equivalent in field work. Credit, 3 hours.
- 225 *Livestock Judging*. A study of various breeds of livestock. Trips to stock farms, ranches, and livestock fairs. Prerequisites: Ag. 121, 122. Fee, \$2.00. Two lectures, 3 hours laboratory; or equivalent in field work. Credit, 3 hours.
- 226 *Swine Production*. Production, breeding, feeding, and management of swine. Prerequisites: Ag. 121, 122, 222. Fee, \$1.00. Two lectures or equivalent in field work. Credit, 2 hours.
- 228 *Beef Production*. Production, breeding, feeding, and management of beef cattle. Prerequisites: Ag. 121, 122, 222. Fee, \$1.00. Two lectures or equivalent in field work. Credit, 2 hours.
- 229 *Poultry Production and Management*. The application of the principles of feeding, breeding, and sanitation to the economics of poultry production; marketing of poultry products; profit calculations. Prerequisite: Ag. 127. Fee, \$2.00. Three lectures or equivalent in field work. Credit, 3 hours.
- 230 *Sheep Production*. Production, breeding, feeding, and management of sheep. Prerequisites: Ag. 121, 122, 222. Fee, \$1.00. Two lectures or equivalent in field work. Credit, 2 hours.
- 234 *Dairy Production and Management*. An integration of the principles of feeding, breeding, and management that are fundamental to economical production and successful operation of the dairy enterprise. Prerequisites: Ag. 125, 126, 222. Fee, \$2.00. Three lectures or equivalent in field work. Credit, 3 hours.
- 235 *Range Management*. Grazing regions, range forage, range improvement, range plants. Prerequisites: Ag. 121, Bot. 110. Fee, \$2.00. Three lectures or equivalent in field work. Credit, 3 hours.
- 236 *Anatomy and Physiology of Domestic Animals*. Study of the anatomy and physiological functions of domestic animals. Special attention given to the digestive and reproductive systems. Prerequisites: Ag. 121, Zool. 110. Fee, \$2.00. Three lectures, 3 hours laboratory. Credit, 4 hours.
- 238 *Livestock Hygiene and Sanitation*. Study of animal health problems as encountered on the farm and ranch. The importance of

sanitation and management in disease control and animal health. Prerequisites: Ag. 236, Zool. 110. Fee, \$2.00. Three lectures or equivalent in field work. Credit, 3 hours.

239 *Animal Breeding*. The principles of genetics applied to animal breeding. Prerequisites: Biol. 204, Zool. 110. Fee, \$1.00. Three lectures or equivalent in field work. Credit, 3 hours.

240 *Advanced Livestock Judging*. An advanced course in the judging of livestock. Trips to farms, ranches, and livestock fairs. Prerequisite: Ag. 225. Fee, \$1.00. One lecture, 3 hours laboratory. Credit, 2 hours.

Management and Economics

Ag. 141 *Principles of Farm and Ranch Organization*. The principles, concepts, and procedures of farm and ranch organization as applied in the business of farming and ranching. Fee, \$1.00. Three lectures or equivalent in field work. Credit, 3 hours.

144 *Agricultural Economics*. Deals with the principles of economics as they apply to agricultural problems. The economic factors governing crop production and its distribution will be given major consideration. Credit, 3 hours.

149 *Agricultural Marketing and Merchandising*. Underlying principles, concepts, and factors that control the efficient marketing and merchandising of agricultural products. Credit, 3 hours.

241 *Farm and Ranch Management*. Designed primarily to teach underlying business principles of farm and ranch management as they affect the over all administration of agricultural-production-business enterprises; and to develop business judgment in the actual, practical business of operating and managing farms, ranches, and business enterprises closely connected with agricultural production. Fee, \$1.00. Three lectures or equivalent in field work. Credit, 3 hours.

242 *Advanced Farm Management*. Factors contributing to success of selected farm enterprises are studied. Also, considered are factors responsible for farm business losses from legal and natural causes, business mistakes, and poor judgment. Three lectures or equivalent in field work. Credit, 3 hours.

244 *Agricultural Finance*. Acquisition of capital, use of credit, legal aspects of finance and financial management of working capital. Three lectures or equivalent in field work. Credit, 3 hours.

245 *Livestock Production and Management*. Such problems as methods of production, livestock enterprises, economics, budgeting, finance, loss prevention, and marketing are considered in relation to livestock production and management. Prerequisite: Ag. 222. Fee, \$1.00. Three lectures or equivalent in field work. Credit, 3 hours.

246 *Land Utilization*. Land management including basic factors of land value, land use capabilities, fertility maintenance, conservation practices, and farm diversification. Credit, 2 hours.

247 *Crop Production and Management.* Types of crop farms, cropping systems, finance, harvesting, and pest control as applied to crop production are considered. Prerequisite: Ag. 107. Fee, \$1.00. Three lectures or equivalent in field work. Credit, 3 hours.

248 *Management of Supplies and Equipment.* Selection, purchasing, economics of servicing and financing of equipment and supplies. Fee, \$1.00. Two lectures or equivalent in field work. Credit, 2 hours.

250 *Farm Labor Management.* General principles and economics of farm labor requirements related to farm management costs and income. Fee, \$1.00. Three lectures or equivalent in field work. Credit, 3 hours.

252 *Public Relations.* Public relations techniques, government's interest in agriculture, agricultural programs such as production control, subsidies, supports and the interrelated economic problems of agriculture. Three lectures or equivalent in field work. Credit, 3 hours.

254 *Farm Cooperatives* Principles of cooperation in agriculture, methods of organization, operation and management of cooperative sales, purchasing and service associations. Fee, \$1.00. Credit, 3 hours.

256 *Homestead Management.* The farm homestead and its relation to the farm business. Fee, \$1.00. Two lectures or equivalent in field work. Credit, 2 hours.

Horticulture

Ag. 181 *Vegetable Crops.* Areas of production and cultural practices. Emphasis on the vegetable garden. Fee, \$1.00. Three lectures or equivalent in field work. Credit, 3 hours.

183 *Principles of Horticulture.* Plant propagation. Nursery practices. Orchards and home grounds. Fee, \$1.00. One lecture, 3 hours laboratory. Credit, 2 hours.

184 *Practical Horticulture.* Ornamental trees and shrubs, flowering plants, and landscaping. Fee, \$1.00. One lecture, 3 hours laboratory. Credit, 2 hours.

287 *Citriculture.* Study of orchard operation skills to acquaint students with methods of operating commercial orchards, with emphasis on origin and distribution of citrus, varieties, economic importance, pest control, and orchard tillage. Prerequisite: Ag. 183. Fee, \$1.00. Three lectures or equivalent in field work. Credit, 3 hours.

289 *Landscaping and Floriculture.* Fundamental principles and practices in landscaping and the culture of annual and perennial flowers, bulbs, houseplants, shade trees, shrubs, lawn grasses and greenhouse plants. Prerequisite: Ag. 184. Fee, \$1.00. Three lectures or equivalent in field work. Credit, 3 hours.

292 *Commercial Vegetable Crops.* Soil practices, cultural methods, harvesting and marketing of leading truck crops. Three lectures or equivalent in field work. Credit, 3 hours.

Agricultural Mechanics

Ag. 161 *Agricultural Mechanics*. Study and application of various mechanical skills important to agriculture. Prerequisite to all other courses in agriculture mechanics. Fee, \$4.00. One lecture, 3 hours laboratory. Credit, 2 hours.

163 *Farm Machinery*. Care, adjustment, and field operation of tillage and cultivating implements, planting, fertilizing, and harvesting machinery. Fee, \$2.00. One lecture, 3 hours laboratory. Credit, 2 hours.

164 *Farm Structures and Equipment*. Functional requirements of farm buildings, use of building materials, farm carpentry and constructional methods. Fee, \$4.00. One lecture, 3 hours laboratory. Credit, 2 hours.

260 *Farm Tractors*. Operation, servicing, and repairing of gasoline and diesel-powered tractors. Fee, \$4.00. One lecture, 6 hours laboratory. Credit, 3 hours.

263 *Advanced Agriculture Mechanics*. Design, construction and repairing of farm equipment. Fee, \$4.00. One lecture, 6 hours laboratory. Credit, 3 hours.

268 *Farm Refrigeration*. Study of various refrigeration equipment, its care, repair, adjustment, and actual operation. Fee, \$4.00. One lecture, 3 hours laboratory. Credit, 2 hours.

Department of Air Science and Tactics

MULLIGAN, (Head of Department), ADAMSON, DALB, DEAN,
MAMMEN, MCCAFFREY, NELSON, NEWLAND,
SWANGER, WARD, WOODS.

General. The Department of Air Science and Tactics offers courses in basic and advanced Air Force military training. The basic course is designated to develop an understanding of the Air Force, its organization, problems, and techniques. The purpose of the Advanced Course is to train selected prospective graduates in a balanced course of officer training, both theoretical and practical, which will qualify him to perform the duties of a commissioned officer of the United States Air Force. Students who successfully complete the advanced course receive a commission as Second Lieutenant in either the Air Force Reserve or the Regular Air Force. Regular commissions are limited and are recommended on a competitive basis.

Requirements for Admission. All able-bodied male students under 23 years of age entering the college as freshmen or sophomores and carrying more than 5 semester hours of work are required to complete two years of basic ROTC training. The two years of basic ROTC training is a prerequisite for graduation unless the student is properly exempted. The advanced course is available as an elective to men who have completed the basic course, or who have had adequate service in the Air Force, Army, Navy, Marines or Coast Guard. The Advanced Course, when elected by the student, becomes a prerequisite for graduation unless, for good reason, the requirement is waived by proper Air Force authority. Students electing the Advanced Course must not have reached their 25th birthday and must be physically fit for military duty.

Exemptions. Exemptions from AFROTC training will be granted to only the following: (a) aliens; (b) those certified as physically unfit by the college physician; (c) those presenting evidence of at least one year of military service; (d) those transferring sufficient credit for military training from an accredited institution; (e) those disqualified by age; (For enrollment in the basic course the student must not have reached his 23rd birthday at time of enrollment.) (f) those students who transfer with Junior or Senior standing from institutions not offering or requiring ROTC Training; (g) those offering other reasons acceptable to the Admissions and Standards Committee. Students requesting exemption will present the evidence on which they claim exemption at the time of registration.

Attendance and Credits. Basic students spend 2 hours in class and 2 hours in drill each week, and receive 1.5 semester hours of credit. Advanced students spend 4 hours in class and 2 hours in drill each week, and receive 3 semester hours of credit. Regular attendance in class and drill is required. Advanced students are required to attend one summer camp for approximately 4 weeks, normally at the end of the first year of the advanced course. The military training requirement does not excuse students from any of the physical education requirements.

Pay and Deferments. Advanced students receive pay for subsistence at the rate of \$.90 per day while attending the two year course. The total pay for subsistence will not exceed 595 days. In addition to the subsistence allowance, the student will receive pay at the rate of \$78.00 per month during attendance at the summer encampment. Travel pay, uniforms, housing and dining facilities are provided at camp without cost to the student. Draft deferments for Freshman, Sophomores, Juniors and Seniors are available to those qualified students who desire to take or who are taking the advanced course.

Uniforms and Texts. Each student registering for ROTC will make a deposit of \$25.00 in the Business Office. He will present the receipt to the Military Property Custodian as the basis for issue of prescribed uniforms, text books, and other materials. The full deposit, less any deductions to defray cost of any items lost or damaged through neglect, is refunded at the end of each semester.

Description of Basic Courses

AS. 101 *Basic Air Science (First Year).* An introduction to the AFROTC Program and a study of the development of aviation, the classes and structure of aircraft, the basic principles of flight, and the fundamentals of global geography. Two lectures and 2 hours of drill instruction per week. Credit, 1.5 hours.

102 *Basic Air Science (First Year).* A study of the factors and forces influencing international relations, the nation's defense organization, and the role of military aviation. Prerequisite: A.S.101. Two lectures and 2 hours of drill instruction per week. Credit, 1.5 hours.

103 *Basic Air Science (Second Year).* A presentation of the elements of aerial warfare which includes: types of targets, intelligence procedures, aerial weapons, and the type of delivery aircraft. Prerequisite: A.S. 101 and 102, or equivalent. Two lectures and 2 hours of drill and exercise of command per week. Credit, 1.5 hours.

104 *Basic Air Science (Second Year).* A study of the elements of aerial warfare to include; the air ocean, air bases, and USAF combat and support organizations; a survey of the USAF Officer Career Program. Prerequisite: A.S. 103. Two lectures and 2 hours of drill and exercise of command per week. Credit, 1.5 hours.

Description of Advanced Courses

201 *Advanced Air Science*. A study of command and staff concepts, problem solving techniques, principles and techniques of learning and teaching, Air Force correspondence, and military courts and boards. Prerequisite: Basic Air Science or equivalent. Four lectures and 2 hours of leadership laboratory per week. Credit, 3 hours.

202 *Advanced Air Science*. A survey of aerodynamics and propulsion, aerial navigation, and weather. A study of the organization of a typical air base and the functions of the key base officers. Prerequisite: A.S. 201. Four lectures and 2 hours of leadership laboratory per week. Credit, 3 hours.

203 *Administration and Logistics*. Instruction in applied fields of officer orientation and specialized administrative and supply subjects. A study of Air Force management, military teaching methods, military law and boards, inspection systems, career development, leadership, drill, and exercise of command. Prerequisite: A.S. 202. Four lectures, 2 drills per week. Credit, 3 hours.

204 *Administration and Logistics*. Continuation of A.S. 203. Prerequisite: A.S. 203. Four lectures, 2 drills per week. Credit, 3 hours.

213 *Flight Operations (Second Year)*. Instruction in applied fields of officer orientation, including leadership, administration, military teaching methods, management, career development, inspection systems, logistics, and military law. Specialized training, including advanced instruction in navigation and bombing, including the theory of radar as applied to both. Prerequisite: A.S. 212. Four lectures, 2 drills per week. Credit, 3 hours.

214 *Flight Operations (Second Year)*. Continuation of A.S. 213. Prerequisite: A.S. 213. Four lectures, 2 drills per week. Credit, 3 hours.

Department of Art

KLOSTER (Head of the Department), BURGESS, HARTER, MALM,
MORRIS, SANDERSON

The Department of Art offers courses to meet the needs of students in: (1) teacher training, (2) an area of concentration in art in the Arts and Sciences Curriculums, (3) basic and preprofessional arts preparing the student for an art career, (4) art for general culture.

Teacher-Education Curriculums

The Kindergarten-Primary and Elementary Curriculums

For Students Not Specializing in Art. The student in the elementary curriculum will find the following courses valuable in teaching: Art 101, 105, 117, 121, 151, 161, 207, and 210.

For Students Specializing in Art. Students registered in the elementary curriculum wishing to major in art education or to secure the special certificate in art should take the following courses: Art 101, 103, 105, 106, 117, 121, 151, 161, 207 and 211. Additional courses to complete the requirement of 30 semester hours in art for the special certificate or 45 semester hours for a major teaching field in art should be selected from the upper division offering. Art 207 should precede Directed Teaching. Students majoring in art should complete Art 101, 103, 105, and 106 during the freshman year.

The Secondary Curriculum

To complete a major teaching field in art, at least 45 semester hours of work must be completed in the first four years. Candidates for the master's degree planning to teach art in the secondary schools should complete 13 to 15 additional semester hours of graduate credit in the fifth year. The student should consult with his adviser in the selection of his course program. As the stress in modern art education is upon creative expression carried on for the development of integrated personalities, adjusted to society, and upon art as a functional agent which helps pave the way to better social understanding, the art teacher must secure in his training a broad concept of art in relation to general education. All teacher candidates must become qualified to coordinate the broad social values of art with the total public school program.

Major Teaching Field in Art. Art courses in the undergraduate program, to secure a balance of creative art experience, technical mastery, art education theory and appreciation, should be distributed as follows: Design, minimum of 4 credits; Crafts, minimum of 6

Credits; Drawing and Painting, minimum of 8 credits; Three-dimensional Art (Space Design, Sculpture, Interior Design, Ceramics), minimum of 4 credits; Commercial Art, minimum of 5 credits; Understanding and Appreciation, (Art History), minimum of 6 credits; Professional Art Education, minimum of 2 credits.

Optional courses to complete 45 semester hours of art in the undergraduate program should be selected under the guidance of the adviser.

Minor Teaching Field in Art. This field consists of not less than 15 hours. The following should be included: Art 101, 105; Ed. 228a, 211.

Arts and Sciences Curriculums

Degree. Students completing the Arts and Sciences Curriculum with an area of concentration in art receive the degree of Bachelor of Arts.

Generalization Requirements

Students seeking the Bachelor of Arts degree with an area of concentration in Art, must meet the generalization requirements listed under the Arts and Sciences Curriculums, found on page 85 of the catalog.

Area of Concentration

Art. The area of concentration in art has been planned to give the student good basic training in the related arts for general culture, a background for professional work, or for practical purposes. The student who selects art as an area of concentration must take a total of 45 semester hours.

Required Courses. To secure a proper balance in the basic fundamentals, the following minimum requirements must be met: Design, minimum of 4 credits; Drawing and Painting, minimum of 8 credits; Three-dimensional Art, minimum of 4 credits; Art Understanding, minimum of 8 credits.

Optional Courses. Optional courses to complete 45 semester hours of art should be selected under the guidance of the adviser. Work is offered in the following areas of professional skills: (1) Ceramics, (2) Commercial Art, (3) Crafts, (4) Fashion Design, (5) Fashion Illustration, (6) Interior Design, (7) Painting, (8) Sculpture.

Description of Courses

Art 100 *Introduction to Art* A study of painting, sculpture, and architecture, to develop comprehension and appreciation of the fine arts. Some laboratory experience. Fee, \$1.00. Credit, 2 hours.

101 *Drawing and Perspective.* General drawing and principles of elliptical, parallel and angular perspective. Four hours a week. Credit, 2 hours.

- 103 *Life Drawing*. The basic construction of the human figure. Emphasis on solidity and proportion. Fee, \$1.00. Six hours per week. Credit, 3 hours.
- 105 *Basic Design*. Problems in two and three dimensional design. A study of design elements through experimentation with wood, wire and other materials. Fee, \$1.50. Four hours a week. Credit, 2 hours.
- 106 *Basic Design*. Problems in two dimensional design. A study of colors and color harmony. Fee, \$1.00. Four hours a week. Credit, 2 hours.
117. *Allied Crafts*. A laboratory course dealing with modern design in materials such as leather, metal, textiles. Processes of block printing, silk screen, stenciling, weaving, and bookbinding explored. Prerequisite: Art 105 or 106 for Art Majors. Fee, \$10.00. Leather, metal, textile paint furnished. Six hours a week. Credit, 3 hours .
- 121 *Lettering*. Construction, spacing, and arrangement of Roman and Gothic letters. Analysis of Italics, script, and miscellaneous letter forms. Fee, 50c. Four hours a week. Credit, 2 hours.
- 123 *Commercial Art*. Practical problems in six major advertising media. Recommended for journalism and commerce majors. Prerequisite: Art 121. Fee, \$1.00. Six hours a week. Credit, 3 hours.
- 131 *Fashion Design*. Initial course in designing and constructing fashions. A survey of manufacturers, retailers, designers and illustrators. Prerequisites for Art majors: Art 103, 105. Fee, \$2.00. Six hours a week. Credit, 3 hours.
- 135 *Fashion Illustration*. Introduction to fashion illustration. Emphasis upon sketching and rendering. Prerequisites: Art 103, 106. Six hours a week. Credit, 3 hours.
- 141 *Interior Design*. Problems in interior design, renderings of floor plans, elevations and interior sketches. Prerequisites: Art 101, 106. Fee, \$2.00. Six hours a week. Credit, 3 hours.
- 151 *Ceramic*. A laboratory course in practical production methods, and an introduction to the nature of clay and glazes. Prerequisite: for Art Majors: Art 105. Fee, \$5.00. Four hours a week. Credit, 2 hours.
- 161 *Water Color*. Painting in gouache and transparent water color. Emphasis on techniques, composition and color. Prerequisites for art majors: Art 101, 106. Fee, \$1.00. Six hours laboratory. Credit, 3 hours.
- 171 *Sculpture*. Modeling in round and relief, casting and mold making. Building armatures. Plaster carving. Prerequisites for art majors: Art 103, 105. Four hours a week. Fee, \$4.00. Credit, 2 hours.
- 191 *Oil Painting*. Emphasis upon composition, color, and technical mastery of the oil medium. Prerequisites for art majors: Art 101, 106. Fee, \$1.00. Six hours a week. Credit, 3 hours.

201g *Advanced Drawing*. Emphasis on drawing techniques and composition. Prerequisite: Art 101. Four laboratory hours a week. Credit, 2 hours.

203 *Advanced Life Drawing*. Emphasizes form and anatomical structure of figure and head. Various mediums and techniques. Prerequisite: Art 103. Fee, \$2.00. Six hours a week. Credit, 3 hours.

204g *Advanced Life Drawing*. Continuation of Art 203 with anatomical research, one hour additional each week. Group criticism. Prerequisites: Art 103, 203. Fee, \$2.00. Six hours laboratory, 1 hour outside preparation. Credit, 3 hours.

205g *Space Design*. Creative design with emphasis on volume and space relationships. Construction in a variety of materials. Continuing use of hand tools and machine tools. Prerequisite: Art 105. Fee, \$5.00. Six laboratory hours a week. Credit, 3 hours.

206g *Crafts for the Elementary School Teacher*. Laboratory experiences in puppetry, woodcraft, tincraft, leather, and native crafts materials. Procedures for allied activities in the integrated program. Fee, \$2.00. One lecture, 3 hours. Credit, 2 hours.

207 *Art in the Elementary School*. Required of those specializing in elementary school art. Emphasis on instructional methods, materials and procedures in teaching art. Should precede student teaching. Two hours a week. Credit, 2 hours.

210 *Public School Art*. Emphasizes tools, materials and procedures of importance in directing children's art activities. Should precede student teaching. Fee, \$2.00. Four hours a week. Credit, 2 hours.

211 *Western Art to the Renaissance*. A survey of western art to the Renaissance. Fee, \$1.00. Three hours a week. Credit, 3 hours.

212 *Renaissance Art*. Continuation of Art 211. A survey of the art of the Renaissance in Italy and Northern Europe. Fee, \$1.00. Three hours a week. Credit, 3 hours.

213g *Contemporary Art*. A survey of philosophy and trends in twentieth century art. Prerequisite for art majors: Art 211. Fee, \$1.00. Two hours a week. Credit, 2 hours.

214g *American Art*. A comprehensive survey including research in the field of American Art. The collection of original examples of American Art owned by the College will be used as the basis for much of the study. Prerequisite: Art 211 or equivalent. Fee, \$1.00. Credit, 2 hours.

215g *Painting Mediums and Techniques*. A laboratory course dealing with the materials of painting. Preparation of grounds, compounding of egg tempera, casein, oil and synthetic resin mediums will precede actual painting problems in these techniques. Four laboratory hours a week. Credit, 2 hours.

217 *Advanced Crafts*. Correlation of function with medium and design. Problems in weaving, book-binding, and costume jewelry. Individual problems. Prerequisite: Art 117. Fee, \$3.00. Six hours a week. Credit, 3 hours.

218g *Advanced Crafts*. Students specialize in a particular craft medium or technique. Prerequisite: Art 217. Fee, \$3.00. Six hours a week. Credit, 3 hours.

219g *Stage Craft*. Study and practical work in scenery and costume design for classroom and art teachers. Also open to art education majors. Prerequisites: Art 207, Ed. 228a or Art 210, or equivalent. Fee, \$2.00. One lecture, 3 hours laboratory. Credit, 2 hours.

220g *Jewelry*. Methods in the use of tools, processes and materials in designing jewelry having originality and good craftsmanship. Prerequisites for art majors: Art 105, 106, 117. Fee, \$2.00. Four laboratory hours a week. Credit, 2 hours.

221 *Advanced Lettering*. Emphasis on arrangement and spacing. Prerequisite: Art 121. Fee, \$1.00. Four hours a week. Credit, 2 hours.

222 *Advanced Lettering*. Recommended only to those having a special interest in lettering. Prerequisite: Art 221. Fee, \$1.00. Four hours a week. Credit, 2 hours.

223 *Advanced Commercial Art*. The student specializes in areas in which he is most interested. Prerequisites: Art 121, 123. Fee, \$1.00. Six hours a week. Credit, 3 hours.

224g *Advanced Commercial Art*. Planning and preparation of samples of work for presentation to prospective employers. Prerequisite: Art 223. Fee, \$2.50. Six hours a week. Credit, 3 hours.

231 *Advanced Fashion Design*. Designing clothes with relation to price ranges and materials. Style forecasting. Prerequisite: Art 131. Fee, \$2.00. Six hours a week. Credit, 3 hours.

232 *Advanced Fashion Design*. Students may specialize in designing clothes for special types, for the junior miss or for children. Prerequisite: Art 231. Fee, \$2.00. Six hours a week. Credit, 3 hours.

235 *Advanced Fashion Illustration*. Illustrating clothes and accessory merchandise for newspaper, magazine and catalog advertising. Prerequisite: Art 135. Six hours a week. Credit, 3 hours.

241 *Advanced Interior Design*. Coordinated planning in decorating interiors. Emphasis upon modern ways of achieving space, renderings in color and perspective, and scale models. Prerequisite: Art 141 or its equivalent. Fee, \$2.00. Six hours a week. Credit, 3 hours.

249g *Art Education for Elementary Teachers*. Intergrating art activities in curriculum planning. A course for experienced teachers; creative laboratory activities, lectures, discussions, and visual aids. Teaching demonstrations with children. Prerequisite: for elementary teachers. Fee, \$3.00. One lecture, 4 hours laboratory. Credit, 3 hours.

251 *Advanced Ceramics*. Students specialize in more advanced production methods, glaze formula interpretation, some experimental work in clays and glazes. Prerequisite: Art 151. Fee, \$5.00. Six hours a week. Credit, 3 hours.

252g *Advanced Ceramics*. Studio problems adapted to meet individual needs. Curriculum problems, procedures and techniques for teachers.

Advanced research for the individual potter. Prerequisite: Art 251 or equivalent. Fee, \$5.00. Six hours a week. Credit, 3 hours.

253g *Techniques in Secondary Art Education*. Investigation of, and research and experimentation in, modern techniques and methods in the teaching of art on the secondary level. Fee, \$1.00. Combined lecture and laboratory, 4 hours. Credit, 2 hours.

261 *Advanced Water Color*. More advanced problems in picture construction. Prerequisite: Art 161. Fee, \$1.00. Six hours a week. Credit, 3 hours.

262g *Advanced Water Color*. Prerequisite: Art 261. Fee, \$1.00. Six hours laboratory a week. Credit, 3 hours.

271 *Advanced Sculpture*. Experimenting with various materials and working from model. Prerequisite: Art 171. Fee, \$5.00. Four hours a week. Credit, 2 hours.

272g *Advanced Sculpture*. For those with a serious interest in the art of sculpture. Prerequisite: Art 271. Fee, \$5.00. Four hours laboratory a week. Credit, 2 hours.

280g *Graphic Arts Processes*. Introduction to printing processes in wood cut, etching, and lithography. Emphasis on black and white composition as well as technical processes will be stressed. Prerequisites: Art 101, 103, 106. Six laboratory hours a week. Fee, \$3.00. Credit, 3 hours.

291 *Advanced Oil Painting* Advanced problems in oil painting. Prerequisite: Art 191. Six hours a week. Credit, 3 hours.

292g *Advanced Oil Painting*. For those with a serious interest in painting. Prerequisite: Art 291. Six hours laboratory and 1 hour research a week. Credit, 3 hours.

295 *Figure Painting*. Painting from model in oil, gouache, tempera or water color. Prerequisites: Art 203, 291. Fee, \$4.00. Four hours a week. Credit, 2 hours.

296g *Figure Painting*. Prerequisite: Art 295. Fee, \$4.00. Four hours a week. Credit, 2 hours.

310 *Seminar in Art Education*. Critical evaluation of current philosophy, theory and trends in modern art education. Group discussion of curricular problems. Prerequisite: Art 207 or Ed. 228a or teaching experience. Credit, 2 hours.

316 *Mural Painting*. Study of the aesthetic and social values in mural painting. Actual experience with the true fresco method on large wall surfaces. Experiences with casein and other media as used by mural painters today. Mural painting in relation to school and community projects. Fee, \$5.00. Eight laboratory hours. Credit, 4 hours.

395 *Figure Painting*. Painting from model in various media. Prerequisites: Art 295, 296g. Fee, \$4.00. Three and one-half laboratory hours a week. Credit, 2 hours.

Department of Biological Sciences

STAHNKE, (Head of Department), HANSON, MCCLEARY,
MAUGHAN, MORTENSEN, WALLACE

The Department of Biological Sciences offers courses to meet the needs of students interested in: (1) becoming professional biologists with research foundations, industry, or governmental agencies; (2) teacher training; (3) obtaining foundational courses for such fields as agriculture, forestry, home economics, veterinary medicine, medicine, and others; (4) biology for general culture.

Teacher-Education Curriculums

The Kindergarten-Primary and Elementary Curriculums

G.S. 110 is the only biological science course required in both these curricula except for those students who wish to do special work in the biological sciences. Instead of G.S. 110, these students should take Bot. 110, 242; Zool. 111-112, 210, and 231. As supporting courses it is advisable to take G.S. 100 or Chem. 110 and Physics 110.

The Secondary Curriculum

The program planned for the major teaching field in the biological sciences has been organized so as to best meet the needs of teaching biology in high school. Modern high school biology is a course built around the major biological principles. The subject matter used to illustrate these generalizations is information that will best fit into the needs of young people of the high school sophomore age. These youths are of an inquisitive frame of mind and in order to guide them in their many interests the teacher must be well informed.

Major Teaching Field in the Biological Sciences. In order to prepare the prospective teacher to meet these challenges of teaching high school biology, the following undergraduate courses are required: Bact. 110; Biol. 204, 280; Bot. 110, 242, or 244; Zool. 111-112, 210, 231, 254, 255; Bot. or Zool. 260.

Supporting courses required will be: G.S. 100, Chem. 110, and Phys. 110.

Graduate courses required: Bot. or Zool. 230g, Bot. 242g or 244g, Zool. 231g. Optional courses: Bot. or Zool. 230g, Bot. 243g, Zool. 232g, 233g, 234g, 255g, 270g.

Those electing the physical sciences as a minor can use either Chem. 110 and or Physics 110 as part of the 15 semester hour minimum requirement.

As soon as the student decides to major in the biological sciences he should inquire at the department office, Science Building, Room 132, for a curriculum check sheet and arrange for a guidance conference with his adviser. Failure to do this may result in a needless loss of time toward graduating.

Minor Teaching Field in the Biological Sciences. The minimum requirement is 19 semester hours which must include Bot. 110 and Zool. 111-112. Biol. 204 is strongly recommended. Optional courses should be selected only with the approval of the minor adviser.

Arts and Sciences Curriculums

The biological sciences area of concentration will provide fundamental training for positions as professional biologists in biological research, biological survey, conservation, entomology, forestry, national park service, pest control, many branches of Public Health Service, medicine, or entrance into a graduate school.

Degree. Students completing the Arts and Sciences Curriculum with an area of concentration in the biological sciences receive the degree of Bachelor of Arts or Bachelor of Science depending upon the selection of courses to meet the generalization requirements.

Generalization Requirements

Students seeking the Bachelor of Arts or Bachelor of Science degree must meet the generalization requirements listed under Arts and Sciences Curriculums found on page 85 of this catalog.

Area of Concentration

Biological Sciences. The student electing this area of concentration should choose one of the following fields of emphasis that will best fit the requirements of the vocation or profession he plans on entering. As soon as he has made his choice, he should report to the departmental office for a Curriculum Check Sheet and a guidance conference with his adviser. Failure to do this may result in delayed graduation.

Certain supporting courses must be taken in the physical sciences. For either of the first four fields of emphasis the student has the option of taking G.S. 100 or Phys. 110, Chem. 110 and 180, but only with the consent of his adviser. Students enrolling for the emphasis on Wildlife must take Math. 106 or 107; Geol. 151, and Geog. 100 and 105 are strongly recommended. Students enrolling for the emphasis in Entomology must take Math. 107 and 118; Phys. 110; Chem. 110 and 180. Two semesters of either French or German are strongly recommended. Enrollees for all the emphases are required to take Spch. 110 and are urged to elect Phil. 200.

(1) Emphasis on General Biology. Required hours, 52. Required courses: Bact. 110; Biol. 204, 280; Bot. 110, 230, 242, 244; Zool. 111, 112, 210, 230, 254; Bot. or Zool. 260. Optional courses: Biol. 190, 290;

Bot. 160, 171, 172, 220, 248; Zool. 163, 215, 216, 220, 222, 231, 232, 233, 234, 255, 270, 271, 276; Bot. or Zool. 260.

(2) Emphasis on Botany. Required hours, 52. Required courses: Bact. 110; Biol. 204, 280; Bot. 110, 160, 171, 172, 230, 242, 244, 260; Zool. 111-112. Optional courses: Ag. 105, 183, 184, 216, 235; Biol. 190, 290; Bot. 243; Zool. 210, 222, 230, 231, 232, 234, 260, 270.

(3) Emphasis on Wildlife. Required hours, 52. Required courses: Biol. 204, 280; Bot. 110, 230, 242; Zool. 111, 112, 210, 230, 232, 271, 276; either 231 or 233 or 270. Optional courses: Bact. 110; Biol. 190, 290; Bot. 243, 244; Zool. 163, 215, 216, 220, 222, 234, 254, 231 or 233 or 270.

(4) Emphasis on Zoology. Required hours, 52. Required courses: Biol. 204, 280; Bot. 110; Zool. 111, 112, 163, 210, 230, 231, 232, 254, 260, 270. Optional courses: Bact. 110; Biol. 190, 290; Bot. 160, 230, 242, 243, 244, 260; Zool. 215, 216, 220, 222, 233, 234, 255, 271, 276.

(5) Emphasis on Physiological Zoology. Required courses: Bact. 110; Biol. 204, 280; Bot. 110; Chem. 111, 112, 141, 211, 212; Math. 106 or 107, 118; Zool. 111, 112, 163, 210, 231, 232, 254, 255, 260; Phys. 111, 112. Optional courses: Bact. 210; Bot. 160, 172, 260; Chem. 142, 215, 280; Zool. 233, 234, 270.

(6) Emphasis on Entomology. Required hours, 52. Required courses: Biol. 204, 280; Bot. 110, 242; Zool. 111, 112, 210, 215, 216, 220, 222, 228, 230, 232; Optional courses: Bact. 110; Biol. 190, 290; Bot. 160, 230; Zool. 212, 231, 234, 276.

Professional and Preprofessional Courses

Other curriculums of interest to the student concentrating in the biological sciences are listed in the section of this catalog on pre-professional and professional curriculums. Student wishes do not always materialize. Consequently, it is well to so plan that more than one field of endeavor will be open to you after you have your degree. With a little planning and careful selection of a field of emphasis, a student can graduate as a biologist and also be prepared to enter a professional field. For example, the pre-medical student can elect the emphasis of physiological-zoology and be fully prepared at the same time for entrance into medical school.

General Science

G.S. 110. *Introduction to Biological Sciences*. A survey of the major biological principles. Illustrated by both plants and animals with moving pictures and other visual aids. Does not meet science requirements in preprofessional curriculum. Fee, \$2.00. Credit, 4 hours.

231. *Science for the Elementary School*. Development of an integrated science program in each grade of the elementary school. Lectures, library reports, class discussion, field observation and a three-day camping trip. Prerequisites: G.S. 100, 110; Geog. 100. Fee, \$1.00. Credit, 3 hours.

310 *Seminar in Science Education.* Review and survey of current publications. Consideration and solution of problems dealing with the field. Credit, 2 hours.

Bacteriology

Bact. 110 *Introduction to Bacteriology.* The fundamental principles of bacteriology, and hygienic, industrial, domestic, and agricultural applications. Prerequisites: Chem. 110 or 111; G.S. 110; or Bot. 110 and Zool. 111. Fee, \$5.00. Two recitations, 6 hours laboratory. Credit, 4 hours.

210g *General Bacteriology.* Comparative morphology, taxonomy, and physiology of bacteria. Prerequisites: Bact. 110 and Chem. 211, and consent of instructor. Fee, \$6.00. Three lectures, 6 hours laboratory. Credit, 5 hours.

Biology

Biol. 190 *Special Techniques in Biology.* Individual projects in the biological sciences. A type of honors course, open only to outstanding students. Approval of the instructor and head of the department required. Fee, \$1.00 per semester hour. Credit arranged.

204 *Genetics and Eugenics.* Principles and facts of heredity developed from plants and animals. Principles of race improvement. Prerequisites: G.S. 110 or Bot. 110, and Zool. 110 or equivalent. Credit, 3 hours.

280g *Principles of Biology.* A study of the major biological principles. Designed to bring together the principles drawn from the various fields of biology and to integrate these into a whole philosophy of biology. Prerequisites: Twenty five hours biological sciences, including: Biol. 204; Bot. 110; Zool. 111, 112. Fee, \$1.00. Credit, 3 hours.

Botany

Bot. 110 *General Botany.* Brief survey of lower plant life. More detailed study of flowering plants. Recommended prerequisite: high school biology, or G.S. 110. Fee, \$4.00. Three lectures, 3 hours laboratory. Credit, 4 hours.

160 *General Plant Pathology.* The causes of diseases in plants and methods for control. Prerequisite: Bot. 110. Fee, \$5.00. Two lectures, 6 hours laboratory. Credit, 4 hours.

171 *Plant Anatomy.* Morphology of plant cells, tissues, and tissue systems. Study of prepared slides and fresh materials. Prerequisite: Bot. 110. Fee, \$4.00. Two lectures, 6 hours laboratory. Credit, 4 hours.

172 *Plant Physiology.* Plant functions of absorption, food synthesis, nutrition, respiration, growth and reproduction. Prerequisites: Bot. 171; Chem. 180. Fee, \$4.00. Two lectures, 6 hours laboratory. Credit, 4 hours.

230g *Plant Ecology*. Plant associations in relation to the major environment factors. Prerequisite: Bot. 242g. Fee, \$4.00. Three lectures, 3 hours laboratory or field trip, one one week end field trip. Credit, 4 hours.

242g *Systematic Botany*. Principles underlying the classification and naming of plants, their identification, and methods of collecting, preserving, and mounting. Prerequisite: Bot. 110. Fee, \$4.00. Two lectures, 6 hours laboratory, and one week-end field trip. Credit, 4 hours.

243g *Cacti and Succulents of Arizona*. Identification of the principle desert cacti and succulents in the area. Prerequisites: Bot. 110 or equivalent. Fee, \$3.00. One lecture and 3 hours field work, or 6 hours field work. Credit, 2 hours.

244g *Morphology of Lower Plants*. Morphology and economic importance of thallophytes, bryophytes, and pteridophytes. Prerequisite: Bot. 110, Fee, \$4.00. Two lectures, 6 hours laboratory, including field trips. Credit, 4 hours.

260g *Plant Microtechnic*. Microscopic anatomy of plant tissues and methods of preparation and identification. Prerequisites: Bot. 110, 171. Fee, \$5.00. Two lectures, 6 hours laboratory. Credit, 4 hours.

Zoology

Zool. 110 *Animal Biology*. A study of those main zoological principles and representative members of the animal kingdom that are of special interest to the farm and home. Prerequisite: Bot. 110. Fee, \$4.00. Three lectures, 3 hours laboratory. Credit, 4 hours.

111 *General Zoology*. The form, activities, relationships and economic importance of the main groups of invertebrate and vertebrate animals together with the fundamental principles of zoology. Recommended prerequisite: high school biology, or G.S. 110. Fee, \$4.00. Three lectures, 3 hours laboratory. Credit, 4 hours.

112 *General Zoology*. Continuation of Zool. 111. Prerequisite: Zool. 111. Fee, \$4.00. Three lectures, 3 hours laboratory. Credit, 4 hours.

163 *Comparative Anatomy*. Structure, development, and homology of the vertebrate systems. Prerequisites: Zool. 111, 112. Fee, \$6.00. Two lectures, 6 hours laboratory. Credit, 4 hours.

171 *Human Anatomy-Physiology*. Skeletal, articulatory, muscular, integumentary, and nervous systems, and special senses. Prerequisites: high school biology and chemistry; or G.S. 100 and G.S. 110, or equivalent. Not open to biology majors, pre medical, or pre-dental students. Fee, \$2.00. Credit, 3 hours.

172 *Human Anatomy-Physiology*. Circulatory, respiratory, digestive, excretory, endocrine and reproductive systems. Prerequisites: high school biology and chemistry; or G.S. 100 and G.S. 110, or equivalent. Zool. 171 should be taken first, but not required. Not open to biology

majors, pre-medical, or pre-dental students. Fee, \$2.00. Credit, 3 hours.

210 *General Entomology*. Form, activities, and classification of insects. Prerequisite: Zool. 110 or 111. Fee, \$4.00. Three lectures, 4 hours laboratory. Credit, 4 hours.

212 *Apiculture*. A practical course. Students will work with bee hives and honey, performing most of the operations essential to good bee keeping and honey production. Prerequisite: Zool. 210. Fee, \$2.00. One lecture, 3 hours laboratory. Credit, 2 hours.

215 *Insect Morphology*. Gross morphology of typical insects, with special attention to structures emphasized in systematic and applied entomology. Prerequisites: Zool. 210. Fee, \$4.00. Two lectures, 6 hours laboratory. Credit, 4 hours.

216g *Insect Physiology*. A survey of the life processes of insects with emphasis on functions and investigation methods of importance in applied entomology. Prerequisite: Zool. 215 (chemistry desirable but not required). Fee, \$4.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

220g *Insect Taxonomy*. Classification, nomenclature and taxonomic practices in entomology. The identification of economic species is stressed. Prerequisite: Zool. 215. Fee, \$4.00. Two lectures, 6 hours laboratory. Credit, 4 hours.

222g *Applied Entomology*. Principles and methods of chemical, cultural and biological control of insect pests. Prerequisite: Zool. 220. Fee, \$4.00. Three lectures, 4 hours laboratory. Credit, 4 hours.

228g *Entomological Techniques*. A practical consideration of important techniques not adequately treated in other courses, particularly: scientific illustration, use of the literature, mounting and preserving and preparing insects for study, record keeping, elementary mathematical treatment of data, interpretation of graphs, charts and maps. Prerequisite: Zool. 215. Fee, \$2.00. One lecture, 3 hours laboratory. Credit, 2 hours.

230g *Animal Ecology*. Wild animals of North America their adaptations, communities, habitat, conservation, etc. Prerequisites: Bot. 110; Zool. 111, 112. Fee, \$4.00. Three lectures, 4 hours laboratory or field trips. Credit, 4 hours.

231g *Poisonous Animals of Arizona*. Form, activities, and identification of venomous animals of Arizona and others thought venomous. Prerequisite: Zool. 112. Fee, \$4.00. Four lecture-demonstrations. Credit, 3 hours.

232g *General Parasitology*. Pathogenic protozoa, worms, and arthropod parasites. Prerequisite: Zool. 112. Fee, \$5.00. Three lectures, 4 hours laboratory. Credit, 4 hours.

233g *General Herpetology*. Form, activities, and identification of lizards and snakes. Special emphasis on those of the Southwest and

the United States. Prerequisite: Zool. 112. Fee, \$4.00. Three lectures, 4 hours laboratory. Credit, 4 hours.

234g *Biology of Arthropods*. Identification, life history and ecology of crustacea, myriopods, spiders and related forms not adequately treated in other courses. Prerequisite: Zool. 111. Fee, \$2.00. One lecture, 4 hours laboratory. Credit, 2 hours.

254g *Vertebrate Embryology*. Animal development from the egg to the period of extra-uterine or extra-ovular existence. Prerequisite: Zool. 112. Fee, \$6.00. Three lectures, 4 hours laboratory. Credit, 4 hours.

255g *Human Mechanisms*. Stressing the functions of the human body: muscle activity; metabolic processes and systems involved, co-ordination mechanisms; the life cycle. Prerequisites: Chem. 110, Zool. 112, or equivalent. Fee, \$4.00. Three lectures, 3 hours laboratory. Credit, 4 hours.

260g *Animal Histology*. Microscopic anatomy of vertebrate tissues with techniques of preparation and identification. Prerequisite: Zool. 112. Fee, \$5.00. Two lectures, 6 hours laboratory a week. Credit, 4 hours.

270g *Ornithology*. Structure, activities, classification, field identification, and economic relation of birds. Prerequisite: Zool. 112. Fee, \$4.00. Two lectures, 3 hours laboratory. Credit, 3 hours.

271 *Game Animals*. Structure, activities, life histories, identification of game fish, birds, and mammals of North America. Prerequisite: Zool. 112. Three lectures. Credit, 3 hours.

276 *Wildlife Management*. Factors and principles involved in wildlife management. Prerequisites: Bot. 110; Zool. 111, 112. Fee, \$4.00. Three lectures. 3 hour field trip a week. Credit, 3 hours.

Department of Business Administration

HILKERT (Head of the Department), BEALS, BRATCHER, BURTON,
GROSS, GUTENBERG, KELSO, LORENS, MCKINNON, MOUNT,
NELSON, ZACHER, ZIDNAR.

The department offers courses to meet the needs of four groups of students: (1) Those preparing for some phase of business as a career and who wish to obtain the degree of Bachelor of Science with an area of concentration in Accounting, Economics and Management, Marketing and Advertising, or Office Training and Management. (2) Those not planning to graduate but who desire one or more years of college work in preparation for business pursuits. (3) Those preparing to teach business subjects in public secondary schools. (4) Those pursuing any of the other curriculums of the college, but desiring certain electives in business administration. In addition to the academic divisions, the Department of Business Administration maintains a Bureau of Business Services for the purpose of providing factual data from the surrounding community for class discussion, and further providing students majoring in Business Administration with practical experience in the study and analysis of various fields of business.

Arts and Sciences Curriculums

Degree. The completion of a four-year curriculum, including the generalization requirements and an area of concentration in business administration as outlined below, leads to the degree of Bachelor of Science.

Generalization Requirements

Each student seeking the Bachelor of Science degree with an area of concentration in business administration, must complete the generalization requirements outlined on page 85 of the catalog, and in addition one of the four areas of concentration as outlined below.

Areas of Concentration

An area of concentration consists of: (1) departmental required courses; (2) required courses within the selected field of emphasis; (3) optional courses within the selected field of emphasis.

Departmental Required Courses. In addition to the generalization requirements as defined on page 85 of this catalog, each student taking an area of concentration in Business Administration must complete the following 38 hours of basic business courses: Bus. Ad. 101, 102, 130, 132, 141, 173, 205, 206, 224, 233, 296, 297 and Hist. 109.

No exceptions to these requirements will be made without written approval of the Business Administration Department Standards Committee. The following 9 hours of departmental required courses may also be applied toward the 12 hours of Social Science generalization requirements: Bus. Ad. 130, 132, and Hist. 109.

A student may be exempted from Bus. Ad. 141, Business Mathematics, under the following conditions: If he feels that his proficiency in business mathematics is sufficiently high to justify exemption, he may request a proficiency test. If he makes a satisfactory grade in this test, he will be exempt. If he does not, he will be required to register for the course concurrently with Bus. Ad. 101 or 102.

Required Courses Within the Selected Field of Emphasis. In addition to the basic business courses above, each student must select one of the fields of emphasis within the area of concentration in which he wishes to specialize. And he must complete the courses listed as required in that field.

Optional Courses Within the Selected Field of Emphasis. In each field of emphasis, the student must complete the required number of optional courses. These should be selected from the group of related courses listed for that particular field. If a student wants to take any courses other than those listed, he must first obtain the written approval of his adviser.

Accounting. Students selecting Accounting as an area of concentration will complete one of the following fields of emphasis.

(1) *Emphasis on Managerial Accounting.* This program is designed for those students who wish to prepare themselves to use accounting as an effective tool in the management of their own business or that of their employer. The subject matter and instruction are both carefully planned to give the student a thorough training in managerial accounting. The following 27 hours are required: Bus. Ad. 103, 201, 202, 208, 210, 215, 228, 229, 266, 268; and 12 hours are to be selected from the following optional courses: Bus. Ad. 133, 211, 212, 213, 217, 219, 220, 221, 222, 226, 257, 262, 277; Speech 110, 120, 127; P.S. 101 and Math. 106 or equivalent Math. course.

(2) *Emphasis on Public Accounting.* The subject matter and instruction are designed to prepare outstanding accounting students for the certified public accountants' examination given by the American Institute of Accountants in May and November of each year. Also, the courses outlined are chosen to provide a broad academic training which is believed essential to the needs of the public accounting profession. The following 40 hours are required: Bus. Ad. 201, 202, 203, 204, 207, 208, 209, 210, 211, 212, 213, 230, 231, 268; and 12 hours are to be selected from the following: Bus. Ad. 220, 221, 222, 228, 229, 257, 260, 261, 266; Math. 106 and /or Math 107.

Students who have chosen the field of emphasis in Public Accounting are not to register for any elective course without written

approval of an accounting adviser. The generalization requirements as defined on page 85 of this catalog, together with the required courses of the Business Administration Department in this field of emphasis, aggregate 120 hours for women student, plus 6 hours in Military Science for men, (total 126 hours). Since the requirements for the bachelor's degree are 126 hours, a male student, by taking elective courses, may have to complete more than 126 hours to meet all the requirements for the B.S. Degree in this field of emphasis. Women students will be guided by their adviser in the selection of 6 hours in lieu of the Military Science courses for men. Both men and women students are cautioned further to include Bus. Ad. 130, 132; Hist. 109, and Math. 106 in their selection of courses for the generalization requirements of the College.

Economics and Management. Students selecting Economics and Management as an area of concentration will complete one of the following fields of emphasis.

(1) Emphasis on Applied Business Management: The following 24 semester hours are required: Bus. Ad. 133, 215, 216, 219, 225, 263, 265, 268; and 12 semester hours are to be selected from the following: Bus. Ad. 171, 175, 201, 202, 203, 217, 220, 241, 243, 266, 277, 279, 284, 289.

(2) Emphasis on Economics: The following 24 semester hours are required: Bus. Ad. 133, 134, 217, 219, 226, 257, 268, 289; and 12 hours are to be selected from the following: Bus. Ad. 220, 258, 259, 262, 263, 264, 266, 267; Geog. 101; Geol. 215; P.S. 203, 204; Soc. 225.

(3) Emphasis on Finance. The following 24 semester hours are required: Bus. Ad. 133, 134, 215, 217, 220, 257, 266, 268, and 12 hours are to be selected from the following: Bus. Ad. 151, 174, 201, 202, 219, 221, 226, 258, 259, 264, 277, 289; Geog. 101.

(4) Emphasis on Insurance: The following 27 semester hours are required: Bus. Ad. 151, 171, 217, 220, 221, 222, 223, 244, 245, 266, 268; and 9 hours are to be selected from the following: Bus. Ad. 133, 134, 175, 201, 202, 210, 212, 215, 219, 226, 257, 258, 259, 265, 280, 289.

(5) Emphasis on Personnel. The following 23 semester hours are required: Bus. Ad. 134, 215, 219, 221, 265, 266, 268; Psych. 214; and 13 hours are to be selected from the following: Bus. Ad. 103, 175, 201, 202, 217, 222, 257, 262, 264, 277, 278; Psych. 215, 225.

(6) Emphasis on Real Estate: The following 23 semester hours are required: Bus. Ad. 133, 151, 152, 171, 225, 251, 252, 268; and 13 semester hours are to be selected from the following: Bus. Ad. 175, 215, 217, 220, 221, 222, 253, 266; Speech 110; Soc. 215; I.A. 284; Arch. 100; P.S. 102, 103; Ag. 246.

Marketing and Advertising. Students who select Marketing and Advertising as an area of concentration will, in consultation with the adviser, complete one of the following fields of emphasis.

(1) Emphasis on Advertising. The following 25 semester hours are required: Art 121; Bus. Ad. 171, 174, 175, 277, 283, 286, 287, 288;

and 11 hours are to be selected from the following: Art 123, 135, 223; Bus. Ad. 280, 281, 294; Eng. 128; Journ. 130, 140; Speech 170, 215; Psych. 214, 225.

(2) **Emphasis on Marketing Management.** The following 24 semester hours are required: Bus. Ad. 174, 175, 277, 279, 281, 283, 286, 293, 294; and 12 hours are to be selected from the following: Bus. Ad. 133, 171, 201, 202, 215, 216, 225, 226, 256, 278, 284, 289; Geog. 101; Psych. 214, 225.

(3) **Emphasis on Purchasing.** The following 26 semester hours are required: Bus. Ad. 174, 228, 250, 279, 283, 284, 293; Psych. 214; Spch. 215; and 10 hours are to be selected from the following: Bus. Ad. 171, 215, 217, 226, 256, 263, 265, 277.

(4) **Emphasis on Retailing.** The following 24 semester hours are required: Bus. Ad. 171, 174, 175, 277, 278, 279, 283, 288; H.Ec. 219; and 12 hours are to be selected from the following: Bus. Ad. 201, 202, 217, 221, 265, 287, 293; Art 131, 135, 231; H.Ec. 215.

(5) **Emphasis on Selling.** The following 26 semester hours are required: Bus. Ad. 171, 174, 175, 277, 279, 280, 281, 283; Speech 215; Psych. 214; and 10 hours are to be selected from the following: Bus. Ad. 151, 221, 222, 282, 287, 288, 293, 294; Psych. 225.

Office Training and Management. Students must complete the following 25 semester hours of required courses: Bus. Ad. 103, 120, 121, 171, 215, 235, 236, 238, 241, 243, and 12 hours to be selected from the following: Bus. Ad. 201, 202, 217, 221, 262, 265, 277; H. Ec. 202; Eng. 128; Speech 110.

One-Year and Two Year Programs in Accounting and Office Training and Management

For those students who do not wish to attend college for four years to earn the B.S. degree but who desire to secure specialized training on a college level in the fields of Accounting and Office Training and Management, there are available one-year and two year programs in these fields. Full details are available at the office of the dean of the college, the registrar, or the head of the department.

Teacher-Education Curricula

The Secondary Curriculum

Major Teaching Field in Business Education. The major teaching field for business subjects in high school consists of the following 50 semester hours taken in the first four years: Bus. Ad. 101, 102, 103, 120, 132, 141, 171, 173, 201, 202, 205, 206, 233, 235, 236, 241; Ed. 228b.

Minor Teaching Field in Business Education. The minor teaching field consists of the following 16 semester hours: Bus. Ad. 101, 102, 114, 120, 141.

Description of Courses

Accounting

Bus. Ad. 101 *Elementary Accounting*. A beginner's course. Covers the bookkeeping cycle and preparation of business reports. Lectures and laboratory 5 days a week. Credit, 4 hours.

102 *Elementary Accounting*. A continuation of Bus. Ad. 101. Prerequisite: Bus. Ad. 101. Credit, 4 hours.

103 *Payroll and Miscellaneous Taxes with Accounting Procedures*. Social security and unemployment laws with respect to taxes, benefits payable, merit ratings, payroll records, sales tax and payroll reports. Prerequisite: Bus. Ad. 102. Credit, 2 hours.

141 *Business Mathematics*. Gives practice in arithmetic used by the business man. Credit, 3 hours.

201 *Intermediate Accounting*. Study of corporations and corporation accounting, assets, liabilities, funds and reserves, comparative statements, working capital, ratios, etc. Prerequisite: Bus. Ad. 102. Credit, 3 hours.

202 *Intermediate Accounting*. A continuation of 201. Prerequisite: Bus. Ad. 201. Credit, 3 hours.

203g *Advanced Accounting*. Partnership organization, dissolution and liquidation. Parent and subsidiary companies, consolidated balance sheets and profit and loss statements, estates and trusts. Prerequisite: Bus. Ad. 202. Credit, 3 hours.

204g *Advanced Accounting*. A continuation of 203g. Prerequisite: Bus. Ad. 203g. Credit, 3 hours.

207g *Auditing Theory and Practice*. Auditing practices and procedures, working sheets, audit reports. See 230g for continuation. Prerequisite: Bus. Ad. 202. Credit, 3 hours.

208g *Cost Accounting*. Cost accounting systems, job order, process costs, standard costs, estimate costs, cost accounting procedure. See 231g for continuation. Prerequisite: Bus. Ad. 201. Credit, 3 hours.

209g *Governmental and Institutional Accounting*. Accounting principles applied to governmental units—city, county, and state—and to public institutions. Prerequisite: Bus. Ad. 201. Credit, 3 hours.

210g *Income Tax—Federal and State*. Laws, regulations, tax returns and procedures especially for individuals. Prerequisite: Bus. Ad. 201. Credit, 3 hours.

211g *Income Tax—Federal and State*. Partnerships, corporations and fiduciaries, income taxes, reorganizations, holding companies, estate and gift taxes. Tax refunds, tax procedures, etc. Prerequisite: Bus. Ad. 210. Credit, 3 hours.

212 *Mathematics of Accounting*. Application of pure mathematics to business situations including simple interest, discount, retail mer-

chandising, and introduction of methods of computation of income tax and consolidated balance sheet equations. Prerequisites: Math. 106; Bus. Ad. 102. Credit, 2 hours.

213 *Mathematics of Accounting*. Continuance of methods for computation of income tax and consolidated balance sheet equations, and a study of compound interest, annuities, bond valuation and amortization, and building and loan problems. Prerequisites: Math 106; Bus. Ad. 212. Credit, 2 hours.

228g *Budgetary Control*. The relationship of budget practice to accounting and good management; the preparation of the budget; sources from which estimates are drawn; comparison of estimates with performance; budget revisions; the accounting problems involved. Prerequisites: Bus. Ad. 202, 208. Credit, 2 hours.

229g *Controllership*. An analysis of the functions of the controller and the organization of his department; consideration is given to the responsibilities of the controller as a part of the administrative group and to the scope of the problems with which he deals. Prerequisites: Bus. Ad. 202, 208. Credit, 2 hours.

230g *Auditing Theory and Practice*. Continuation of course Bus. Ad. 207g; emphasis will be placed on practical application of theoretical principles. Prerequisite: Bus. Ad. 207g. Credit, 3 hours.

231g *Advanced Cost Accounting*. Continuation of Bus. Ad. 208g. A further study of job order cost accounting with a major portion of the time being devoted to process, estimated, and standard costs, with some attention being given to distribution costs. Prerequisite: Bus. Ad. 208g. Credit, 3 hours.

232 *Farm Accounting and Related Tax Problems*. Accounting methods and procedures applicable to farm and ranch operations, including income tax and employment tax problems. Fee, \$50. Credit, 3 hours.

260g *C.P.A. Problems and Review*. Intensive training for C.P.A. Examinations in Accounting Practice, Theory of Accounts, Auditing, and Commercial Law. Various types of problems and questions given by the C.P.A. Examiners are studied. Prerequisite: senior or graduate standing in accounting area of concentration, or equivalent. Fee. \$5.00. Credit, 3 hours.

261g *C.P.A. Problems and Review*. A continuation of 260g. Prerequisite: senior or graduate standing in accounting area of concentration, or equivalent. Fee, \$5.00. Credit, 3 hours.

291 *Seminar in Accounting*. Students select a special field of accounting and do individual study and research. Open only to students whose area of concentration is in accounting. Prerequisite: approval of instructor. Hours arranged. Credit, 1 to 3 hours.

292 *Seminar in Accounting*. A continuation of 291. Prerequisite: Bus. Ad. 291. Credit, 1 to 3 hours.

Note: A laboratory fee of 50 cents is charged for each accounting course, but the maximum laboratory fee in any semester, regardless of

the number of accounting courses taken, is one dollar, except for Bus. Ad. 260g and 261g.

Economics and Management

Bus. Ad. 130 *Introduction to Economics*. Descriptive analysis of the structure and operation of the American economy. Consideration of basic economic institutions, processes, and contemporary economic problems. Open to non majors and required of all majors in Business Administration. Credit, 3 hours.

132 *Principles of Economics*. Determination of production, prices and distribution of income in the American economy. Examination of basic economic principles and their application to contemporary problems. Optional for non-majors; Business Administration majors must complete both Bus. Ad. 130 and 132. Prerequisite: Bus. Ad. 130. Credit, 3 hours.

133 *Economics of Enterprise*. Price and output decisions of the individual business firm under conditions of competition, monopoly, monopolistic competition, and oligopoly. Prerequisite: Bus. Ad. 132. Credit, 3 hours.

134 *Economics of Income and Employment*. Analysis of determinants of aggregate level of employment, output and income of an economy. Prerequisite: Bus. Ad. 130 or 132. Credit, 3 hours.

205 *Business Law*. Contracts, sales, agency, partnerships, corporations, negotiable instruments, personal property, real property, and federal and state regulation of business. Credit, 3 hours.

206 *Business Law*. A continuation of 205. Prerequisite: Bus. Ad. 205. Credit, 3 hours.

215 *Business Organization and Management*. Forms of business organization and types of management. Prerequisites: Bus. Ad. 102, 132. Credit, 3 hours.

216 *Managerial Economics*. Bridges the gulf between economic theory and business decisions. Approaches managerial problems from an economic standpoint. Involves an application of economic analysis to practical business decisions in those areas of business policy where economic insight and research are most needed. Prerequisite: Bus. Ad. 133. Credit, 3 hours.

217 *Money and Banking*. Functions of money, monetary systems, credit functions, banking practices and policies. Prerequisites: Bus. Ad. 102 and 133 or 134. Credit, 3 hours.

219 *Labor Relations*. Appraisal of problems confronting labor and capital as well as legislation and administrative regulations affecting employers and employees. Prerequisite: Bus. Ad. 130 or 132. Credit, 3 hours.

220g *Investments*. Analysis and evaluation of various types of securities. Business cycles, currency problems, and governmental control. Prerequisite: Bus. Ad. 132. Credit, 3 hours.

224 *Business Statistics*. Sources, classification and tabulation of data, index numbers, graphs, statistical inference, time series analysis, correlation, and their applications to business. Prerequisite: Bus. Ad. 132. Fee, \$1.00. Credit, 4 hours.

225 *Short Term Financing*. Procurement of funds for small and medium size business. Investigation of day to day financial problems. Prerequisite: Bus. Ad. 102, 132. Credit, 3 hours.

226g *Business Cycles*. Historical, statistical and analytical study of business cycle theory. Comparison of theories of leading economists. Methods of control of cyclical fluctuations. Prerequisite: Bus. Ad. 133 or 134, and 224 or concurrent registration. Credit, 3 hours.

250g *Industrial Management*. Study of the principal functions, departmental activities, and industrial policies of industries. Includes materials handling, statistical quality control, and production controls. Prerequisites: Bus. Ad. 215 or 174, and 224. Credit, 3 hours.

257 *Public Finance*. Principles and practices of taxation, public expenditures, credit, budgetary policy. Prerequisite: Bus. Ad. 134. Credit, 3 hours.

258 *Economics of Public Utilities*. Economic, legislative and administrative problems in the regulation of public utility rates and service standards. Study of public utility costs, pricing policies, rates, plant utilization, and competition. Prerequisite: Bus. Ad. 132. Credit, 3 hours.

259g *Economics of Transportation*. Theory and practice of railroad transportation. Principles of rate-making, valuation, and Interstate Commerce Commission procedure. Regulation of railroad, motor truck, and air transportation. Prerequisite: Bus. Ad. 132. Credit, 3 hours.

262 *Comparative Economic Systems*. Economic aspects of communism, fascism, nazism, capitalism, socialism. Prerequisite: Bus. Ad. 132. Credit, 2 hours.

263g *Business Policies*. Analysis of problems covering management in its daily operations. Investigation of sound business principles and practices. Prerequisite: approval of instructor. Credit, 3 hours.

264g *Economic Policy in War and Peace*. Application of economic analysis to problems of military preparedness, war, and peace. Evaluation of government policies in the fields of money and credit, expenditures and taxes, wages and prices, international relations and other relevant topics. Prerequisite: Bus. Ad. 134, or approval of instructor. Credit, 3 hours.

265 *Personnel Administration*. Personnel selection, placement, training, promotion, wage incentives, absenteeism, counseling, etc. Prerequisite: Bus. Ad. 130 or 132. Credit, 3 hours.

266g *Corporation Finance*. Promotion, corporate organization, financing, selling securities, dividend policies. Prerequisites: Bus. Ad. 102, 132. Credit, 3 hours.

267g *History of Economic Thought*. Development of economic doctrines. Ancient and medieval writings, mercantilists, classical and neo-classical foundations. Prerequisite: Bus. Ad. 133. Credit, 3 hours.

268g *Business Research*. Techniques and procedures of general business research, statistical investigation, interpretation and presentation of results, with practical application applied to actual problems of the business community. Prerequisites: Bus. Ad. 173, 224. Fee, \$1.00. Credit, 3 hours.

289g *International Trade and Finance*. Principles and practices of international trade and finance; national income and balance of payments; government controls; commercial and monetary policies; investment; international organizations. Prerequisites: Bus. Ad. 132 and 173. Credit, 3 hours.

296 *Seminar in Business*. A course designed to acquaint the student with current business problems and practices in the several fields, through a series of talks and panels presented by outstanding business men. Required of all seniors in Business Administration. Prerequisite: senior standing. Credit, 1 hour.

297 *Seminar in Business*. A continuation of course Bus. Ad. 296. Prerequisite: Bus. Ad. 296. Credit, 1 hour.

298g *Investigation of Business Problems*. Individual study of selected business problems such as resources, labor supply, production organization, finance, and marketing. Prerequisite: Approval of department head. Hours, arranged. Credit, 1 to 3 hours.

299g *Investigation of Business Problems*. Continuation of Bus. Ad. 298g. Prerequisite: Bus. Ad. 298g. Credit, 1 to 3 hours.

INSURANCE

Bus. Ad. 221 *General Insurance*. Coverage available, buying methods, procedures in settling claims, insurance companies, and vocational opportunities. Prerequisite: Bus. Ad. 132. Credit, 2 hours.

222 *Life Insurance*. A thorough study of life insurance principles. Prerequisite: Bus. Ad. 221. Credit, 2 hours.

223 *Life Insurance*. A continuation of the study of life insurance principles. Prerequisite: Bus. Ad. 222. Credit, 2 hours.

244 *Fire Insurance*. A complete and thorough study of all fire contracts and related contracts together with an examination of current practices. Prerequisite: Bus. Ad. 221. Credit, 2 hours.

245 *Marine and Casualty Insurance*. A complete and thorough study of Marine and Casualty contracts and underwriting practices. Prerequisite: Bus. Ad. 221. Credit, 2 hours.

246 *Fire and Liability Insurance, C.P.C.U.* A study of insurance principles and practices as required by The American Institute for Property and Liability Underwriters for employed men in the field. Credit, 4 hours.

247 *Fire and Liability Insurance, C.P.C.U.* A study of rate making, rating bureaus, claims, claims service, and related topics. Credit, 4 hours.

248 *Fire and Liability Insurance, C.P.C.U.* A study of economics, government, social legislation and English as required by The American Institute for Property and Liability Underwriters for employed men in the field. Credit, 4 hours.

249 *Fire and Liability Insurance, C.P.C.U.* A study of general commercial law, insurance law, accounting, personal finance, business organization and agency management as required by The American Institute for Property and Liability Underwriters for employed men in the field. Credit, 4 hours.

273 *Life Insurance, C.L.U.* A study of life insurance principles as required by The American College of Life Underwriters for employed life insurance salesmen. Credit, 4 hours.

274 *Life Insurance, C.L.U.* A study of economics, sociology, and political science as required by The American College of Life Underwriters for employed life insurance salesmen. Credit, 4 hours.

275 *Life Insurance, C.L.U.* A study of corporation finance, banking, and investments as required by The American College of Life Underwriters for employed life insurance salesmen. Credit, 4 hours.

276 *Life Insurance, C.L.U.* A study of law, trusts, and taxes as required by The American College of Life Underwriters for employed life insurance salesmen. Credit, 4 hours.

Marketing and Advertising

Bus. Ad. 171. *Introduction to Selling.* Training in the development of a good sales personality, and the fundamentals of selling. Prerequisite: Bus. Ad. 132 or concurrent registration. Fee, \$1.00. Credit, 2 hours.

173 *Principles of Marketing.* Survey of principles and trends. Prerequisite: Bus. Ad. 132 or concurrent registration. Credit, 3 hours.

174 *Marketing Practices.* Practices and problems confronting the marketing executive and the development of techniques found useful in their solution. Prerequisite: Bus. Ad. 173. Credit, 3 hours.

175 *Introduction to Advertising.* Introductory study of advertising theory and practice in relation to marketing and business management. Prerequisite: Bus. Ad. 173 or Journ. 130. Two lectures, 2 hours laboratory. Credit, 3 hours.

256g *Commodity Markets.* The sources and conditions of supply; the nature and extent of demand; the channels of distribution used; functions performed by the various marketing agencies, including risk bearing; price-setting, and sales promotion. Prerequisite: Bus. Ad. 173. Credit, 3 hours.

277 *Principles of Retailing.* The scope of retailing, merchandise planning and control, purchases and inventory, markup, store system

and store service. Prerequisites: Bus. Ad. 102, 173. Two lectures, 3 hours laboratory. Credit, 3 hours.

278g *Retail Store Management*. Problems of store management including location, layout, customer services, personnel, and operational factors as they affect successful retailing. Prerequisite: Bus. Ad. 277. Credit, 3 hours.

279 *Wholesaling*. Its organization and function in the marketing channel, services, price policies, regulation and recent trends. Prerequisite: Bus. Ad. 174. Credit, 2 hours.

280 *Advanced Selling*. The salesman's place in the marketing process including: the selling job, information about the firm, the product, the customer, and building good will. Includes practice in meeting sales situations. Prerequisites: Bus. Ad. 171, 174 and senior standing. Fee, \$1.00. Credit, 2 hours.

281g *Sales Administration*. Administration of a sales organization; sales planning, sales quotas, selection, training, and compensation. Prerequisite: Bus. Ad. 283. Credit, 2 hours.

282 *Projects in Selling*. Supervised laboratory work in selling. Open to qualified students who are given actual selling assignments with business firms in the area. Prerequisites: Bus. Ad. 171, 174, 280. Six hours laboratory a week. Credit, 2 hours.

283g *Marketing Analysis*. Analysis of marketing data as a basis for determining consumer demand, product development, sales potentials and quotas; and, the interpretation of data, preparation of reports, application of findings and methods of follow up. Prerequisites: Bus. Ad. 174, 224. Fee, \$1.00. Credit, 3 hours.

284g *Introduction to Purchasing*. Practices and problems confronting the purchasing agent, including sources of supply, market information, material specification and inspection, control records, inventories, stores, and the purchase budget. Prerequisite: Bus. Ad. 174 or 215. Credit, 3 hours.

286g *Advertising Problems*. A study of advertising planning, media selection, and the creation of advertising matter, including preparation of complete advertising campaigns and the solving of typical advertising problems. Prerequisites: Bus. Ad. 174, 175. Credit, 3 hours.

287 *Radio and Television Advertising*. Techniques and problems of radio and television as advertising media including program selection and planning, preparation of continuity, and coordination with other forms of advertising. Prerequisite: Bus. Ad. 175. Fee, \$1.00. Credit, 3 hours.

288 *Newspaper Advertising*. A study of the special techniques and problems encountered in the use of newspapers as advertising media, together with practice in the preparation of advertising material. Prerequisite: Bus. Ad. 175. Two lectures plus laboratory work on the *State Press*. Credit, 3 hours.

293g *Price Policies*. Price making on organized exchanges; pricing and price systems. Prerequisites: Bus. Ad. 277, 279. Credit, 2 hours.

294g *Marketing Management*. An advanced study of the application of practices, techniques, and skills to the management of marketing problems. Prerequisites: Bus. Ad. 281g, 283g, 293g. Credit, 3 hours.

295 *Projects in Advertising*. Supervised laboratory work open to qualified students who are given actual advertising assignments with business enterprises in the area. Prerequisite: Bus. Ad. 287 or 288. Six hours laboratory a week. Credit, 2 hours.

Real Estate

Bus. Ad. 151 *Introduction to Real Estate*. A study of real estate practices, appraisals, financing, and other pertinent subject matter. Prerequisites: Bus. Ad. 102, 132. Credit, 3 hours.

152 *Real Estate Management*. Management of commercial, residential, and farm property; rentals and leases; operation of the Real Estate Office. Prerequisites: Bus. Ad. 102, 151, and 171. Credit, 3 hours.

251 *Advanced Real Estate*. Appraisals, mortgages, and financing of Real Estate; insurance on real property; taxation and meeting of problems of the day to day operations of the Real Estate Office. Prerequisites: Bus. Ad. 151, 152. Credit, 3 hours.

252 *Real Estate Law*. Legal practices as they apply to the Real Estate field in general and to the field of titles, mortgages, lending, and trust work in particular. Prerequisites: B.A. 152, 206. Credit, 3 hours.

253g *Real Estate Land Development*. Neighborhood and city growth; municipal planning and zoning; development of subdivisions; agricultural land utilization. Prerequisites: Bus. Ad. 132, 252. Credit, 3 hours.

Office Training and Management and Business Teacher Training

Bus. Ad. 110 *Techniques in Typewriting*. Fundamentals of touch typewriting. Emphasis upon technique and development of vocational and personal use skill. Not open to students with two semesters of high school typewriting. Fee, \$2.00. Daily. Credit, 2 hours.

113 *Elementary Shorthand Gregg*. The study and application of the principles of Gregg shorthand. Daily. Credit, 3 hours.

114 *Intermediate Shorthand Gregg*. A continuation of Bus. Ad. 113 with increasing emphasis on dictation and transcription. Prerequisite: Bus. Ad. 113. Fee, \$1.00. Daily. Credit, 3 hours.

120 *Projects in Typewriting*. Advanced instruction in applied typewriting with emphasis upon skill requirements needed in a modern office. Prerequisite: Bus. Ad. 110 or 2 semesters of high school typing. Fee, \$2.00. Daily. Credit, 2 hours.

- 121 *Projects in Typewriting.* A continuation of 120. Prerequisite: Bus. Ad. 120. Fee, \$2.00. Daily. Credit, 2 hours.
- 233 *Business Communication.* Techniques and principles underlying effective business messages, the mechanics and format of business correspondence, the role of the letter writer in the business office, and training in the organization and writing of business reports. Prerequisites: Eng. 102; B.A. 110. Credit, 3 hours.
- 235 *Advanced Shorthand and Transcription.* Review of the principles of shorthand and continuing with graded dictation and transcription. Prerequisites: Bus. Ad. 114, 120. Fee, \$1.00. Daily. Credit, 3 hours.
- 236 *Transcription.* Integration of skills acquired in shorthand, type writing, and related secretarial courses developed to a level of job proficiency. Prerequisite: Bus. Ad. 235. Fee, \$1.00. Daily. Credit, 3 hours.
- 238 *Secretarial Office Practice and Problems.* Training in the operation of selected office equipment specifically designed for use by secretaries, and a study of the attitudes, personal characteristics, and procedure required of worker in the modern office. Prerequisites: Bus. Ad. 120, 235. Two lectures, 3 hours laboratory. Fee, \$5.00. Credit, 3 hours.
- 241 *Office Machines.* Operation of selected office machines and their adaptation to office needs and procedures. Prerequisites: Bus. Ad. 101, 141. Fee, \$5.00. Daily. Credit, 2 hours.
- 243g *Office Organization and Management.* Analysis of function and costs of operating office departments. Prerequisite: Bus. Ad. 241. Credit, 3 hours.
- 301 *Improving Instruction in Typewriting.* An intensive consideration of principles and modern methods in teaching typewriting and of office practices as they relate to typewriting. Registration subject to approval of instructor. Credit, 2 hours.
- 302 *Improving Instruction in Shorthand and Secretarial Procedure.* Various methods of presenting Gregg shorthand with consideration given to the importance of secretarial procedure. Prerequisite: Bus. Ad. 236 or equivalent. Registration subject to approval of instructor. Credit, 2 hours.
- 303 *Improving Instruction in Bookkeeping and Accounting.* The latest methods of teaching bookkeeping and accounting and recent surveys in the field of education and business practice. Registration subject to approval of instructor. Credit, 2 hours.
- 304 *Foundations of Business Education.* The history, philosophy, principles and objectives of business education; problems of curriculum and curriculum evaluation; contribution of business education to general education. Registration subject to approval of instructor. Credit, 2 hours.
- 310 *Seminar in Business Education.* Problems in organization, administration, and instruction in the field of business education. Registration subject to approval of instructor. Credit, 1 to 3 hours.

Department of Education

MCGRATH (Head of the Department), M. ANDERSON, AUSTIN, BELL,
BENEDICT, BURKHARD, BYERS, CRAWFORD, FRENCH, GOROW,
HEIMANN, JONES, KUYKENDALL, MANNING, MENKE,
PAYNE, PHILLIPS, PODLICH, ROY RICE,
RICHARDSON, ROVER, WOCHNER.

The purpose of this department is to promote interest in the teaching profession and to prepare students to carry on effective work as teachers and administrators in the public school. To accomplish this end the aim is to acquaint the student with human nature, educational subject matter, methods of teaching and administration, and methods of social reconstruction commensurate with democratic social theory.

Teacher-Education Curriculums

The M.A. in education and the Ed.D. curriculums are described in the Graduate Bulletin. Outlines concerning curriculums leading to the B.A. degree in Education and also to certification for teaching in kindergarten-primary, elementary, and secondary schools of Arizona will be found on pages 77-85. Each of these three teacher education curriculums form suitable background for continuing in advanced work for a master's or doctor's degree in education.

The Kindergarten Primary Curriculum

The kindergarten-Primary Curriculum offers specialized training for students who wish to teach young children. The teaching certificate covers the kindergarten and grades one, two and three. The courses are designed to give the student a better understanding of young children and of their total personality development during the first years of their school adjustment. Special emphasis is given to the growth and development of the child and how he learns rather than to specific subject matter. There is a wide demand every year for teachers who complete the kindergarten-primary curriculum.

The Elementary Curriculum

This curriculum prepares students for service in the elementary school. No major or minor teaching fields are required. It is advisable that the student take some work in the various departments of the college so as to have a broad knowledge covering many fields. Opportunities for employment as teachers are greatest in the elementary fields. By proper selection of courses of instruction it is possible for students who care to take the necessary extra time to qualify eventually for the secondary certificate also. Interested students will consult an educational adviser who will explain how both certificates may be obtained.

The Secondary Curriculum

Generalization Requirements. The following courses totaling 38 semester hours are required of all students registered under the secondary curriculum: Eng. 101, 102; Psych. 100; Soc. 120; Speech 110; G.S. 100, 110; Hist. 101, 102, or 103, 104; P. S. 200; H. E. 100, 242; and P. E. Activity.

Professional Requirements. In addition to the courses listed under the generalization requirements, all students registered under the secondary curriculum are required to take the following 24 semester hours of work in education and psychology: Ed. 115, 215, 211 or 250, 228, 260; Psych. 141, 142, 200, 213.

Major and Minor Teaching Fields. Students under the secondary curriculum are required to complete a major and a minor teaching field. It is recommended that a second minor teaching field be completed if possible.

A major teaching field shall consist of a minimum of 45 semester hours of work, 25 semester hours of which shall be in courses in a subject field from one department, 20 semester hours of which shall consist of courses from the same or related departments. A minimum of 18 semester hours in the major teaching field shall be upper division courses.

A minor teaching field shall consist of at least 15 semester hours in a subject field in a department exclusive of courses counted toward the major teaching field. Each of the courses included in the generalization requirements, as listed on this page, count toward the total number of semester hours required for the respective major and minor teaching fields.

In selecting major and minor teaching fields students should keep in mind the requirements of the North Central Association, the Arizona State Board of Education, and the combinations usually assigned beginning teachers in Arizona high schools. Information concerning these matters can be obtained at the office of the Director of Teacher Education.

Recommended Electives. The following electives are recommended for students registered under the secondary curriculum: Art 101; Ed. 232, 233; Eng. 171; Geog. 100; Hist. 110; Math. 105; Mus. 130.

Professional Sequence. In addition to the required professional courses, listed on pages 83-84, it is essential that each student plan the proper sequence of professional courses. Education 215, Secondary School, is prerequisite for all methods courses, History of Education, and Philosophy of Education. If special methods courses are taken in lieu of Ed. 228, Methods of Teaching in the Secondary School, they must be taken in the major teaching field of the student.

Elementary and Secondary Certificates. Students registered under the Elementary Curriculum may qualify for the pre-secondary certificate in addition to the elementary certificate by taking Ed. 215,

Secondary School; Ed. 228, *Methods of Teaching in the Secondary School*; five hours of directed teaching in grades seven to twelve; a major of not less than twenty-four semester hours and a minor of not less than fifteen semester hours in fields or subjects usually taught in high schools; and not less than six semester hours of graduate work acceptable toward an advanced degree at an accredited institution.

Students registered under the Secondary Curriculum may qualify for the elementary certificate by meeting the minimum requirements as set forth by the State Department of Public Instruction, that is, Ed. 230, *Elementary Curriculum*, a course in Language Arts, and five additional hours of directed teaching in grades one to nine, inclusive. The additional teaching shall be in grades exclusive of those in which the first five semester hours of directed teaching were taken. However, it is strongly recommended that Ed. 201 and Ed. 202, *Language Arts*, be taken before directed teaching.

Description of Courses

Education

Ed. 115 *Orientation to Education*. Deals with teacher supply and demand, qualities which are associated with successful teaching, the professional responsibilities of teachers, and areas of specialization open to teachers. Provides for individual and group guidance. Credit, 1 hour.

160 *Children's Literature*. Folk and modern literature for elementary school children; a study of types; wide reading. Prerequisite: Eng. 102. Credit, 3 hours.

161 *Techniques in Story Telling*. The art of story telling, preparation, adaptation, creative writing. Emphasis upon and practice in story telling to young children. May be taken concurrently with Ed. 160 or following. Credit, 2 hours.

200 *Measurement and Evaluation in the Elementary School*. The evaluation of the child in a total learning situation is developed. Emphasis is placed on the broader scope of evaluation in terms of each activity in the school program. Credit, 3 hours.

201 *Language Arts*. For the kindergarten and grades 1, 2, 3. Emphasis on teaching beginning reading and prevention of reading difficulties. Other phases of language arts considered. Credit, 3 hours.

202 *Language Arts*. For intermediate and upper grades. Emphasis on the development of skill in reading as a means of doing research work. Spelling, handwriting, composition, and creative writing are considered. Credit, 3 hours.

203 *Reading Problems in the Kindergarten Primary School*. Emphasis upon teaching beginning reading, experience charts, manuscript and cursive writing, and prevention of reading difficulties. Credit, 3 hours.

205 *Construction Activities in the Kindergarten-Primary School.* Work with clay, paper, textiles, wood, paint, etc., contributing to creative expression in the integrated activity program. Fee, \$5.00. Eight hours a week. Credit, 4 hours.

209 *Kindergarten Primary Curriculum and Teaching Problems.* The philosophy, principles, and practices of kindergarten primary education; discusses all phases of the curriculum. Includes observations in nearby schools. Prerequisites: Ed. 201 or 203, 205, 212, or approval of instructor. Fee, \$3.00. Three hours class, 3 hours observation a week. Credit, 4 hours.

211g *History of Education.* The social life, ideas, and institutions that gave direction to western education. A background for understanding and evaluating present educational and social problems. Credit, 3 hours.

212 *Plays and Games for the Kindergarten Primary School.* Creative and traditional plays and games. A study of types, and actual playing of games for analysis and evaluation. Credit, 3 hours.

213g *Evaluation of Children's Literature.* Social and educational concepts expressed in literature and changes in values and principles that are needed. Prerequisite: at least one course in literature. Credit, 2 hours.

215 *Secondary School.* The principles of secondary education: its functions, objectives, curriculum, problems, and trends. Credit, 2 hours.

216g *Educational Sociology.* A study of education in relation to social institutions. Considers methods of gathering data in social research, the family, problems of educational reconstruction, social relationships, and social measurements. Credit, 3 hours.

217g *Modern Practices in the Kindergarten-Primary School.* Practices, materials, and policies with emphasis on curriculum trends, methods of instruction, pupil teacher and teacher-parent relationships. Prerequisites: Ed. 209, Ed. 230, or the equivalent. Credit, 2 hours.

220g *Arizona School System, Laus, and Records.* The organization and legal set up of the Arizona school system, with special reference to the work of the teacher and administrator. Credit, 2 hours.

226g *Safety Education.* Various phases of safety education: home, school, on-the job, and driver education. Emphasis on special interests of class members. Credit, 3 hours.

228 *Methods of Teaching in the Secondary School.* Objectives of secondary education, methods of instruction, socialized procedures, individual differences, testing procedures, individual work in field of interest. Prerequisite: Ed. 215. Credit, 3 hours.

228a *Methods of Teaching Art in the Secondary School.* Required of students in the secondary curriculum with a major teaching field in art. Emphasis on methods, materials and subject areas. Should precede student teaching. Prerequisite: Ed. 215. Two hours a week. Credit, 2 hours.

228b *Methods of Teaching Business Education in the Secondary School.* A general survey of high school business education. Methods and materials used in the teaching of business subjects in public schools. Prerequisites: Bus. Ad. 120, Ed. 215. Credit, 3 hours.

228e *Methods of Teaching English in the Secondary School.* Those specializing in English should substitute for Ed. 228. Preparation of units in high school literature and composition, methods of teaching, laboratory in composition clinic. Prerequisites: Eng. 152, Ed. 215. Credit, 3 hours.

228f *Methods of Teaching Spanish in the Secondary School.* For seniors specializing in Spanish and for teachers of Spanish. Methods of presenting the subject matter in more attractive and practical ways. Prerequisites: Span. 204, Ed. 215. Credit, 2 hours.

228h *Methods of Teaching Home Economics in the Secondary School.* Philosophy, content, and methods of teaching Home Economics in the secondary school. Prerequisite for those under the Secondary Curriculum. Prerequisite: Ed. 215. Credit, 3 hours.

228i *Methods of Teaching Industrial Arts in the Secondary School.* For students preparing to teach Industrial Arts. Making lesson plans, organization and presentation of materials to students; methods of instruction; types of community problems. Prerequisite: I.A. 122; Ed. 215. Fee, \$3.00. Credit, 3 hours.

228m *Methods of Teaching Mathematics in the Secondary School.* Advanced topics in algebra, geometry, trigonometry, non-euclidean geometry as time allows, teaching methods. Prerequisite: Ed. 215. Credit, 3 hours.

228mu *Methods of Teaching Music in the Secondary School.* Continuation of Music 235 with concentration on problems, materials and teaching methods for secondary school music and special attention to the relationship of music to the whole school program. Prerequisites: Mus. 235; Ed. 215. Credit, 3 hours.

228p *Methods of Teaching Health and Physical Education in the Secondary School.* A methods course required of men and women pursuing the Secondary Curriculum, with a major teaching field in physical education. Credit, 3 hours.

228sc *Methods of Teaching Science in the Secondary School.* Principles and methods of teaching general science, biology, chemistry and physics. Prerequisite: Ed. 215. Credit, 3 hours.

228ss *Methods of Teaching Social Studies in the Secondary School.* Methods of teaching history, civics, and other social sciences. Given when demand is sufficient. Prerequisite: Ed. 215. Credit, 2 hours.

230 *Elementary School Curriculum and Techniques.* Considers curriculum factors such as contemporary life and concept, principles and scope of curriculum construction, and problems of instruction. Credit, 3 hours.

231g *Photography in Public Education.* A laboratory course in the fundamentals of photography and darkroom procedure. For the teacher who wishes to use photography in preparing instructional materials. Fee, \$10.00. One hour class, 3 hours laboratory. Credit, 2 hours.

232 *Introduction to Guidance.* The need, objectives, prevailing practices, and the development and administration of guidance programs. Credit, 3 hours.

233 *Audio-Visual Aids in Education.* Principles underlying the selection and use of materials for instructional purposes. Laboratory experiences include the operation of equipment and the selection, preparation, and evaluation of audio-visual materials. One hour class, 3 hours laboratory. Fee, \$5.00. Credit, 2 hours.

234g *Radio and Television in Education.* For students and teachers interested in making more effective use of radio and television broadcasts in the classroom situation. Designed to acquaint teachers with the possibilities available and the means of adapting materials for learning experiences. Credit, 2 hours.

236g *Production of Educational Radio-TV Programs.* For students wishing to gain experience in the planning and production of educational radio-TV programs. Specific activity in college sponsored programs is provided. Credit, 2 hours.

237g *Production of Audio-Visual Aids.* Making of photographs, slides, filmstrips, motion pictures, and recordings. Preparation of scripts. Technical problems of production. Prerequisite: Ed. 231g. Fee, \$10.00. One hour class, 3 hours laboratory. Credit, 2 hours.

240 *Construction Activities in the Elementary School.* Use of textiles, paper, wood, paint, leather, plastics, and salvage materials. Experience in working with materials available to pupils in typical elementary school classrooms. Guidance in directing construction activities related to total instructional program. Fee, \$5.00. One lecture, 3 hours laboratory. Credit, 2 hours.

245g *History of Education in the United States.* The evolution of the public school in the light of the many social forces that have come into conflict in the growth of our institutions. Credit, 3 hours.

250g *Philosophy of Education.* A study of social and educational theories. An examination of some of the assumptions on which various philosophies of education rest. An introduction to considerations necessary for the development of a systematic and consistent philosophy of education. Credit, 3 hours.

253g *Reading Problems at the Elementary School Level.* Practical suggestions for meeting the reading problems encountered in teaching at elementary school levels are treated with diagnosis of unique problems faced by members taking the course. Credit, 2 hours.

254g *Reading Problems at the High School Level.* Practical suggestions for meeting the reading problems encountered by junior and senior high school pupils. Credit, 2 hours.

260 *Observation and Directed Teaching.* Students seeking kindergarten-primary or elementary certification observe and teach for a half-day session during the first or second semester of the senior year. Those seeking the secondary certificate teach one quarter day. Class work in school management. Credit, 5 to 10 hours.

300 *Educational Research and Scientific Method.* Acquaints the student with the essential steps in scientific method and with the techniques and skills used in educational research. Required of all candidates for the master's degree. Credit, 2 hours.

302 *Curriculum Determination and Construction.* Methods, procedures and techniques for curriculum construction are treated after an analysis of general principles and criteria effective in formulating curriculum practices. Credit, 2 hours.

304 *Basic Course in Guidance.* Acquaints the student with all important aspects of a student personnel program. Required of those specializing in guidance who have not had Ed. 232 or equivalent preparation. Prerequisite to other graduate courses in the guidance sequence. Credit, 2 hours.

305 *Education and Social Control.* A study of human affairs designed to give satisfactory direction to them. Considers social measurement and techniques for carrying on investigations. Credit, 3 hours.

306 *Character Education.* Problems of educating for citizenship are evaluated in the light of democratic ideals and conflicting social theories. Credit, 2 hours.

307 *Comparative Education.* A study of contemporary education in other lands with implications for the United States educational structure. Credit, 2 hours.

308 *Play Education.* Treatment at the advanced level of the theories of play. Practical application to the utilization of rhythms, plays and games. Credit, 3 hours.

309 *The Kindergarten Movement.* Development of the kindergarten; foreign influences contributing to its establishment; early pioneers; progressive techniques in kindergarten practice. Credit, 3 hours.

310 *Practices and Techniques in Construction Activities.* The place of construction materials and their function in the learning process. Experiences with diversified materials in terms of the needs of the teacher. Fee, \$5.00. Credit, 3 hours.

311 *Planning, Organizing, and Establishing Kindergartens.* Practical steps are suggested for inaugurating a kindergarten program. Related problems are brought into focus. Credit, 3 hours.

312 *Modern Elementary Curriculum Development.* An analysis of the best educational thought, practices, and trends of the elementary program. Special attention given to innovations of proven value. Credit, 2 hours.

313 *Reading and Language in the Curriculum.* The course will consider the problems of teaching reading from the standpoint of the

developmental approach to learning. Principles and procedures for preventing reading problems and the personal and social values of reading will be stressed. Problems of spelling, composition and handwriting will be considered in relation to the development of other phases of language power. Credit, 2 hours.

314 *Secondary School Administration.* The duties of the high school principal are approached through an analysis of the principles, procedures, and techniques in the administration of the secondary school. Credit, 2 hours.

315 *Public School Administration.* An introductory course in school administration which emphasizes problems of general control, organization, and personnel administration in public education. Credit, 2 hours.

316 *Supervision in the Elementary School.* Principles of supervision, types of supervisory programs, techniques of supervision, and evaluation of supervisory practices. Credit, 2 hours.

317 *Elementary School Administration.* The place of the elementary school in the public system; its internal organization, relationship of school to community; problems of the principal. Credit, 2 hours.

319 *Supervision in the Secondary School.* Principles of supervision, types of supervisory programs, techniques of supervision, and evaluation of supervisory practices, in the light of modern secondary education. Credit, 2 hours.

320 *Counseling.* Concerned with the understanding and application of principles, methods, and techniques of counseling individual students effectively. Credit, 2 hours.

321 *Techniques of Guidance in the Elementary School.* Nature and use of interview, tests, inventories, records and reports, observation, rating scales, and the case study, as applied to the elementary school. Prerequisite: Ed. 304. Credit, 2 hours.

322 *Techniques of Guidance for the Secondary School.* Nature and use of interview, tests, inventories, records and reports, observations rating scales, and the case study, as applied to the secondary school. Prerequisite: Ed. 304. Credit, 2 hours.

323 *Audio-Visual Methods.* Principles of audio-visual methods of teaching. Survey of literature of field, and experience in constructing teaching units. Not open to students having credit in Ed. 233. One hour class, 3 hours laboratory. Credit, 2 hours.

325 *Vocational Guidance.* Origin, philosophy, principles, practices, and services of vocational guidance; its relationship to other types of guidance, to organized education, and to the student personnel program. For secondary teachers, counselors, principals, and directors of guidance. Credit, 3 hours.

326 *Educational and Occupational Information.* An appraisal of programs in secondary schools. Considers educational opportunities in higher institutions, technical institutes, trade schools, etc.; executing

a job analysis program; occupational families; standard sources of data; occupational opportunities. Should be preceded by Ed. 325. Credit, 2 hours.

327 *Organization and Administration of Guidance Programs.* For those directing or preparing to direct the guidance program. Specific organizational patterns, procedures, and problems. Prerequisite: two or more courses in the guidance sequence. Credit, 2 hours.

328 *Supervised Practice in Guidance.* Designed to enable the trainee to develop a background of real experience; to help understand the relationship of guidance services to other school services, and to give the trainee confidence in use of guidance techniques. Credit, 2.6 hours.

329 *Administration of Audio Visual Aids Programs.* The qualifications and duties of the director, preparing the budget, buying equipment, handling materials, in service training, and evaluation of the program. Credit, 2 hours.

333 *Secondary School Curriculum Development.* Principles of the secondary school curriculum, methods and techniques of instruction, curriculum making programs and trends, and experimental practices. Credit, 3 hours.

334 *Directed Learning.* The principles of learning and application to the teaching learning situations of the secondary school. Emphasizes the improvement of assignments, the use of class time, and the evaluation of learning outcomes. Credit, 3 hours.

337 *Public School Finance.* A study is made of methods and problems of financing public education and current problems in school support. Attention is also given to the preparation of the school budget and financial accounting systems for use in schools. Credit, 2 hours.

338 *School House Planning and Maintenance.* Includes planning building programs, school plant, school furniture and equipment, maintenance, financing, and legal regulations of school construction. Credit, 2 hours.

339 *School Community Relationships.* A study is made of principles, philosophy, and techniques for improving the educational program through school community action. Special attention is given to the role of the school administrator in coordinating school community experiences. Credit, 2 hours.

340 *Improving Instruction in the Secondary School.* Principles of teaching and their significance are taken up in light of the needs of the members of the class. Individual reports. Credit, 3 hours.

341 *Evaluation of Learning.* Essential steps in evaluating learning: (1) the discovery and formulation of objectives, and (2) the use of techniques and skills in ascertaining the extent to which pupils achieve these objectives. Credit, 2 hours.

342 *Improving Instruction in the Elementary School.* Methods of determining the elements of strength and weakness in the school

program will be considered. The problems of providing an environment favorable to learning and adjusting the curriculum to the developmental needs of pupils will be analyzed. Methods of applying the principles in public school situations will be stressed. Credit, 2 hours.

343 *Theory and Research in Audio Visual Education.* A survey of the history, literature, and research in the field with implications for production and for classroom utilization of audio visual materials. Prerequisite: Ed. 233 or 323. Credit, 2 hours.

344 *Senior in Audio Visual Education.* An analysis of typical problems confronting audio visual services in schools with discussion of plausible solutions. Credit, 2 hours.

345 *Supervision of Student Teaching.* Designed to provide experiences and content for those planning to become supervisors of student teaching in teacher education programs. Also serves as in-service training for those already working in student teaching. Credit, 2 hours.

348 *Philosophic Foundations of Education.* The aim is to evaluate assumptions on which different philosophies rest with a view to constructing a philosophy to meet the needs of modern life. Credit, 3 hours.

349 *Education Classics.* The great literature and wisdom of the centuries for the educational world are analyzed for any present day implications. Credit, 2 hours.

350 *Curriculum Workshop.* An intensive study of student selected curriculum problems, directed by regular staff and visiting consultants. Recommended for in service training of teachers, supervisors, and administrators. Credit, 2 6 hours.

392 *Practicum in Kindergarten Primary and Elementary Education.* Required of graduate students who pursue Kindergarten-Primary Education or Elementary Education as the field of specialization in the Master's Degree Program and who do not write a master's thesis. Not open for credit to students who register for Thesis. Prerequisites: Enrollment in the Master's Degree Program and fifteen hours of graduate credit including Ed. 300. Credit, 4 hours.

393 *Practicum in Audio Visual Education.* Required of graduate students who pursue Audio Visual Education as the field of specialization in the Master's Degree Program and who do not write a master's thesis. Not open for credit to students who register for Thesis. Prerequisites: Enrollment in the Master's Degree Program and fifteen hours of graduate credit including Ed. 300. Credit, 4 hours.

394 *Practicum in Guidance.* Required of graduate students who pursue Guidance as the field of specialization in the Master's Degree Program and who do not write a master's thesis. Not open for credit to students who register for Thesis. Prerequisites: Enrollment in the Master's Degree Program and fifteen hours of graduate credit including Ed. 300. Credit, 4 hours.

395 *Practicum in School Library Services.* Required of graduate students who pursue School Library Services as the field of specialization in the Master's Degree Program and who do not write a master's thesis. Not open for credit to students who register for Thesis. Prerequisites: Enrollment in the Master's Degree Program and fifteen hours of graduate credit including Ed. 300. Credit, 4 hours.

396 *Practicum in Administration and Supervision.* Required of graduate students who pursue Administration and Supervision of Elementary or Secondary Schools as the field of specialization in the Master's Degree Program and who do not write a master's thesis. Not open for credit to students who register for Thesis. Prerequisites: Enrollment in the Master's Degree Program and fifteen hours of graduate credit including Ed. 300. Credit, 4 hours.

397 *Practicum in Secondary Education.* Required of graduate students who pursue any one of the Secondary Education fields of specialization in the Master's Degree Program and who do not write a master's thesis. Not open for credit to students who register for Thesis. Prerequisites: Enrollment in the Master's Degree Program and fifteen hours of graduate credit including Ed. 300. Credit, 4 hours.

399 *Thesis.* For students who write a master's thesis. Not open to students who receive credit in a practicum. Prerequisite: Enrollment in the Master's Degree Program. No scheduled class meetings. Open for credit for period of two years from time of registration. Credit, 4 hours.

400 *Research in Education.* Advanced procedures of research in education; special techniques and investigations in selected educational fields. Credit, 4 hours.

406 *Professional Relationships in Education.* A framework is developed for understanding and facilitating human and professional relationships between school personnel and workers in other youth-serving agencies. Ways and means of mobilizing community agencies to serve needs of youth are treated. Credit, 4 hours.

412 *Problems in Elementary Curriculum Development.* A systematic analysis of factors bearing upon the development of a qualitative learning environment in the modern elementary school. Research evaluation and intensive individual study of a fundamental problem in elementary curriculum development are included. Credit, 4 hours.

413 *Psychological Foundations in Education.* Implications for practice from research and psychological investigations in human learning as applied to curriculum, method, evaluation, and educational leadership. Credit, 4 hours.

414 *The Administrator and School Community Planning.* A study of the various basic areas of school community integration and improvement; applications are made in school surveys, finance, evaluation of school systems, and cooperative development of local school systems. Credit, 4 hours.

416 *Leadership in Education.* Special emphasis is given the role of the school administrator in curriculum improvement. Processes and conditions for a professional climate contributing to effective educational leadership are stressed. Credit, 4 hours .

419 *Instructional Improvement Through Modern Supervision.* Organization, personnel, and procedures involved in upgrading instruction through supervisory practices. Democratic theory, creative school control, and supervisor-teacher relationships are included. Credit, 4 hours.

420 *Research Problems in Guidance.* Students are expected to familiarize themselves with outstanding research undertakings during the past 15 years. Each will conduct one or more research projects dealing either with a guidance problem growing out of individual situations or as preparatory to a more exhaustive project suitable for his doctoral thesis. Credit, 4 hours.

433 *Problems in Secondary Curriculum Development.* A systematic analysis of factors bearing upon the development of a qualitative learning environment in the modern secondary school. Research evaluation and individual study of a fundamental problem in secondary curriculum development are included. Credit, 4 hours.

439 *Historical and Social Foundations.* A study of institutions, human relations, and social forces influencing the nature of educational problems current in American society. Significant cultural trends are treated from local, national, and international perspective. Credit, 4 hours.

440 *Seminar: Improvement of Instruction in the Secondary School.* Extensive reading and group discussions on the theory of method and sound principles of instruction with their significance for modern secondary education. Credit, 4 hours.

442 *Advanced Techniques in Elementary Education.* Extensive consideration of the research in elementary education which applies more specifically to the learning of tool and social skills. Formulation of hypotheses and practices compatible with research findings; analysis of factors resisting change and of procedures to implement newer practices showing promise. Credit, 4 hours.

446 *Adult Education.* History, trends, objectives, and philosophy for the adult education movement; programs, cultural and vocational implications, administration and methodology. Credit, 4 hours.

490 *Individual Problems.*

499 *Dissertation.* Ordinarily designed to require two semesters of intensive application to a problem in education. A scholarly piece of work is required. Credit.

Department of English

MYERS, (Head of Department), BURKE, BYERS, CONLIN, DAVIES,
J. GIRDLER, L. GIRDLER, HOPKINS, MCSLOY, MORRIS, OSENBURG,
PLUMMER, PORTNOFF, SCHILLING, SOUTHERN, TAYLOR, TURNER,
WELSH, WILLSON, YATES, ZIMMERMAN.

The department offers courses in the English language and literature, writing, journalism, speech, and dramatics. These offerings are designed: (a) for students who plan to teach or to supervise language activities at any level from kindergarten to college; (b) for students who desire a cultural background and wish to increase their competence in the use of the language; (c) for students planning to pursue writing, journalism, speech, or dramatics as a career or hobby.

Students who fail to pass the placement examination given during Freshman Week will be required to register for and to complete satisfactorily a course in sub-collegiate, English (English X), 3 hours per week, without credit before they may be admitted to English 101.

Teacher-Education Curriculums

The Kindergarten Primary and Elementary Curriculums

For Students Not Specializing in English. Prospective teachers following either one of these curriculums will find English 171, Speech 230, 240 and 257 especially helpful as professional training. They may also wish to take other English and speech courses for personal development.

For students Specializing in English. Students wishing a limited number of courses may choose any for which they have the prerequisites. Those wishing a major or minor teaching field, see below under secondary curriculum.

The Secondary Curriculum

This department offers major teaching fields in English and in speech and dramatics as outlined below. To complete either of these, at least 45 semester hours in the field must be completed in the first four years. At least 20 of these hours must be upper division. Candidates for the master's degree planning to teach English, speech, or dramatics in secondary schools should complete additional courses in these subjects during the fifth year.

Major Teaching Field in English. First year, Eng. 101 and 102. Second year, Eng. 103, 104, 128, 151, and 152; Speech 110 or 120; Hist. 105 and 106. Third year, Eng. 221, 222; Ed. 228e, and 6 hours of upper division English electives. Fourth year, Eng. 231, 252 or 254, and 2 or 3 hours of upper division English electives.

Major Teaching Field in Speech and Dramatics. First year, Speech 115 and 121. Second year, Speech 119, 122, 127; Eng. 128. Third year, Speech 120, 230, 235; Eng. 252. Fourth year, Speech 257, 260; Eng. 254; plus 11 additional hours during the four years selected from the following courses: Eng. 203, 205, 206, 217, 218; Psych. 240, and any other courses in speech.

Minor teaching fields are offered in English, journalism, speech, and dramatics.

Minor Teaching Field in English. Twenty two hours are required, including Speech 110 or 120; Eng. 101, 102, 103, 104, 152, and 6 hours of upper division English; any other 3 hours in English, Speech, or journalism.

Minor Teaching Field in Journalism. Eng. 101, 102, 128, 130, 140, 141, 243.

Minor Teaching Field in Speech. Speech 115, 120, 121, 127, 170, 257, 260.

Minor Teaching Field in Dramatics. Speech 110 or 120, 119, 121, 122, 230, 235.

Arts and Sciences Curriculums

Degree. Students completing the Arts and Sciences Curriculum with an area of concentration in English, Journalism, Speech or Dramatics receive the degree of Bachelor of Arts.

Generalization Requirements

Students seeking the B.A. degree must meet the generalization requirements listed under the Arts and Sciences Curriculums, on page 85 of this catalog.

Areas of Concentration

English. This area of concentration in English requires a minimum of 49 semester hours in addition to the generalization requirements.

Required courses. English 128, 151, 152; Speech 110; History 105, 106; 8 hours of foreign language above the generalization requirements.

Group electives. Seventeen semester hours must be selected from the following groups with at least one course in each group. Group I, Eng. 253, 254; Group II, Eng. 209, 211, 212, 221, 222. Group III, Eng. 201, 203, 213, 214, 215, 216, 217, 218, 226. Group IV, Eng. 205, 206, 223, 244. Group V, Speech 120, 121, 122, 127, 170, 260. The remaining seven hours may be chosen from the complete departmental offerings. With the consent of the adviser, up to three hours of courses in related fields may be substituted for English courses.

Journalism. The area of concentration in Journalism requires a minimum of 49 semester hours in addition to the generalization requirements.

Required courses in Journalism. Journalism 130, 140, 141, 243, 250, 251, and 2 hours of Journalism 299. Five additional required units are to be selected from the following courses: Journ. 241, 242, 244, 245, 246, 299 (up to 3 additional units); Eng. 254; Bus. Ad. 288.

Required courses in related fields. Speech 110, Eng. 128, 151, 152, and six units of upper division literature; Bus. Ad. 132; P.S. 101; Psych. 225.

Choices from the generalization requirements. It is strongly urged that the following courses be selected in fulfilling the generalization requirements: Art. 100; Bus. Ad. 130; Eng. 252; Psych. 100; Hist. 102 or 104, and Soc. 120.

Speech. The area of concentration in Speech requires a minimum of 49 hours in addition to the generalization requirements.

Required courses in English. Eng. 128, 151, 152, and six units of upper division literature.

Required courses in Speech. Speech 115, 120, 121, 129, 170, 257, and 260, and 8 hours of upper division speech electives.

Optional courses. The remaining 10 units may be selected from other courses in Speech and Dramatics and Eng. 252 and 254.

Dramatics. The area of concentration in Dramatics requires a minimum of 49 semester hours in addition to the generalization requirements. Required courses in Speech and Dramatics: Speech 110 or 115, 119, 120, 121, 122, 170, 235, 260.

Required courses in English. Eng. 128, 151, 152, and six units of upper division literature.

Optional courses. The remaining 13 units may be selected from other courses in Speech and Dramatics, and from the following courses in English: Eng. 203, 205, 217, 218, 252, and 254.

Description of Courses

Literature and Language

Eng. X. *Remedial English.* A sub-collegiate course for students who fail to pass the college placement examination in English. Clinical facilities for discovering and attempting to eliminate causes of individual difficulties. Counts on course load, but carries no credit. Fee, \$3.00. Three hours per week.

101 *First Year English.* Narrative and descriptive writing; emphasis on paragraph structure, correctness in English fundamentals, exactness and concreteness of statement; dictionary and library practice; intensive and extensive reading. Credit, 3 hours.

102 *First Year English.* Expository writing; emphasis on organizing and unifying long papers, improvement in style, expansion of vocabulary. Introduction to word study; practice in research, including the writing of a model term paper. Intensive and extensive reading. Prerequisite: Eng. 101. Credit, 3 hours.

- 103, 104 *Directed Reading for English Majors and Minors.* Supervised reading with a weekly individual conference with instructor. Credit, 1 hour each.
- 128 *Advanced Composition.* For students interested in further training in organization and expression of ideas. Factual and imaginative discourse are treated. Prerequisite: Eng. 102. Credit, 3 hours.
- 151 *Survey of English Literature.* English literature considered chronologically against the social and political background from Anglo-Saxon times to the end of the eighteenth century. Prerequisite: Eng. 102. Primarily for English majors and minors. Credit, 3 hours.
- 152 *Survey of English Literature.* Nineteenth century literature. The major writers in relation to the aesthetic, social, and economic trends of the century. Prerequisite: Eng. 102. Credit, 3 hours.
- 153 *World Literature.* Selections from the great literature of the world in translation. Lectures on the cultural background out of which the writings grew. Prerequisite: Eng. 101. Credit, 3 hours.
- 171 *Introduction to Literature.* An introduction to literature and literary types. Reading of short stories, essays, novels, biographies, plays, and poetry, mainly from modern writers. Credit, 3 hours.
- 201g *Development of the Novel.* The origins of prose fiction, the novel in England and America, with attention to significant examples of foreign literature. Analysis of typical examples and reading of outside assignments. Prerequisite: Eng. 152. Credit, 3 hours.
- 203 *History of the Drama.* The English drama from the Middle Ages to the present with selective examples of foreign influences. Reading of representative plays of each period. Prerequisite: Eng. 152. Credit, 3 hours.
- 205g *Shakespeare: The Tragedies.* Critical study of five plays. An introduction to the problems of Shakespearean scholarship. Prerequisite: Eng. 151. Credit, 3 hours.
- 206g *Shakespeare: The Comedies.* A rapid reading of all the comedies. Studies of the comic spirit and Shakespeare's comic genius. Prerequisite: Eng. 151. Credit, 3 hours.
- 209g *Age of Johnson.* The chief writers, movements, and books during Johnson's career as a dominating literary figure, together with their most important relationships to predecessors and followers. Prerequisites: Eng. 151, 152. Credit, 3 hours.
- 211g *Nineteenth Century Poetry: Romantic Period.* Study of and readings in the poetry of Wordsworth, Coleridge, Shelley, Keats, Byron. Prerequisite: Eng. 152. Credit, 3 hours.
- 212g *Nineteenth Century Poetry: Victorian Period.* The poetry of the second half of the century. Special study of Tennyson, Browning, Arnold. Prerequisite: Eng. 152. Credit, 3 hours.
- 213 *Modern Fiction.* A study of the modern novel beginning with Meredith. Prerequisite: Eng. 152. Credit, 3 hours.

214 *Contemporary Fiction*. A study of important contemporary writers; their careers and distinctive traits, with particular attention to the relationship of their ideas with present-day problems. Prerequisite: Eng. 152. Credit, 3 hours.

215 *Contemporary British Poetry*. British poetry of the twentieth century; techniques, aims, and significance. Prerequisite: Eng. 152. Credit, 3 hours.

216 *Contemporary American Poetry*. American poetry of the twentieth century; techniques, aims, and significance. Prerequisite: Eng. 152. Credit, 3 hours.

217 *Modern Drama*. The chief dramatic writers of the generation preceding World War I, with special attention to experimental techniques. Prerequisite: Eng. 152. Credit, 3 hours.

218 *Contemporary American Drama*. A study of the American Drama since World War I, with special attention to experimental techniques. Prerequisite: Eng. 152. Credit, 3 hours.

221 *American Literature*. From colonial times to the Civil War, including the growth of nationalism and the rise of the New England school. Open to those specializing in other departments who have junior standing. Prerequisite: Eng. 102. Credit, 3 hours.

222 *American Literature*. From Whitman to the present. The influence of westward expansion, the growth of regionalism, the literature of social protest. Open to those specializing in other departments who have junior standing. Prerequisite: Eng. 102. Credit, 3 hours.

223g *Milton*. The life of Milton, his relation to the literary and social background of his period, and textual study of his chief works. Prerequisite: Eng. 151. Credit, 3 hours.

226 *Short Story*. The development of the short story as a literary form; analysis of its technique through study of examples from the work of representative authors. Prerequisite: Eng. 152. Credit, 3 hours.

227g *The Form of Verse: Theory and Practice*. A study of the types, history, criticism, and schools of theory of metrical form. Analysis of lyric, narrative, and dramatic poetry. Original verse writing optional. Prerequisite: one semester survey of American or British literature, or equivalent. Credit, 2 hours.

231g *Literature for Junior and Senior High School Students*. A study of prose and poetry which meet the interests, desires and capabilities of the high school boy and girl. Recent literature stressed. Prerequisites: Eng. 152; Ed. 215, and Ed. 288e. Credit, 3 hours.

234g *Creative Writing*. Writing laboratory. Lectures and conferences dealing with the various forms of imaginative writing. Prerequisite: Eng. 128. Credit, 3 hours.

235g *Creative Writing*. Continuation of Eng. 234g. Prerequisite: Eng. 234g or consent of instructor. Credit, 3 hours.

244g *Chaucer*. A study of Chaucer's language, poetry, and intellectual background. Prerequisite: Eng. 151. Credit, 3 hours.

252 *Introduction to Semantics*. Nature of meaning and the function of language, designed to improve accuracy of communication and to provide a technique for analyzing false or misleading statements. Prerequisite: junior standing. Credit, 2 hours.

253g *History of the English Language*. Development of the language from the earliest times to the modern period. Prerequisites: Eng. 128, 151. Credit, 3 hours.

254g *Current English Usage*. Recent changes and current trends in the language, with emphasis on American English and the factual basis of grammar. Prerequisites: Eng. 128, 151. Credit, 3 hours.

261g *Professional Writing*. Lectures and conferences concerning techniques of writing for publication. Prerequisites: Eng. 128, 234 or consent of instructor. Credit, 3 hours.

301 *Seminar in Methods of Research in English*. A study of the various types of research in literary scholarship. Credit, 3 hours.

302 *Seminar in Criticism*. A study of the development of critical theories and their application to English literature. Credit, 3 hours.

310 *Seminar in English Education*. Primarily for in-service teachers. A general problem will be selected each time the course is offered. Each student will work individually on a phase of this. Credit, 3 hours.

Speech and Dramatics

Speech 110 *Elements of Speech*. Adjustment to the speech situation. Obtaining and organizing material. The conversational mode. Articulation, pronunciation, and tone. Bodily movement. Fee, \$1.00. Credit, 2 hours.

115 *Speech Fundamentals*. An introduction to the physical and functional bases of speech production. Required of Speech majors and minors, who may substitute it for Spch. 110 as a prerequisite for advanced courses in Speech. Credit, 2 hours.

119 *Introduction to Drama*. A study of the various types of drama with reference to their theatrical representation. Credit, 3 hours.

120 *Public Speaking*. Organization and delivery of various types of speeches. Emphasis on types which occur most often in everyday life. Prerequisite: Spch. 110 or consent of instructor. Credit, 2 hours.

121 *Oral Interpretation*. Techniques of the reading aloud of prose, poetry, and drama. Credit, 3 hours.

122 *Acting*. Reading in theory; laboratory projects. Prerequisites: Spch. 110, 119. Credit, 3 hours.

125 *Voice and Diction*. A course designed to develop and improve the speaking voice. Background discussion and individual and group exercises and drills. Prerequisite: Spch. 110 or 115. Credit, 2 hours.

- 127 *Principles of Argumentation*. Construction and delivery of various types of argumentative speeches. Essential to students engaging in intercollegiate debate. Prerequisite: Spch. 110. Credit, 2 hours.
- 129 *Principles and Methods of Discussion*. The use of reflective thinking in learning and policy determining groups. The panel, dialogue, symposium, and forum-lecture. Prerequisite: Spch. 110. Credit, 2 hours.
- 170 *Radio Speech*. A background for greater listening enjoyment. Practice in microphone delivery, script writing, and acting. Auditions given for participation in radio dramatizations over local stations. Prerequisite: Spch. 110. Fee, \$1.00. Credit, 3 hours.
- 210 *Advanced Radio Speech*. A survey of current tendencies in radio and a continuation of production activities of Speech 170. Prerequisites: Spch. 110, 170. Fee, \$1.00. Credit, 3 hours.
- 215 *Business and Professional Speech*. A study of business and professional speech situations. Conversations; interviews; conferences; speeches of good will, to inform, and to persuade. Reading written reports; radio speaking; and banquet speaking. Prerequisite: Spch. 110. Credit, 3 hours.
- 227 *Intercollegiate Debate*. Preparation for and participation in intercollegiate debates. Prerequisites: Spch. 110, 127 or consent of instructor. Credit, 2 hours.
- 228 *Intercollegiate Debate*. Continuation of Spch. 227. Prerequisite: Spch. 227. Credit, 2 hours.
- 229 *Intercollegiate Debate*. Continuation of Spch. 228. Prerequisite: Spch. 228. Credit, 2 hours.
- 230 *Creative Dramatics*. Methods of making a play from a lesson or story, helping children to improve their own roles; selection of literature and subject matter suitable for play making. Laboratory work with school children during latter part of course. Prerequisites: Spch. 110 or 121. Credit, 3 hours.
- 235 *Play Production*. Problems connected with staging of plays in elementary and secondary schools. Prerequisites: Spch. 110, 119. Fee, 50c. Credit, 3 hours.
- 238 *Radio Script Writing*. Principles of writing for radio and practice in the composition of radio scripts. Prerequisites: Spch. 170. Eng. 235g, or consent of instructor. Credit, 2 hours.
- 240 *Children's Theatre*. Formal dramatics for children. The selection and production of plays and pageants suitable for children through the elementary grades. Prerequisites: Spch. 110 or 121. Credit, 3 hours.
- 257g *Speech Correction*. Cause and correction of disorders of speech. Prerequisite: Spch. 110. Three times a week. Credit, 3 hours.
- 258g *Advanced Speech Correction*. A clinical-laboratory course for practice in correction of speech defects. Seminar for extensive

acquaintanceship with literature in the field. Prerequisite: Spch. 257g. One hour lecture, 2 hours clinic a week. Credit, 2 hours.

259g *Clinical Practice in Speech Correction*. A laboratory course consisting of case treatment of speech disorders in the College Speech Clinic. Prerequisites: Spch. 257g and 258g. Credit, 1 3 hours. Note: This course may be taken for more than one semester.

260g *Phonetics* Study of phonetics, including phonetic symbols, the production, the general characteristics and the application of the sounds of American speech to the acquisition and teaching of good pronunciation. Prerequisite: Spch. 110. Credit, 2 hours.

Journalism

Jour. 130 *Introduction to Journalism*. Survey of the journalistic field; study of the representative newspapers; concepts of news, news values, and reporting; laboratory practice in elements of newswriting. Prerequisite: Eng. 101. Fee, \$1.00. Two lectures, 2 laboratory hours. Credit, 3 hours.

140 *Journalism: Reporting*. Study and practice in the coverage and writing of news; structure of the news story and development of news values; laboratory practice; experience as reporter on the *State Press*. Prerequisite: Jour. 130. Fee, \$1.00. One lecture, 4 laboratory hours. Credit, 3 hours.

141 *Advanced Reporting*. Continuation of Jour. 140. Main types and sources of news; interviewing and re-writing; laboratory and *State Press* experience. Prerequisite: Jour. 140. Fee, \$1.00. One lecture, 4 laboratory hours. Credit, 3 hours.

241 *Newspaper Law*. The rights and duties of the press, the legal limits and liberty of the press; study of libel, privilege, constitutional guarantees, copyright, contempts, legal background of court reporting. Prerequisite: Jour. 141. Credit, 3 hours.

242g *The Interpretation of News*. The byline story, column, editorial and general field of newspaper policy writing involving the interpretation of current events. Prerequisite: Jour. 141. Credit, 2 hours.

243 *Copy Reading and Editing*. Practical work in copy reading and headline writing; use of the stylebook; accuracy and speed in handling copy; typography; principles of makeup. Prerequisite: Jour. 141. Credit, 3 hours.

244 *History of Journalism*. Development of American journalism from colonial times to the present, projecting the press as an institution against a background of the history of the nation. Prerequisite: Jour. 141. Credit, 2 hours.

24b *Radio News*. Technic and practices of editing and preparing local and wire news copy for radio news broadcasts; laboratory practice in preparation of same for actual broadcasting. Prerequisite: Jour. 141. Credit, 2 hours.

246 *Feature Writing*. A study of the feature article, magazine article and journalistic book. Prerequisite: Jour. 241 or 242. Credit, 3 hours.

250 *Newspaper Making*. An advanced course in editing a complete newspaper with laboratory experience in the staff work and production of the *State Press*. Prerequisite: Jour. 243. Credit, 2 hours.

251 *News Problems and Policies*. Seminar in journalism with emphasis upon major difficulties encountered and editorial decisions required in the writing, handling and publishing of news. Prerequisite: Jour. 241 or 242. Credit, 2 hours.

299 *Special Assignment*. Selection and performance of a major project or projects on an individual basis. Prerequisites: Jour. 241, 242, 250. Credit, 2 to 5 hours.

Department of Foreign Languages

WILSON (Head of Department), ESCUDERO, POOLE, VON DER HEYDT,
WALL.

The Department of Foreign Languages offers courses designed to serve the professional and cultural needs of the student. The aim of the courses is to give facility in reading, writing, and speaking the language. In view of our proximity to the Latin American countries, special emphasis is placed on Spanish and Hispano-American literature and civilization.

Teacher-Education Curriculums

The Kindergarten-Primary and Elementary Curriculums

For Students Not Specializing in Language. It is suggested that students wishing to take some work in Spanish may elect courses from among the following: Span. 101, 102, 103, 104, 120.

For Students Specializing in Language. Students wishing a limited number of courses will choose them with the advice of the head of the department. Those wishing a major teaching field, see below under secondary curriculum.

The Secondary Curriculum

Major Teaching Field in Spanish. The field consists of 45 semester hours of work of which 18 hours should be in upper division courses. The following courses are required: Span. 101, 102, 103, 104, 203, 204, 205, 206, 224; Eng. 151.

Minor Teaching Field in Spanish. The following courses or their equivalents are required: Span. 101, 102, 103, 104, or 103, 104, 203, 204.

Minor Teaching Field in French. The following courses are required: Fr. 101, 102, 103, 104.

Arts and Sciences Curriculums

Degree. Students completing the Arts and Sciences Curriculum with an area of concentration in Spanish receive the degree of Bachelor of Arts.

Generalization Requirements

All students seeking the B. A. degree must meet the generalization requirements listed under the Arts and Sciences Curriculums, page 85 of the catalog.

Area of Concentration

Spanish. Students electing Spanish as a field of concentration must complete a minimum of 49 semester hours, exclusive of generalization requirements as outlined below.

Prerequisite Courses. Span. 101, 102 or their equivalents are prerequisites.

Required Courses. In addition to the 8 hours in prerequisite courses, the following 23 semester hours are required: Span. 103, 104, 203, 204, 205, 206, and 207 or 224.

Optional Courses. From the following optional courses, 18 semester hours must be selected: Eng. 151, 152, 153; Fr. 103, 104; Ger. 103, 104; Hist. 115, 116, 205, 207; Lat. 101, 102; Russ. 101, 102; Span. 151.

Description of Courses

French

Fr. 101 *Elementary French.* Gradual study of French sounds. Collateral teaching of reading, writing and speaking through the direct method. For beginners. Credit, 4 hours.

102 *Elementary French.* Continuation of Fr. 101. Optional outside reading. Prerequisite: Fr. 101. Credit, 4 hours.

103 *Intermediate French.* Grammar review. Systematic study of verbs. Reading of a novel or a play. Conversation. Prerequisite: Fr. 102. Credit, 4 hours.

104 *Intermediate French.* Continuation of Fr. 103. Prerequisite: Fr. 103. Credit, 4 hours.

120 *French Composition and Conversation.* Sight translation from English prose; conversation. Prerequisite: Fr. 104. Credit, 2 hours.

121 *French Composition and Conversation.* Continuation of Fr. 120. Prerequisite: Fr. 104. Credit, 2 hours.

205 *Survey of French Literature.* French literature from its beginnings to the end of the seventeenth century; readings and reports on selections from major authors; readings from the earliest documents will be done in English translations. Prerequisite: Fr. 104 or consent of instructor. Credit, 3 hours.

206 *Survey of French Literature.* Continuation of Fr. 205. The writers of the eighteenth, nineteenth, and twentieth centuries; readings from selected authors such as Voltaire, Rousseau, Victor Hugo, Marcel Proust, and Andre Gide. Prerequisite: Fr. 104 or consent of instructor. Credit, 3 hours.

German

Ger. 101 *Elementary German.* Grammar, reading and conversation. Credit, 4 hours.

102 *Elementary German.* Continuation of Ger. 101, with emphasis on reading and conversation. Prerequisite: Ger. 101. Credit, 4 hours.

103 *Intermediate German*. Reading of modern novels, plays and short stories, composition and conversation. Prerequisite: Ger. 102. Credit, 4 hours.

104 *Intermediate German*. Continuation of Ger. 103, with more emphasis on rapid reading. Prerequisite: Ger. 103. Credit, 4 hours.

106 *Scientific German*. Introductory readings in the various branches of science, with analysis of the special syntactical practices peculiar to scientific German. Prerequisite: Ger. 103. Credit, 3 hours.

110 *Practical Phonetics for Singers*. To acquaint singers with the fundamentals and the elements of German phonetics and sound production. Correct pronunciation in reading and singing. Credit, 2 hours.

111 *Practical Phonetics for Singers*. Continuation of Ger. 110. Credit, 2 hours.

120 *German Composition and Conversation*. Composition and conversation based on materials concerning the social and cultural background of Germany. Prerequisite: Ger. 104. Credit, 2 hours.

121 *German Composition and Conversation*. Continuation of Ger. 120. Prerequisite: Ger. 120. Credit, 2 hours.

205 *Survey of German Literature*. German literature from its beginnings; the Middle Ages through the Period of Reformation, Renaissance and Rococo to the Age of Classic Achievement. Prerequisite: Ger. 104 or consent of instructor. Credit, 3 hours.

206 *Survey of German Literature*. German literature from the middle of the 18th century to the present; works and writers in the Age of Enlightenment and the Storm and Stress Movement; special emphasis on the Classical period. Prerequisite: Ger. 104 or consent of instructor. Credit, 3 hours.

Latin

Lat. 101 *Elementary Latin*. A beginner's course. Emphasizes vocabulary and derivations rather than grammar. Credit, 4 hours.

102 *Elementary Latin*. Continuation of Lat. 101 with use of a simple Latin reader. Prerequisite: Lat. 101. Credit, 4 hours.

103 *Intermediate Latin*. Readings from the orations of Cicero; attention also to the political and social conditions of Rome during the first century B.C. Prerequisite: Lat. 102 or equivalent. Credit, 4 hours.

104 *Intermediate Latin*. Readings from the first six books of the *Aeneid*; selected readings from other authors. Prerequisite: Lat. 102 or equivalent. Credit, 4 hours.

Russian

Rus. 101. *Elementary Russian*. Study of Russian sounds, vocabulary, and grammar essential for simple oral and written composition. Credit, 4 hours.

102 *Elementary Russian*. Continuation of Rus. 101. Emphasis on reading and conversation. Prerequisite: Rus. 101. Credit, 4 hours.

103 *Intermediate Russian*. Development of a sound reading knowledge of Russian. Systematic review of grammar. Oral and written composition. Prerequisite: Rus. 102. Credit, 4 hours.

104 *Intermediate Russian*. Continuation of Rus. 103 with greater emphasis upon rapid reading and oral expression. Outside reading in the student's field of interest. Prerequisite: Rus. 103. Credit, 4 hours.

Spanish Language and Literature

Span. 101 *Elementary Spanish*. A study of pronunciation, vocabulary, the grammar essential for simple oral and written expression, and reading. Beginners only. Credit, 4 hours.

102 *Elementary Spanish*. The reading of several elementary texts. Prerequisite: Span. 101. Credit, 4 hours.

103 *Intermediate Spanish*. A review of grammar and reading, stressing vocabulary-building and accuracy of expression. Prerequisite: Span. 102. Credit, 4 hours.

104 *Intermediate Spanish*. Continuation of Span. 103 with greater emphasis upon rapid reading and oral expression. Prerequisite: Span. 103. Credit, 4 hours.

120 *Spanish Conversation*. Conversation to develop fluency and accuracy. Material based on everyday Spanish life. Prerequisite: Span. 104. Credit, 2 hours.

121 *Spanish Conversation*. Continuation of Span. 120. Prerequisite: Span. 104. Credit, 2 hours.

203 *Advanced Spanish Composition*. Translating English prose into Spanish, and original composition. Grammar review through writing. Collateral reading of modern short stories, novels and plays. Conducted in Spanish. Prerequisite: Span. 104. Credit, 3 hours.

204 *Advanced Spanish Composition*. Continuation of 203. Prerequisite: Span. 203. Credit, 3 hours.

205 *Survey of Spanish Literature*. Characteristics of the Middle Ages, Renaissance and the Golden Age, the evolution of Spanish thought and literary ideals. Conducted in Spanish. Prerequisite: Span. 204. Credit, 3 hours.

206 *Survey of Spanish Literature*. Continuation of 205. Prerequisite: Span. 205. Credit, 3 hours.

207g *Spanish Literature of the Nineteenth Century*. A study of the Romantic dramatists of this century and the most representative novelists and poets of the second half of the century. Credit, 3 hours.

209g *Spanish Literature of the Golden Age*. The most important movements of the period through a study of Cervantes, Lope de Vega,

Tirso de Molina, Calderón de la Barca and others. Conducted in Spanish. Prerequisite: Span. 204 or 205. Credit, 3 hours.

210g *Spanish Literature of the Twentieth Century.* A study of the creative achievements of the Generation of 1898 and significant tendencies in the works of contemporary writers. Credit, 3 hours.

224g *Spanish American Literature.* A study of the outstanding novelists and poets. Credit, 3 hours.

227g *The Regional Novel.* The chief characteristics of the Spanish regional novel. Credit, 3 hours.

241g *Spanish-American Civilization.* A study of the people, the growth of institutions and culture, and the aspirations of their great men. A knowledge of Spanish is not necessary. Credit, 2 hours.

310 *Seminar in Foreign Language Education.* Study of recent contributions in the area of foreign language instruction. Prerequisite: graduate standing in Spanish. Credit, 2 hours.

Department of Home Economics

RANNELS (Head of Department), ELLSWORTH, ESSIG, KAGY, NORTON,
PAXTON, STAFF

This department offers training designed to meet the needs of students of the following types: (1) Those who wish to prepare for the vocation of homemaking. (2) Those who wish to meet the requirements for vocational certification which prepares them to teach home economics in vocational high schools. (3) Those who wish to teach in this field in the elementary or junior high school. (4) Those wishing to secure a secondary certificate with a major in home economics. (5) Those who wish to prepare for vocations in home economics other than teaching or homemaking. (6) Those who desire a background for vocations other than those directly related to home economics.

Teacher-Education Curriculums

The Kindergarten-Primary and Elementary Curriculums

For Students Not Specializing in Home Economics. It is suggested that prospective teachers may profitably elect some courses from the following: H. Ec. 101, 102, 103, 104, 106, 107, 202, 203, 207, 209, 210, 215, 217, 219, 226.

For Students Specializing in Home Economics. Students wishing special work, 30 semester hours for the special certificate, or 45 semester hours for a major teaching field, should select H. Ec. 101, 102, 105 or 106, 107 or 108, 203, 209, 217; Ed. 228h and such other courses as fit their individual interests and abilities.

The Secondary Curriculum

The Major Teaching Field in Home Economics. To complete a major teaching field in home economics at least 45 semester hours of work must be completed in the first four years and not less than 18 of the total shall be upper division. Candidates for the master's degree planning to teach home economics in the secondary schools should complete additional courses in the fifth year. The vocational certificate may be earned in four years by meeting the following requirements: H.Ec. 100, 101, 102, 104, 105, 108, 202, 203, 206, 207, 209, 211, 212, 214, 215, 217; Art 100 or 106; Ed. 228h, 260; and a minor in general science or social science.

Minor Teaching Field in Home Economics. This field requires 15 semester hours. H.Ec. 106, 107 are recommended. The remaining courses may be chosen with the approval of the head of the department.

Arts and Sciences Curriculums

Degree The arts and sciences curriculum with an area of concentration in home economics leads to the degree of Bachelor of Science.

Generalization Requirements

Students seeking the B.S. degree with an area of concentration in home economics must meet the generalization requirement outlined under the Arts and Sciences Curriculum, on page 85 of the catalog.

Area of Concentration

Home Economics. In addition to the generalization requirements, the student must have as prerequisites the following 10 semester hours: Art 100 or 106; G.S. 100; and G.S. 110. The following 25 semester hours are required: H.Ec. 101, 102, 105, 108, 203, 209, 214, 215, 217, and 12 hours must be selected from the following optional courses: H.Ec. 100, 104, 202, 205, 206, 207, 210, 211, 212, 213, 218, 219, 225, 226.

Professional and Preprofessional Curriculums

You will find an outline of these curriculums giving any requirements made by this department on page 88 of the catalog.

Description of Courses

H.Ec. 100 *Orientation to Home Economics.* A preview of the home economics field, including opportunities for employment. First year, first semester. Credit, 1 hour.

101 *Elementary Nutrition.* Principles of nutrition, diet, food in its relation to health. Open to men and women. Credit, 2 hours.

102 *Clothing Selection.* The selection of clothing with consideration of materials, cost, style, design, the individual, and the occasion. Credit, 2 hours.

103 *Introduction to Family Living.* Deals with children, establishment of a home, management of family life, finances, food, care of clothing, and art in the home. Fee, \$1.00. Credit, 3 hours.

104 *Home Nursing.* Information on health for the family, care of the sick, the mother through pregnancy and childbirth, and infant care. Credit, 1 hour.

105 *Applied Food Principles.* Principles of cookery and nutritive facts involved. Open only to those specializing in the department. Fee, \$5.00. Six hours a week. Credit, 3 hours.

106 *Food Preparation and Meal Service.* Fundamental processes in food cookery, meal planning and table service. Fee, \$5.00. Six hours a week. Credit, 3 hours.

107 *Clothing Construction*. For students not specializing in home econ m'cs. Selection and construction of inexpensive garments. Emphasis on fundamental processes. Six hours a week. Credit, 3 hours.

108 *Clothing Construction*. Principles of dressmaking construction of inexpensive garments. Experience in the selection of materials and design. Open only to those specializing in the department. Six hours a week. Credit, 3 hours.

202 *Problems of the Consumer*. Problems, wants, needs, and practices of the consumer buyer of foods, textiles, clothing, and home equipment. Influence of advertising, retail stores, and government agencies. Fee, 50 cents. Credit, 2 hours.

203 *Child Development*. Physical, mental, emotional and social development of the young child. Observation in nursery school. Fee, 50 cent. Open to men and women. Four hours a week. Credit, 3 hours.

205 *Large Quantity Cookery*. Theory and practice in preparing food for large groups. Laboratory work in the college dining hall. Prerequisite: H.Ec. 105. Fee, \$2.00. Six hours laboratory and one hour discussion a week. Credit, 3 hours.

206 *Food for the Family*. The production, economic selection, and nutritive value of foods, types of meals, and table service. Practice in planning, preparing and serving meals. Open only to those specializing in the department. Prerequisite.: H.Ec. 101, 105. Fee, \$3.00. Six hours a week. Credit, 3 hours.

207g *Nursery School Education*. Evaluation, discussion and application of educational concepts with particular reference to the pre school child. Opportunity for assisting in nursery school. Prerequisites: H.Ec. 203 or Psych. 234. Fee, \$1.00. Six hours a week. Credit, 3 hours.

209 *Family Relationships*. Understanding of family life and current problems including preparation for marriage. Open to men and women. Credit, 3 hours.

210 *Household Equipment* A study of the selection, construction, use, care, and repair of all types of household equipment. Credit, 3 hours.

211 *Clothing: Tailoring*. Construction of coat or suit; tailoring techniques, alteration of patterns, and fitting emphasized. Prerequisites: H.Ec. 102, 108. Six hours a week. Credit, 3 hours.

212g *Advanced Nutrition*. Special problems in diet and nutrition. Prerequisites: H.Ec. 101; Chem. 110. Fee. \$1.00. Credit, 3 hours.

213g *Clothing: Pattern Designing*. Fundamental principles in designing, cutting, and fitting individualized garments. Flat patterns used. Prerequisites: H.Ec. 102, 107 or 108. Fee, \$2.00. Six hours a week. Credit, 3 hours.

214 *Home Management House*. Students live in Home Management House for a six week period, and carry on all duties involved in home-

making. Open to seniors in home economics. Prerequisites: H.Ec. 104, 203, 206, 217. Board and room at regular college rate. Credit, 3 hours.

215 *Home Furnishing*. Housing; selection, combination, and arrangement of furniture; color schemes; choice of wall finishes, floor coverings, draperies, and accessories. Fee, 50 cents. Credit, 3 hours.

217 *Home Management*. Goals of homemaking, standards of living, budgeting of time and income, household accounting, and selection, care, efficient arrangement, and use of the house and equipment. Fee, 50 cents. Credit, 3 hours.

218g *Clothing: Draping and Dress Design*. Working with fabric on a dress form expressing original ideas in dress design; emphasis upon the understanding of the principles involved in fitting and pattern construction. Prerequisites: H.Ec. 102, 107 or 108. Fee, \$3.00. Six hours a week. Credit, 3 hours.

219 *Textiles*. Textile fibers, their construction, finish, sources, characteristics, identification, and uses. Fee, 50 cents. Credit, 2 hours.

225g *Experimental Cookery*. Application of experimental methods to preparation of common foods. Prerequisites: H.Ec. 105 and Chem. 180. Fee, \$5.00. Six hours a week. Credit, 3 hours.

226g *The Teaching of Art Related to the Home*. The application of principles of art to problems of daily living. Use made of pertinent illustrative material. Opportunity provided to participate in teaching projects. Fee, 50 cents. Credit, 2 hours.

Department of Industrial Arts

NEEB, (Head of Department), BURK, CAVALLIERE, DOUTHIT, ELMORE, ENSIGN, FINLEY, GOODWIN, KAUFMAN, KEITH, MERRITT, PEABODY.

The chief purposes of the Industrial Arts program are the following: (a) preparation for teaching in the elementary and secondary schools, (b) educational training of a pre professional character in the fields of architecture and engineering, (c) education and training for work of an industrial, mechanical, electrical and academic type that will prepare the student for industrial and commercial pursuits, and (d) preparation for employment in the trades.

Teacher-Education Curriculums

To meet the demand for teachers with adequate preparation in the field of industrial arts, the department offers the student an excellent program of studies, and the opportunity to acquire a broad training in this field together with intensive educational preparation and training in one or more phases of the work. Practice and theory are combined and the student not only learns how to teach industrial arts subject matter, but is taught to master the techniques that enable him to actually do the required practical operations on a level commensurate with those required by industry.

The Kindergarten Primary Curriculum

The following courses will prove helpful to those students who are preparing to teach in these grades. The experience and training gained will give an insight into phases of design, construction, and production useful to teachers. I.A. 133 Plastics, I.A. 136 Upholstery, I.A. 151 General Shop, I.A. 221g Industrial Arts for the Kindergarten Primary Teachers.

The Elementary Curriculum

For Students Specializing in Industrial Arts. Students desiring to specialize in Industrial Arts must take a minimum of 30 semester hours of work, including 6 hours each, in four of the following divisions of the department: Aeronautics, Building and Construction, Drafting, Elections, and Mechanics, including I.A. 211, 212. Students will be required to choose 12 semester hours from the following courses: I.A. 100, 103, 111, 115, 122, 126, 136, 160, 200, 269.

Students who prefer to have a more intensive specialty in Industrial Arts may take a major teaching field of 45 semester hours. The additional 15 hours may be electives chosen under the guidance of an adviser.

The Secondary Curriculum

Major Teaching Field in Industrial Arts. For students planning to teach in the secondary schools, a minimum of 45 semester hours of Industrial Arts courses are required, including I.A. 109, 211, 212. The student will select 15 semester hours from the following courses: I.A. 100, 104, 105, 111, 113, 115, 122, 124, 126, 145, 160, 200. A minimum of 12 hours of work is required in each of two of the following divisions of the department: Aeronautics, Building and Construction, Drafting, Electricity and Electronics, and Mechanics. In each case half of these semester hours should be in upper division courses.

Minor Teaching Field in Industrial Arts. A minimum of 19 semester hours of work is required, including I.A. 211 and 212.

Arts and Sciences Curriculums

This curriculum is set up to meet the needs of those students who do not care to prepare for the teaching profession but who desire training in the special fields of industrial arts and technology.

The department, through the following areas of concentration under the Bachelor of Science curriculum, offers courses to meet the needs of four groups of students: (1) those preparing for a technical career and who wish to obtain the degree of Bachelor of Science with an area of concentration in aeronautics, building and construction, industrial and architectural drafting, electronics, industrial arts or mechanics. (2) those who desire one or two years of pre-professional training before transferring to professional architectural and engineering schools, (3) those who desire special technical training, leading to and fitting for, employment requiring licenses, and/or civil service ratings established by federal and state government regulations, and (4) those desiring employment in industrial and commercial establishments.

Degree. Satisfactory completion of the generalization requirements set up by the College for the Arts and Sciences Curriculum, together with an area of concentration as outlined below, making a total of 126 semester hours, leads to the degree of Bachelor of Science.

Generalization Requirements

All students seeking the Bachelor of Science degree will meet the generalization requirements listed under the Arts and Sciences curriculum found on page 85 of the catalog. In addition they must complete the work in the area of concentration as outlined below.

Areas of Concentration

Aeronautics. In the aeronautical division of the Industrial Arts Department it is assumed that the average student has a limited technical education in aeronautics. Under this assumption, an attempt is made to give an insight into, and understanding of, the complicated theories involved in aeronautics by emphasizing elementary individual phases

of the work and their practical application. This combination of theory and practice makes for ready understanding of the technical aspects of meteorology, radio, navigation, aerodynamics, and aircraft mechanics. Aeronautic students learn enough about the theory and practice of related subject matter to practice flying, do mechanical work, or give instructions in aeronautics. The proper use of navigation aids, weather aids, and training facilities, provided by the government are also taught.

Required Courses. I.A. 100, 103, 105, 109, 111, 115, 126, 127, 130, 131, 145, 160, 179, 200, 211, 220, 225, 234, 269.

Building and Construction. This area of concentration provides for specialization in this phase of the Industrial Arts field. The subject matter, shop experiences, and training provided in this area are designed to prepare the students for efficient service as builders, contractors, and estimators.

Required Courses. I.A. 100, 103, 105, 106, 109, 110, 121, 122, 134, 145, 154, 207, 208, 211, 217, 258, 283, 284, 285, 291, 292; Arch. 160, 161.

Optional Courses. I.A. 201, 218, 224, 245, 262, 285, 291.

Recommended Courses. Bus. Ad. 101, 102, 103, 141, 205, 206.

Industrial and Architectural Drafting. This area of concentration is designed for students, who desire to become draftsmen in manufacturing plants or architects' offices, who desire to qualify under various civil service programs.

The subject matter and instructions are both carefully planned to give the student a good scientific background, experience in manufacturing processes, a knowledge of materials industrially and commercially used, and also, intensive drafting practice geared to modern industrial and commercial needs.

Emphasis on Industrial Drafting. Required Courses: I.A. 103, 105, 109, 110, 111, 113, 122, 124, 125, 145, 154, 155, 160, 161, 208, 211, 254, 266, 267.

Optional Courses. I.A. 145, 179, 201, 224, 290, 291, 292.

Emphasis on Architectural Drafting. Required Courses: Arch. 100, 120, 121, 130, 140, 150, 160, 161, 180, 181, 220, 221, 241, 260, 261; I.A. 100, 105, 124, 145, 157, 208, 211, 245, 258, 262, 267, 283, 291, 292.

Optional Courses. I.A. 122, 134, 161, 207, 217, 218, 222; Arch. 120, 121, 130, 141, 181.

Electronics. This area of concentration is designed for those students contemplating entering the fields of radio broadcasting, television broadcasting, industry, the military or naval services, research and design, where a comprehensive theoretical, practical, and technical knowledge of electronics and allied fields is required.

This area of concentration provides sufficient preparation of a professional character especially needed for those students who desire successful careers in commercial broadcasting and television station operation, maintenance, and repair; radar and other military

applications of electronics; industrial application of electronics; and commercial activities associated with the field of electronics.

Laboratory work is done under supervision in the electronics laboratories, the mobile communications and radar laboratories, in the various campus studios, and at the various radio stations in the Phoenix area cooperating with the college electronic program.

Required Courses. I.A. 100, 109, 111, 113, 115, 116, 119, 120, 127, 140, 160, 203, 211, 219, 259.

Optional Courses. I.A. 101, 124, 145, 155, 205, 215, 216, 256, 272, 281, 282; Math. 107, 118, 120, 122, 123; Phys. 111 and 112 or 121 and 122.

Math 119 may be substituted for Math. 107 and 118 at the option of the student. Students preparing for additional work in accredited engineering colleges should confer with the adviser regarding additional courses in mathematics and science beyond the generalization requirements.

Industrial Arts. This area of concentration is designed for those students who desire a broad training in the field of industrial arts. By following this program, the student will gain an insight into several phases of industrial arts work, shop practices, and techniques. This area will provide excellent preparation for those who desire to be foremen, inspectors, managers, salesmen, supervisors or shop owners. This curriculum is also recommended for those students who desire to fit themselves for the position of manual arts therapist and for employment by the Veterans Administration in the Physical Medicine and Rehabilitation Service, as specified in Civil Service Bulletin M5 3, Part 1, Change 4b, April 1, 1949.

Required Courses. The following 17 semester hours or their equivalent are required: I.A. 100, 109, 111, 112, 122, 160, 211.

Optional Courses. The student must select a minimum of 15 semester hours from one of the five special emphases. In addition, he must select a minimum of 30 hours which may be chosen from any of the industrial arts courses offered by the department. All selections made by the student should have the approval of the adviser.

Emphasis on Aeronautics: I.A. 126, 130, 131, 132, 179, 200, 204, 220, 225, 234, 269.

Emphasis on Building and Construction: I.A. 105, 106, 134, 136, 145, 154, 163, 164, 207, 208, 217, 218, 222, 224, 245, 258, 270, 283, 291, 292; Arch. 160, 161.

Emphasis on Drafting: I.A. 103, 105, 106, 113, 124, 125, 141, 145, 154, 155, 156, 201, 202, 224, 245, 258, 262, 270, 271, 276, 277, 278, 284, 285, 291, 292, 294, 295; Arch. 160, 161.

Emphasis on Electronics: I.A. 115, 116, 119, 120, 127, 154, 203, 205, 215, 216, 219, 251, 256, 272, 281, 282.

Emphasis on Mechanics: I.A. 101, 104, 107, 111, 112, 131, 145, 154, 157, 160, 179, 213, 223, 226, 227, 228, 231, 232, 233, 261, 262.

Mechanics. This area of concentration is designed to meet the needs of those students who are preparing themselves for service in welding and machine shops, garages, and other industrial and commercial pursuits.

Required Courses. I.A. 100, 101, 103 or 113, 104, 109, 111, 112, 134, 154, 155, 156, 157, 160, 179, 201, 211, 223, 227, 228, 231, 232, 233.

Two-Year Technical Curriculum

Students who do not wish to graduate with either the B.A. or B.S. degree, and who desire to secure specialized training on a college level in the industrial activities to enable them to participate immediately in industrial pursuits may choose one of the following two year courses: (1) Aeronautics, (2) Architectural Drafting, (3) Building and Construction, (4) Electronics, (5) Industrial Drafting, and (6) Mechanics.

Description of Courses

Aeronautics

I.A. 126 *Aircraft Covering and Doping.* Fabric materials and testing, accessories, inspection of assemblies prior to covering, sewing of covers, rib stitching, repairs, hand doping, spray doping, including study of equipment used. Fee, \$4.00. One lecture, 3 hours laboratory. Credit, 2 hours.

130 *Aircraft Woodwork.* Materials used, rib construction, wing construction, spar splicing, alignment of drag truss, general wood repairs, inspection, testing, and use of power and hand tools. Fee, \$4.00. One lecture, 3 hours laboratory. Credit, 2 hours.

131 *Aircraft Engines.* Disassembly and assembly of aircraft engines including complete top overhaul. Timing of engines, synchronizing magnetos, carburetion, ignition and oil systems. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

132 *Airplane Mechanics.* Types of wood rib construction, use of power sewing machine, covering, doping and painting, riveting, and uses of metals for aircraft construction. Fee, \$6.00. Prerequisites: I.A. 160, 179. One lecture, 6 hours laboratory. Credit, 3 hours.

200 *C.A.A. Primary Ground School Course.* Sponsored by the Civil Aeronautics Authority. A total of 72 hours in class are required as follows: History of Aviation, 2 hour; Theory of Flight, 15 hours; Civil Air Regulations, 12 hours; Practical Air Navigation, 15 hours; Meteorology, 15 hours; Parachutes, 1 hour; Aircraft Power Plants, 5 hours; Aircraft Instruments, 5 hours; Radio Uses and Terms, 2 hours. Prerequisites: College Algebra and Trigonometry or equivalent. Flight instruction costs are extra. Fee, \$4.00. Four times a week. Credit, 4 hours.

204 *The Secondary Ground School Course.* A minimum of 128 hours in the following: Aerodynamics, 32 hours; Navigation, 48 hours; Powerplants, 48 hours. Prerequisite: I.A. 200. Passing of Government

examination required for college grade. Fee, \$8.00. Eight lectures a week. Credit, 8 hours.

220 *C.A.A. Ground Instructors Rating: Civil Air Regulations.* A detailed study of the various regulations affecting airmen including preparation of visual aid materials as an aid to making the subject more interesting. Fee, \$3.00. Credit, 3 hours.

225 *Aircraft Instruments.* Construction and operation of instruments used with aircraft powerplants and those recommended for successful flight operation. Fee, \$6.00. Credit, 3 hours.

234g *Aeronautical Instructional Materials.* Design, construction, and operation through models and mockups of visual aid devices for aviation construction for use in pre flight and mechanics courses in aviation. Prerequisites: I.A. 103, 111, 121 or 179. One lecture, 3 hours laboratory. Fee, \$4.00. Credit, 2 hours.

269g *Pre-Flight Aeronautics for Teachers and Laymen.* Gives an insight into the world of aviation and practical applications of navigation, meteorology, use and care of instrument, civil air regulations, and operation of aircraft engine power plants. Meets the needs of teachers, and those planning to do technical work. Fee, \$3.00. Three lectures, 1 hour laboratory. Credit, 3 hours.

Building and Construction

I.A. 105 *Architectural Drawing.* For students preparing to teach or for drafting and engineering work. Fee, \$3.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

106 *Architectural Drawing.* Complete plans and estimates of materials for a two-story house. Prerequisite: I.A. 105. Fee, \$3.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

121 *Wood Work.* Basic types of furniture construction and repair suitable for use in school shops. No machine work. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

122 *Cabinet Making.* Principles of furniture construction, and correct use of hand tools and machines. Prerequisite: I.A. 121. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

133 *Plastics.* Practical uses of plastics and their uses for school work shops and hobby shops. Fee, \$6.00. Six hours a week. Credit, 3 hours.

134 *Materials of Construction.* A study of cement and concrete mixes, stucco, plaster materials, brick and concrete block work, roofing materials, lumber, wood, preservatives, paints and varnishes. Prerequisite: I.A. 103 or 105. Fee, \$4.00. Credit, 2 hours.

136 *Upholstery.* Selection of fabrics and materials. Practice in the various craft processes used. Construction of necessary frames and bases. Design of jigs. Use of hand and power tools. Wood finishing. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

145 *Elementary Surveying*. Care, adjustment and use of surveying instruments, and computations. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

151 *General Shop*. The practical application of accepted industrial processes in the use of supplies and materials by industrial art shops in the elementary and secondary schools. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

161 *Properties of Materials*. Laboratory and class work in analyzing the properties of materials in terms of their use in machines and construction. Prerequisite: I.A. 134. Fee, \$5.00. Two hours lecture. Credit, 2 hours.

163 *Wood Turning*. Drills in spindle, face plate, and chuck work, with practice in finishing and polishing. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

164 *Patternmaking*. Use and operation of woodworking machinery. Study of drafts, shrinkage, finish, warp and shakes. Making patterns, molds and castings. One hour lecture, 6 hours laboratory. Fee, \$6.00. Credit, 3 hours.

165 *Theory of Acoustics*. Acoustical theory and problems relating to studios, theaters, auditoriums, amphitheaters, and homes. Two lectures. Credit, 2 hours.

180 *Mechanical Equipment in Buildings*. Water supply, drainage systems, heating, ventilating, and air conditioning. Fee, \$1.00. Two lectures. Credit, 2 hours.

181 *Mechanical Equipment in Buildings*. Electrical systems, refrigeration, and vertical transportation (elevators). Fee, \$1.00. Credit, 2 hours.

206 *Advanced Plastics*. Emphasis on materials, machine operations, carving, cementing, embossing and inlaying. Prerequisite: I.A. 133. Six hours a week. Fee, \$6.00. Credit, 3 hours.

207 *Cabinet Making and Mill Work*. Advanced types of furniture; construction and tenoning; panels; gluing; finishes; design; power machines. Prerequisite: I.A. 122. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

208 *Carpentry and House Construction*. Use of steel square and carpenter tools; sharpening tools; framing processes; short cuts; trade terminology; FHA standards. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

217 *Stair Building*. Construction of straight stairways, platforms, and circular stairways to one-third scale. Prerequisite: I.A. 208. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

218g *Steel Square and Roof Framing*. Problems involving the steel square in carpentry, framing, stair building, and sheet metal. Prerequisite: I.A. 208. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

222g *Geometry of the Steel Square.* Use of steel square and layout of irregular roofs, geometrical problems, and marquetry and their application to the fields of building and construction and design. Prerequisite: I.A. 208. or equivalent. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

224g *Estimating and contracting.* Making cost analysis of structures and utilities placed in them. Procedures concerning titles, mechanic liens, obligations of contractors, etc. Quality values and costs. Writing specifications and contracts. Prerequisites: I.A. 106, 121, 122. Fee, \$3.00. Credit, 3 hours.

236 *Advanced Upholstery.* Design and construction of large pieces of upholstered projects. Advanced wood finishing. Prerequisite: I.A. 136. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

245 *Route Surveying.* Techniques of using instruments in the field, and associated office computations in surveying and laying out of highways, horizontal curves, vertical curves, cuts, fills, borrow pits and haulage. Prerequisite: I.A. 145. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

252g *General Shop.* An advanced course giving additional emphasis in mechanical and industrial practices of value to those planning to teach industrial arts. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

258g *Utilities Services.* Pipe cutting, threading, fitting, calking, roughing in, venting pipe lines, cesspools, toilet fixtures and plumbing requirements. Study of materials used. Prerequisites: I.A. 100, 106, 109, 122, 160. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

260 *Advanced Wood Turning.* All kinds of built up, segmented and jointed projects. Prerequisite: I.A. 163. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

268 *Advanced Route Surveying.* Advanced office work and the laying out of routes with special emphasis on spiral and parabolic curves. Prerequisite: I.A. 145. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

I.A. 277g *Beaux Arts Atelier.* Problems in design of homes and industrial and commercial buildings involving sketching, drafting, details, working drawings, perspective, color, and shades and shadows, especially suited for teachers of drawing in the secondary schools and draftsmen. Prerequisite: I.A. 201. Fee, \$3.00. One lecture, 4 hours laboratory. Credit, 2 hours.

278g *Beaux Arts Atelier.* Continuation of I.A. 277. Fee, \$3.00. One lecture, 4 hours laboratory. Credit, 2 hours.

280 *Advanced Surveying.* Topographical surveying, including introduction to plane table, solar observations, etc. Prerequisite: I.A. 145. One lecture, 6 hours laboratory. Fee, \$6.00. Credit, 3 hours.

283g *Practical Application of Build'ng Materials*. Practice in the application of industrially accepted mixes of Portland cement, white cement, plasters, lime mortar and stucco, together with instruction and experience in the reinforcing, curing, coloring and finishing of these materials. Prerequisites: I.A. 103, 105. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

284g *Home Building*. Factors involved in the building of a contemporary home including: functions of owner, architect, and contractor, selection of site, design, working drawings, specifications, materials and equipment, contracts and legal procedures, financing, construction and supervision, landscaping and maintenance. For teachers, drafts men, contractors and prospective homeowners. Fee, \$5.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

285g *Estimating and Contract'ng*. Continuation of I.A. 224 with emphasis on commercial, industrial and public buildings. Contracts, specifications, mechanics' liens, titles, and obligations of contractors and architects. Prerequisite: I.A. 224g. Fee, \$3.00. Credit, 3 hours.

286g *Structural Design*. Designed for builders, contractors, and teachers of the industrial arts who need a knowledge of elementary design suitable for small structures and buildings. Fee, \$3.00. Three lectures. Credit, 3 hours.

289g *Period Furniture*. This is a course designated to supply adequate information on furniture sold today which is composed of reproductions of 18th Century inspiration. 18th Century furniture embraces all the styles of the Georgian period, including Chippendale, Hepplewhite, Adam, Sheraton, and lesser known designers. Fee, \$3.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

291g *Build'ng Design*. Construction layout for beams, trusses, straps, plates and joints generally used in building design. Prerequisite: I.A. 161. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

292g *Advanced Building Design*. Problems in lighting, sanitation and air conditioning. Design of reinforced concrete structures including bending moments, stresses, T beams, slabs, columns, walls and foundations. Prerequisite: I.A. 291. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

294g *Advanced Use of Build'ng Materials*. Practical use of journeyman procedures in the application of industrially accepted mortar mixes, setting up of various kinds of stone, laying of various accepted brick bonds, together with the design and construction of lintels and arches, and the forms for the same. The course will also take up stone cutting and brick making and a discussion of the use of these materials in architecture. Prerequisites: I.A. 103, 105, and 283. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

Drafting

I.A. 103 *Mechanical Drawing*. Elements of orthographic projection. Fee, \$3.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

110 *Blue Print Reading*. Study of blue prints and symbols used in the building and construction trades. For teachers, contractors, estimators, architects, and home planners. Fee, \$2.00. Credit, 2 hours.

113 *Engineering Drawing*. Orthographic projections, lettering, tracing, and blue printing. Prerequisite: One year high school drawing, or I.A. 103. Fee, \$3.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

114 *Blue Print Reading*. Blue prints and symbols used in machine shop practices, welding, electronics, sheet metal, auto ignition, and aircraft. Fee, \$3.00. One lecture, 3 hours laboratory. Credit, 2 hours.

124 *Descriptive Geometry*. Problems in warped surfaces and intersections of solids. Prerequisite: I.A. 113. Fee, \$3.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

125 *Descriptive Geometry*. Continuation of I.A. 124 with emphasis on shades and shadows. Prerequisites: I.A. 105, 106, and 124. Fee, \$3.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

155 *Mechanisms*. Study and design of linkages, gears, cams, screws, and other machine elements with the relative motions of machine parts. Prerequisite: I.A. 124. Fee, \$3.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

156 *Machine Drafting*. A course placing emphasis upon techniques in the making of detailed drawings and assembly drawings in accordance with standard drafting room practice. Problems are assigned individually. This course is designed to meet the needs of instructors in drafting in secondary schools. Prerequisite: I.A. 103. Fee, \$3.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

254 *Elementary Machine Design*. Design and layout of machine parts. Prerequisites: I.A. 155, 161. Fee, \$3.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

266g *Structural Drafting*. Consists of drawing, all types of welded, bolted and riveted assemblies which use standard structural shapes for supports and frames used in industry. Elements of design and materials studied and applied from handbooks and catalogs. Prerequisites: I.A. 113, 161. Fee, \$3.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

267g *Steel Fabrication Design*. Drafting and calculations as applied to tanks and pressure vessels. Use of national safety codes. Prerequisites: I.A. 113, 161. Fee, \$3.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

Electricity and Electronics

I.A. 100 *Elementary Electricity*. Theory and practical application of direct and alternating current circuits. Prerequisite for all electrical and radio courses. Fee, \$6.00. Credit, 3 hours.

108 *Intermediate Electronics*. Lectures, films, and use of tests on all phases of basic electronics to give the student a background and

preparation for the complexities of electronic and fundamental radio circuits. Fee, \$3.00. Three lectures. Credit, 3 hours.

115 *Fundamentals of Radio*. Basic theory and practical application of radio, including tubes, power supplies, oscillators, detectors. Prerequisite: I.A. 100. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

116 *Transmitter and Receiver Theory*. A study of oscillators, amplifiers, modulators, receivers, transmission lines, antennae, and propagation. Prerequisites: I.A. 100, 115. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

119 *Industrial Electronics*. The theory and application of electronics to the industrial field. Prerequisite: I.A. 100. Fee, \$6.00. One lecture, 3 hours laboratory. Credit, 2 hours.

120 *Principles of Vacuum Tubes*. Principles, construction and operation of various types of tubes, and application in electronic circuits. Prerequisite: I.A. 100. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

127 *Aircraft Radio*. A study of radio used in commercial and private planes and ground installations, including questions and answers for the restricted radio telephone permit. Prerequisite: I.A. 100, 115. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

140 *Electronic Measurements*. Design, construction, and study of measuring techniques and measuring equipment in use in the laboratory and field of electronics. Prerequisite: I.A. 120. Fee, \$3.00. Two lectures, 3 hours laboratory. Credit, 3 hours.

154 *House Wiring*. Installation of lighting circuits, underwriters' regulations, conduit work, and estimation of cost. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

203 *Direct Current Electricity*. Direct current circuits, machinery, measurement, magnetism, and allied subjects. Emphasis on installation, operation, and maintenance of equipment. Prerequisite: I.A. 100. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

205 *Radio Code*. Sending and receiving Morse Code. Practice on receiving by tape and commercial receivers. Speed required at close of course is thirteen words a minute. Fee, \$4.00. Credit, 2 hours.

215g *Micro-Wave Techniques*. A study of micro-wave generating and receiving systems, measurements, theory, installation, operation, and maintenance of typical radar equipment. Prerequisite: I.A. 116. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

216g *Radio Frequency Tests and Measurements*. Design, construction and operation of advanced types of testing equipment with application to laboratory and field work. Prerequisite: I.A. 116. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

219 *Elementary Television*. Basic principles of television, image reproducing tubes, kinescopes, horizontal and vertical sweep circuits, video amplifiers, receiving, transmitters, and television antenna design.

Industrial techniques used in repair, maintenance and construction of television receivers. Prerequisite: I.A. 116. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

249g *Advanced Principles of Television.* Theory of picture reproduction, mixing and distribution circuits, synchronizing generators, count down circuits, methods of modulating video and AM circuits, film reproduction and shading thereof, microwave links for remote transmission, transmission, transmission lines and antenna design. Prerequisite: I.A. 219. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

251 *Alternating Current Electricity.* Alternating currents and voltages, impedance, power, polyphase voltages, alternating current machines. Fee, \$6.00. Two lectures, 4 hours laboratory. Prerequisite: I.A. 100. Credit, 3 hours.

256g *Broadcast Radio.* A study of the Federal Communications Commission laws and problems included in the first-class radiotelephone operator's license examination, control board and control room operation and technique, and transmitter operation and maintenance. Laboratory held in campus studio and local broadcast stations. Prerequisite: I.A. 115 or advanced class amateur license. Fee, \$3.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

259 *Communications Circuit Analysis.* Circuit analysis of four-terminal networks and application of network theorems; filter theory and design of high-pass, low-pass, and band-pass filters; study of telephone, telegraph, and teletype circuits; study of telephone repeater and carrier circuits; advanced study of equivalent circuits applied to amplifiers and oscillators. Prerequisites: I.A. 115, 116. Fee, \$3.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

265g *Advanced Broadcast Techniques.* Advanced technical problems involved in remote broadcasts, local studio broadcasts, and network broadcasts, theory and techniques of disc and tape recordings for broadcasting; study of relations which exist between technicians and production and programming; advanced control room and studio techniques; and technical problems involved in studio design. Prerequisite: I.A. 256g. Fee, \$1.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

272 *Advanced Alternating Current Electricity.* Electrical circuits and machinery. Emphasis on polyphase types of machinery and applications to residential and industrial power. For teachers and for those preparing for industrial and commercial occupations. Two lectures, 4 hours laboratory. Prerequisite: I.A. 251. Fee, \$6.00. Credit, 3 hours.

273g *Advanced Communication Circuit Analysis.* Advanced analysis of multi-terminal networks, theory and design of filters and attenuators, advanced analysis of equivalent circuits for amplifiers, oscillators, etc. Advanced analysis of communication transmission line circuits. Prerequisite: I.A. 259; Math. 122 or equivalent. Fee, \$3.00. Three lectures. Credit, 3 hours.

281 *Direct Current Machinery*. Theory, design and construction of direct current machinery, involving field and armature windings. Prerequisite: I.A. 203. Fee, \$6.00. Two lectures, 4 hours laboratory.

282 *Alternating Current Machinery*. Theory, design and construction of polyphase equipment including training in the winding of fields and armatures. Prerequisite: I.A. 251. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

Mechanics

I.A. 101 *Auto Ignition*. Prepares for commercial shop practice, and includes storage batteries, ignition coils, distributors, lighting systems, etc. Machine shop practice. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

104 *Auto Mechanics*. General repair of automobiles; complete overhaul of gasoline engines. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

111 *Machine Shop*. Filing, drilling, turning, and polishing with hand tools, and general use of machines. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

112 *Machine Shop*. Making of projects using the complete machine equipment of the department. Fee, \$6.00. Prerequisite: I.A. 111. Two lectures, 4 hours laboratory. Credit, 3 hours.

157 *Jigs and Fixtures*. Design and construction of various devices that facilitate shop production in quantities. Fee, \$6.00. Credit, 3 hours.

160 *Sheet Metal Work*. Laying out and cutting of sheet metal; soldering, riveting; projects including utensils and toys. Prerequisite: I.A. 113. Fee, \$6.00. One lecture, 6 hours laboratory. Credit 3 hours.

179 *Welding*. Oxygen-acetylene welding. Various types of welds, laying, use of fluxes. Fee, \$10.00. Credit, 3 hours.

201 *Operation, Repair, and Maintenance of Diesel Engines*. A course in the accepted industrial procedures used in the operation, maintenance and repair of diesel engines, including a study of compression and fuel ratios, methods of fuel injection, problems in pressure lubrication, and heating problems, together with a practical study of fuels and oils. Prerequisites: I.A. 111, 112 or equivalent. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

213g *Sheet Metal*. Problems in roofing, cornice work, practical intersections, and use of sheet metal machines. Fee, \$6.00. One lecture, 6 hours laboratory. Prerequisite: I.A. 160. Credit, 3 hours.

223g *Shop Maintenance Problems*. Course designed especially for teachers of the Industrial Arts and those interested in the problems involved in setting up equipment, grinding, and filing of various cutting tools, together with the care involved in the maintenance and repair of both wood and metal machines and tools. Fee, \$3.00. Credit, 3 hours.

227g Auto Mechanics. Cylinder boring, honing, and dual ignition systems. Prerequisite: I.A. 104. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

228g Auto Ignition and Repairs. Repairing, adjusting, and testing generators, starting motors, magnetos, and other electrical equipment in an automobile. Prerequisite: I.A. 101. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

231g Machine Shop. Care and use of milling machines, the cutting of spur, worm and bevel gears. Plain and direct indexing. Cutters and their upkeep. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

232g Machine Shop. Planers, their care, methods of holding work, uses of fixtures, gauges, and tools. Adjustment of belting for speed and power. Prerequisite: I.A. 231. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

233 Electric Arc Welding. Making satisfactory butt welds, lap welds, ridge welds, T-welds. Prerequisite: I.A. 179. Fee, \$10.00. One lecture, 6 hours laboratory. Credit, 3 hours.

241g Auto Body and Fender Repair. Welding and straightening, use of body lead and putty, sanding, priming, and painting; interior refinishing and upholstery. Prerequisites: I.A. 136, 104 or equivalent. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

275g Advanced Welding. Designed to provide experience and content for students and teachers interested in becoming more specialized in the field of Oxy-acetylene welding-cutting and electric arc welding. Includes specific problems, lectures, and field trips, and the study and performance of new material in the field of welding. Prerequisites: I.A. 179, 233. Fee, \$10.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

288g Design and Construction of Corrective Equipment. This course is planned to provide the training and experience necessary to enable the student to design, construct, and operate corrective equipment needed in Manual Arts Therapy. Includes field trips and a study of contemporary factory equipment. Prerequisites: I.A. 100, 111, 113, 179 or equivalent. Fee, \$6.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

Industrial Arts Education

I.A. 109 Calculations. Fundamental arithmetical processes applied to shop and engineering problems. Use of slide rule. Credit, 3 hours.

211 Job Analysis. Various steps in jobs and their relationship. Fee, \$4.00. One lecture, 3 hours laboratory. Credit, 2 hours.

212 Curriculum Making. Trade and technical material, tool processes, occupational information, and job analysis. Prerequisite: I.A. 211. Fee, \$4.00. One lecture, 3 hours laboratory. Credit, 2 hours.

257g *Supervision and Administration of Industrial Arts.* Shop organization and principles of supervision applied to shop classes. Classifications of tools, tool operations, and projects. Purchasing supplies and equipment. Prerequisite: I.A. 212. Fee, \$3.00. Credit, 3 hours.

299g *History of Industrial Arts Education.* Traces the history of the instruction and hand work in European countries and the United States. Attention is given to the various trends in the development of this instruction leading to contemporary practices in teaching of industrial arts subjects and vocational education. Fee, \$3.00. Three lectures. Credit, 3 hours.

310 *Seminar in Industrial Arts Education.* Problems in industrial arts education; architectural and orthographic projection drafting, aeronautics, mechanics, electricity and electronics, building and construction, and general industrial arts courses for the elementary, junior high schools and secondary schools. Fee, \$3.00. One lecture, 6 hours laboratory. Credit, 3 hours.

312 *General Industrial Arts Procedures.* Discussions on plant organization, shop planning, safety factors, and curriculum for the industrial arts in junior and senior high schools. Fee, \$3.00. Three lectures. Credit, 3 hours.

Architecture

Arch. 100 *Introduction to Architecture.* A survey of architecture as human environment through consideration of contemporary building types. A survey of architecture as a profession, aims of architectural education and registration, relation of the architect to contemporary social and economic life. Fee, \$1.00. Credit, 2 hours.

110 *Descriptive Geometry, Shades, Shadows, Perspective.* Elements of architectural drafting, orthographic projection, sections, shades and shadows, theories of perspective. Fee, \$1.00. Six hours laboratory a week. Credit, 3 hours.

112 *Strength of Materials.* Basic materials of architectural construction are studied to develop theory of structural analysis through lectures and laboratory tests. Prerequisite: Math. 170. Fee, \$2.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

120 *Introduction to Design.* Fundamentals of architectural design and planning studied through a sequence of exercises in three dimensional form. Prerequisites: Arch. 100, 110. Fee, \$2.00. Six hours criticized work in studio. Credit, 3 hours.

121 *Architectural Design.* Planning and design of simple buildings with emphasis on structure, utility, and organization of space. Prerequisite: Arch. 120. Fee, \$2.00. Six hours criticized work in studio. Credit, 3 hours.

130 *Landscape Design.* A study of plant materials, especially those native to the Southwest and their composition with architectural forms. Fee, \$1.00. Four hours criticized work in studio. Credit, 2 hours.

140 *History of Architecture*. A study of the historic styles through Romanesque with emphasis on the effect of physical and sociological conditions in each period. Prerequisite: Arch. 100. Fee, \$1.00. Three lectures. Credit, 3 hours.

141 *History of Architecture*. Continuation of Arch. 140. Covering Gothic through 19th Century Architecture. Prerequisite: Arch. 140. Fee, \$1.00. Three lectures. Credit, 3 hours.

150 *Sketching and Rendering* Techniques for design studies and presentation drawings in black and white. Prerequisite: Arch. 110. Fee, \$2.00. Six hours criticized work in studio. Credit, 3 hours.

160 *Elementary Working Drawings*. Fundamentals of lettering, line work and conventions followed by a series of drawings of simple architectural details. Emphasis on neatness, clarity and organization. Prerequisite: Arch. 110. Fee, \$1.00. Four hours laboratory a week. Credit, 2 hours.

161 *Architectural Working Drawings*. Drafting technique and drafting room practices stressed in drawing of architectural details of increasing complexity. Materials and methods of architectural construction studied concurrently through lectures and films. Prerequisite: Arch. 160. Fee, \$3.00. Four hours laboratory a week. Credit, 2 hours.

190 *Specifications and Estimating*. Preparation and interpretation of architectural specifications, quantity surveys and cost estimates. Prerequisite: Arch. 160. Fee, \$2.00. Credit, 2 hours.

220 *Architectural Design*. Problems involving a more detailed study of the fundamental relations of materials, equipment, and construction in architectural design. Prerequisite: Arch. 121. Fee, \$5.00. Twelve hours criticized work in studio. Credit, 5 hours.

221 *Architectural Design*. Continuation of Arch. 220. Prerequisite: Arch. 220. Fee, \$5.00. Twelve hours criticized work in studio. Credit, 5 hours.

240 *Theory of Architecture*. A study of the various building types in contemporary architecture, their histories and significance. Prerequisite: Arch. 141. Fee, \$2.00. Credit, 2 hours.

241 *Theory of Architecture*. A continuation of Arch. 240. Prerequisite: Arch. 240. Fee, \$2.00. Credit, 2 hours.

250 *Architectural Sketching and Rendering*. Techniques for design studies and presentation drawings in color. Prerequisite: Arch. 150. Fee, \$4.00. Six hours laboratory a week. Credit, 3 hours.

260 *Architectural Working Drawings*. Continuation of Arch. 161. Examinations of plans and specifications of work already executed and inspection of buildings under construction. Prerequisite: Arch. 161. Fee, \$3.00. Four hours criticized work in studio. Credit, 2 hours.

261 *Architectural Working Drawings*. Continuation of Arch. 260. Preparation of complete architectural working drawings for a simple building. Prerequisite: Arch. 260. Fee, \$3.00. Four hours criticized work in studio. Credit, 2 hours.

270 *Design and Planning in Wood.* Application of the principles of structural analysis studied in prerequisite courses to the design of structural members of buildings in wood. Prerequisites: Math. 170, Arch. 112. Fee, \$2.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

271 *Design and Planning in Steel.* Application of the principles of structural analysis studied in prerequisite courses to the design of structural members of buildings in steel. Prerequisite: Arch. 270. Fee, \$2.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

272 *Design and Planning in Concrete.* Application of the principles of structural analysis studied in prerequisite courses to the design of structural members of building in concrete. Prerequisite: Arch. 271. Fee, \$2.00. Two lectures, 4 hours laboratory. Credit, 3 hours.

Department of Library Science

BACHELOR (Head of Department), SPENGLER

The Department of Library Science offers courses designed to prepare students for various levels of librarianship, professional and clerical: (a) for high school graduates who plan to be library clerks by completing one or two years of college training; (b) for students under the kindergarten-primary and elementary curriculum who plan to be teacher-librarians or school librarians; (c) for students under the secondary curriculum who plan to be high-school librarians; (d) for students who plan to be college librarians; (e) for students who plan to be public or special librarians. The courses in Library Science are also recommended to those students preparing to be teachers who wish to understand the school library as a materials center and its organization and services, especially as related to the classroom and the instructional program.

Teacher-Education Curriculums

The Kindergarten Primary and Elementary Curriculums

A Library Science minor is recommended for students planning to prepare for the positions of teacher-librarian or school librarian. The courses are: L.S. 203, 204, 205, and 206, and a choice of either L.S. 201, 202 or 290.

The Secondary Curriculum

Under the secondary curriculum, students who desire to prepare for high school librarianship may choose a minor teaching field in Library Science. The undergraduate program of professional education for high school librarians should also include a systematic survey of the various fields of knowledge, concentration in one or more subject fields taught in Arizona High Schools, background courses of special value in library science, study of professional principles and methods common to school libraries.

Students who have completed a minor teaching field in Library Science at the undergraduate level may select Library Science as a field of specialization at the graduate level.

Minor Teaching Field in Library Science. The minor in Library Science consists of at least 15 semester hours. The courses are: L.S. 203, 204, 205, and 206, and a choice of either L.S. 201, 202 or 290.

The Graduate Field of Specialization in School Library Services. Ordinarily at least 10 semester credit hours should be earned among the following professional courses: L.S. 223g, 224g, 225g, 226g, 251g, 252g, 390.

Arts and Sciences Curriculums

Students under the Arts and Sciences Curriculums who intend to pursue a fifth year of professional preparation in Library Science for college, public or special librarianship are advised to include a Library Science minor. Two years of German and French or Spanish are strongly recommended.

Description of Courses

L.S. 201 *Libraries and Society*. A history of libraries, library agencies and services, with particular emphasis on the school library in the modern world and librarianship as a profession. Credit, 3 hours.

202 *Books and Publishing*. A survey of the materials and methods of writing and of publishers and publishing from early times to the present. Credit, 3 hours.

203 *Book Organization*. The principles and practices of the Dewey Decimal classification, cataloging techniques, subject headings, alphabetizing and filing. Fee, \$1.00. Nine hours laboratory. Credit, 3 hours.

204 *Book Services*. Principles and practices of the loan, reference and reading guidance services suitable for the public and school library. Fee, \$1.00. Credit, 3 hours.

205 *Library Book Selection*. Techniques and problems of selecting books for the school and public library. Attention given guides and aids, reading interests, publishers, dealers, etc. Fee, \$1.00. Credit, 3 hours.

206 *School Library Administration*. Organization and administration of the school library, its backgrounds, activities, functions, personnel, materials and equipment. Credit, 3 hours.

223g *Advanced Book Organization*. Emphasis on problems in acquisition, recording and organizing of library materials in high school and community libraries. Prerequisite: L.S. 203. Fee, \$1.00. Two lectures 4 hours laboratory. Credit, 2 hours.

224g *Advanced Reference Service*. Emphasis on special high school and adult reference materials and techniques, bibliography, and government publications for curricular and extra-curricular enrichment. Prerequisite: L.S. 204. Fee, \$1.00. Credit, 2 hours.

225g *Reading and Communication*. Modern communication and its social and psychological effects through various media, considered in relation to the school library collections and services for youth. Prerequisite: L.S. 205. Fee, \$1.00. Credit, 2 hours.

226g *Current Library Problems*. Reading in professional library literature on unsolved problems and current issues of librarianship as related particularly to the school library. Prerequisite: L.S. 206. Credit, 2 hours.

251g *Library Materials for Children.* Introduction to the use of books and related materials available for children. Develops ability to select and integrate vital books and materials into the school curriculum and a free-reading library program. Prerequisite: L.S. minor or instructor's approval. Fee, \$2.00. Credit, 3 hours.

252g *Library Materials for Adolescents.* Introduction to the use of books and related materials in youth libraries and in the secondary school program. Develops ability to select and integrate vital books and materials into the school curriculum and a free-reading library program. Prerequisite: L.S. minor or instructor's approval. Fee, \$2.00. Credit, 3 hours.

Department of Mathematics

WEXLER, (Head of Department), FOUCH, LYON

Extensive work in mathematics is absolutely essential for any kind of scientific career. The amount of necessary mathematics varies from a minimum of a course in calculus in fields such as modern biology to a large amount of graduate mathematics in such fields as astronomy and physics. For most branches of engineering, mathematics through advanced calculus is necessary. In fact a student's ability in mathematics serves as an excellent criterion of his future success in engineering or science.

Especially capable persons should seriously consider a career in mathematics. Not only is a teaching career possible, but also an increasing number of industrial organizations as well as government agencies are employing professional mathematicians. Pure mathematical research has increased and is increasing at a tremendous rate.

Teacher-Education Curriculums

The Kindergarten Primary and Elementary Curriculums

Arithmetic in the Elementary School is the only course in mathematics required in the elementary curriculum, and is recommended in the kindergarten primary curriculum as an elective. For students desiring further work in mathematics, such courses as the following are recommended: Math. 105, 106, 107, 118, 119, 120.

The Secondary Curriculum

Major Teaching Field in Mathematics. For students who choose mathematics as their major teaching field, forty-five or more hours in mathematics and related subjects are required, including Advanced Calculus (Math. 221, 222), and at least three other courses on the 200 level in consultation with the adviser. At least one mathematics course must be taken each semester. In addition, various courses in physical science and foreign languages (both French and German) are strongly recommended. Transfer students must take at least two courses in mathematics at this college.

Minor Teaching Field in Mathematics. The minor teaching field in mathematics consists of a minimum of fifteen hours in mathematics, including a year of calculus and Ed. 228m. Transfer students must take at least one course in mathematics at this college.

Arts and Sciences Curriculums

Degrees. Students completing the Arts and Sciences curriculum receive the degree of Bachelor of Arts, or Bachelor of Science depending upon the work selected to meet the generalization requirements.

Generalization Requirements

These requirements are outlined on page 85 of the catalog.

Area of Concentration

Mathematics. The following courses are required: Math. 119 (or 106, 107, 118) followed by 120, 122, 123, 221, 222 and three or more upper division courses decided upon in consultation with departmental adviser. At least one course in mathematics must be taken each semester. In addition, various courses in physical science and foreign languages (both French and German) are strongly recommended.

Description of Courses

Math. 105. *Basic Mathematics.* A survey of some of the fundamental concepts and simple applications of mathematics. Designed for students who do not intend to take more than one course in mathematics. Does not presuppose high school algebra or geometry. Each semester.

106 *Intermediate Algebra.* A first course in algebra for students with little or no recent high school mathematics. Credit, 3 hours.

107 *College Algebra.* Intensive review. Study of progressions, permutations and combinations, probability, determinants, theory of equations as time permits. Credit, 3 hours.

118 *Trigonometry.* Identities and equations, logarithms, solution of triangles. Credit, 3 hours.

119 *Algebra and Trigonometry.* Subject matter equivalent to both Math. 107, 118 in one semester. Capable students should take this course in place of Math. 106, 107, 118, if they intend to go on in mathematics. Credit, 4 hours.

120 *Analytic Geometry.* Coordinate systems, conic sections, general methods. Courses 119, 120 should be taken in the freshman year; otherwise, elementary calculus is delayed until the junior year. Prerequisite: Math. 118 or 119. Credit, 4 hours.

122 *Calculus.* Differential and integral calculus, and more analytic geometry. Applications to physics. Prerequisite: Math. 120. Credit, 4 hours.

123 *Calculus.* Continuation, Math. 122. Prerequisite: Math. 122. Credit, 4 hours.

170 *Analytical Mechanics—Statics.* Study of vectors; forces in equilibrium. Prerequisites: Math. 107, 118 or equivalent. Credit, 3 hours.

205 *Arithmetic in the Elementary School.* Proficiency in arithmetic; study of teaching methods. Credit, 3 hours.

219 *Probability.* Algebra of choice, elementary theorems of probability, compound probabilities, probability distribution functions, expected values, law of large numbers. Prerequisite: Math. 123. Credit, 3 hours.

221 *Advanced Calculus.* Multiple integrals, partial differentiation and applications; line integrals; other topics as time allows. Prerequisite: Math 123. Credit, 4 hours.

222g *Advanced Calculus*. Continuation, Math. 221. Improper definite integrals; differential equations; complex variables; other topics as time allows. Prerequisite: Math 221. Credit, 4 hours.

223g *Symbolic Logic*. Main features of a logic adequate to modern mathematics and science. The basis in language. Notions which play a part in all systematic thinking. Prerequisite: Math., 8 hours, or Phil. 200, or Eng. 252. Credit, 3 hours.

226g *Statistics*. An introduction to the mathematical theory of statistics. Prerequisite: Math. 123. Credit, 3 hours.

241g *Theory of Functions*. Concepts of limits, continuity, derivatives, epsilon proofs. Introduction to the theory of functions of a complex variable. Prerequisite: Math. 222g. Credit, 3 hours.

242g *Theory of Functions*. Continuation, Math. 241g. Prerequisite: Math. 241g. Credit, 3 hours.

243g *Analytical Mechanics*. Vectors, forces in equilibrium, dynamics. Prerequisite: Math. 122. Credit, 3 hours.

244g *Analytical Mechanics*. Continuation, Math. 243g. Prerequisite: Math. 243g. Credit, 3 hours.

246g *Mathematics for the Secondary School Teacher*. Choice of topics from higher algebra, trigonometry, and geometry. Prerequisite: Ed. 228m. Credit, 3 hours.

255g *Theory of Numbers*. The properties of whole numbers. Prerequisite: Math. 107 or 119. Credit, 3 hours.

256g *Projective Geometry*. Analytic study of the projective properties of figures. Prerequisite: Math. 120. Credit, 3 hours.

257g *Introduction to Modern Algebra*. Study of the concepts of Modern Algebra, such as rings, fields, ideals, isomorphism, etc. Credit, 3 hours.

258g *Differential Geometry*. Curves and surfaces and their properties. Prerequisite: Math. 221. Credit, 3 hours.

310 *Seminar in Mathematics Education*. Curriculum studies in secondary school mathematics; topics and methods of instruction in "general mathematics," analytical geometry and calculus. Seven and one-half hours of laboratory. Credit, 3 hours.

Department of Military Science and Tactics

PIERCE (Head of Department), BERGERON, HERM, KLOPPMANN,
SHUGART, WEBB, WESTERROOKE.

General. Arizona State College offers basic and advanced courses in General Military Science in the senior division of the Army Reserve Officers' Training Corps. The purpose of these courses is to train college students for positions of leadership in the Army in time of national emergency, and to strengthen their educational foundation for intelligent citizenship. Instruction is given, in both basic and advanced courses, in subjects common to all branches of the Army. The successful completion of the two-year advanced course program satisfies military education requirements for commission as a second lieutenant in the Army Reserve. Students designated as Distinguished Military Graduates are eligible for commission in the Regular Army.

Requirements for Admission. All physically fit male students, who are citizens of the United States, and under 23 years of age, entering the college as freshmen or sophomores and carrying more than five semester hours of work, are required to complete successfully the two years of basic ROTC training. This requirement is a prerequisite for graduation unless the student is properly exempt. Students without previous active service in the armed forces will not be admitted initially to the basic course after reaching their twenty-third birthday. Veterans who have completed one year or more of continuous active service must not have reached age 25 at time of initial enrollment in the basic course. No student will be accepted for initial enrollment in the advanced course if he has reached age 27.

Students having completed three years of junior ROTC training and veterans having completed not less than six months, nor more than twelve months, of active service, may be exempt from the first year of the basic course, provided such previous training or service was completed within five years of date of initial enrollment in the ROTC at this college.

Students having completed the Army ROTC basic course and veterans having completed one year or more of continuous active service in the armed forces may, with the consent of the head of the department, enroll in the advanced course, provided such previous training or service was completed within five years of date of application for enrollment in the advanced course.

Exemptions. Exemptions from the ROTC requirement will be granted only to: (a) aliens; (b) those certified as physically unfit by the college physician; (c) those disqualified by age; (d) those presenting evidence of at least one year of continuous active service in the armed forces; (e) those transferring sufficient credit from ROTC

training from an accredited institution; (f) those entering the college with junior or senior standing; (g) those offering other reasons acceptable to the Admissions and Standards Committee.

Students requesting exemption must present the evidence upon which request is based at the time of registration.

Attendance and Credits. Basic course students spend 2 hours in class and 2 hours at drill each week and receive 1.5 semester hours of credit. Advanced course students spend 4 hours in class and 2 hours at drill each week and receive 3 semester hours of credit. Regular attendance in class and drill is required. Unexcused absences are reflected in semester grades.

Advanced course students are required to attend one summer camp for approximately six weeks, normally at the end of the first year of the advanced course.

The ROTC requirement does not satisfy any of the physical education requirements.

Pay and Deferments. Advanced course students receive approximately \$27.00 per month while attending college and approximately \$78.00 per month during summer camp. Travel pay, uniforms, and food are furnished at camp. No student will receive pay for a total of more than 595 days.

Deferment from induction is granted on a competitive basis to those basic course students who apply for and are conditionally selected for advanced course training. Advanced course students receive deferment from induction and from recall to active duty with Reserve Corps and National Guard Units.

Uniform and Texts. Each student registering for ROTC training is required to make a deposit of \$25.00 in the Business Office. He will present the receipt to the Military Property Custodian, as the basis for issue of prescribed uniforms, text books and other materials. The full deposit, less any deductions to defray cost of any items lost or damaged through neglect, is refunded at the end of each semester.

Description of Basic Courses

M.S. 101 *Basic Military Science* (First Year). Instruction in history of the Army, first aid and individual hygiene, map reading, individual weapons and marksmanship, small unit tactics, and school of the soldier. Two lectures, 2 drills per week. Credit, 1.5 hours.

102 *Basic Military Science* (First Year.) Continuation of M.S. 101. Prerequisite: M.S. 101 or equivalent. Two lectures, 2 drills per week. Credit, 1.5 hours.

103 *Basic Military Science* (Second Year). Instruction in history of the Army, light crew-served weapons, map and aerial photograph reading, communications, motor transportation, and school of the soldier. Two lectures, 2 drills per week. Credit, 1.5 hours.

104 *Basic Military Science* (Second Year). Continuation of M.S. 103. Prerequisite: M.S. 103 or equivalent. Two lectures, 2 drills per week. Credit, 1.5 hours.

Description of Advanced Courses

M.S. 201 *Advanced Military Science*. Instruction in history of the Army, estimate of the situation and combat orders, small unit tactics, unit hygiene and field sanitation, communications, field fortifications and camouflage, military intelligence, heavy crew-served weapons, gunnery, marksmanship, mine warfare, military teaching methods, and exercise of command. Prerequisite: Two-year basic course or equivalent. Four lectures, 2 drills per week. Credit, 3 hours.

202 *Advanced Military Science*. Continuation of M.S. 201. Prerequisite: M.S. 201. Four lectures, 2 drills per week. Credit, 3 hours.

203 *Advanced Military Science*. Instruction in history of the Army, the military team, organization and functions of the technical and administrative services, guerrilla warfare, command and staff, the uniform code of military justice, military administration, supply and evacuation, and exercise of command. Prerequisite: M.S. 201, 202. Four lectures, 2 drills per week. Credit, 3 hours.

204 *Advanced Military Science*. Continuation of M.S. 203. Prerequisite: M.S. 203. Four lectures, 2 drills per week. Credit, 3 hours.

Department of Music

HARELSON (Head of the Department), AUTENRIETH, BARKLEY,
BOWERS, BULLOCK, MILES DRESSKELL, NADINE DRESSKELL,
HARGISS, HINES, HODGE, KEATING, QUAID, RICKEL,
SCOULAR, SCRAFFORD, SMITH.

Courses offered by the Music Department are planned to meet the needs of students registered under any of the Teacher-Education, or Arts and Sciences Curriculums.

Admission Tests in Music. Students planning a major teaching field in music under any of the curriculums, must take certain tests to determine their general music aptitude and achievement, and their special accomplishments in voice or on instrument, as outlined below.

(1) Voice. The student must demonstrate ability to sing one or more songs with well produced tone; good intonation, clear diction, and musicianly interpretation. Songs may be drawn from the simpler art songs such as those by Franz, from oratorios, or opera arias, or from modern compositions. (2) Piano. Students should be grounded in correct touch and reliable technique; be able to play all major and minor scales correctly at M. M. 72 in quarters, eights and sixteenths, and arpeggios on all major and minor triads at M. M. 72; and should have acquired systematic methods of practice. They should have studied some of the standard etudes such as Czerny Op. 299, Book I; Heller Op. 46 and 47; Bach's Little Preludes; compositions corresponding in difficulty to the Haydn Sonatas No. 11 and No. 20, and the Mozart Sonatas No. 3 in C Major and No. 13 in F Major. (3) Violin. Students must show a knowledge of the following: The first five positions; scales in single tones in all keys with a variety of bowings; arpeggios in all keys; etudes Kreutzer, Mazas, Book I; Sevcik studies; concertos Viotti No. 23, DeBeriot No. 9; Sonatas—Grieg F Major, Handel, Haydn, and easier Beethoven.

Attendance at Recitals Required. All students taking a major teaching field, or an area of concentration in music are required to attend all student and faculty recitals.

Fees for Private Lessons. In addition to the usual college registration fees, music majors will pay a flat rate of \$40.00, per semester, which covers all private instruction required in the major teaching fields and in areas of concentration. All non-majors will pay the fees for private instruction listed below.

For two half-hour lessons per week in piano, voice, violin, violoncello, band and orchestral instruments, the fee is \$40.00 per semester. For one half hour lesson per week the fee is \$27.00 per semester.

Fees for Class Lessons. With seven in a piano class, the fee for two one hour lessons a week is \$12.50 per semester. For two class lessons

of one hour each in voice, the fee is \$9.00 per semester. (Class limit is ten.)

Rentals. The rental for school-owned solo instruments is \$2.50 a semester. Students using college-owned instruments are held financially responsible for damage done them from the time received until returned and inspected at the close of the semester.

Rental on the Hammond organ is \$5.00, per semester, for one hour daily practice. Rental on practice pianos is \$5.00, per semester, for one hour daily practice; \$7.50, per semester, for two hours daily practice.

Registration and Other Fees. Students carrying six or more semester hours of work pay the registration and all other regular fees. Those carrying five hours or less pay only the registration and library fees in addition to the special fees.

Refunds. In case an applied music course is dropped because of actual illness or other emergency beyond the control of the student, not more than half of the semester fee paid may be refunded.

Requirements in Private Instruction. A one semester-hour course requires one half-hour lesson a week and one hour practice daily. A two-hour course requires twice this amount. Students taking a major teaching field in music are required to take the two-hour courses.

Teacher-Education Curriculums

The Kindergarten-Primary Curriculum

Students qualifying for the kindergarten-primary certificate must take Mus. 125, 126 and 227. Those students not proficient in piano must also take any or all of the following: Mus. 121, 122, 123, 124.

The Elementary Curriculum

For Students Not Specializing in Music. Students not specializing in music may elect any work in theory, voice, or instruments for which they have sufficient background. Those who wish to teach music in their own classrooms should take Mus. 125, 126, and 229.

For Students Specializing in Music. Students who wish to complete 30 semester hours for the special certificate, or 45 semester hours for a major teaching field, should plan their programs under the guidance of both an elementary curriculum adviser and an adviser in music.

The Secondary Curriculum

Under the secondary curriculum, students may choose a major teaching field in vocal, instrumental, or vocal and instrumental music. The major teaching field in vocal music prepares for teaching all vocal classes commonly taught in high schools. The major teaching field in instrumental music is for those desiring to teach band, orchestra and instrumental ensembles. The major teaching field in vocal and instrumental music is for those preparing to teach in both fields.

Prerequisites. Music 111, 112 or equivalents are requisites in all major teaching fields. These requirements may be met either by taking the courses or comprehensive examinations.

Major Teaching Field in Vocal Music. The courses listed below are required. Freshman year, Mus. 113, 117, 118; voice, 4 hours; piano, 4 hours; ensemble, 2 hours. Sophomore year, Mus. 115, 116; voice, 4 hours; piano, 4 hours; ensemble, 2 hours. Junior year, Mus. 119, 120, 215, 217, 235; Ed. 228 and voice, 4 hours. Senior year, Mus. 225; voice, 4 hours. Graduate year; 226g, 284g, 288g, 292g, 303, 310, 321, 322, 323, 324 and 390. All students taking this field are advised to take 8 hours of foreign language.

Major Teaching Field in Instrumental Music. The courses listed below are required. Freshman year, Mus. 117, 118; major instrument, 4 hours; piano, 4 hours; ensemble, 2 hours. Sophomore year, Mus. 115, 116; major instrument, 4 hours; piano, 4 hours; ensemble, 2 hours. Junior year, Mus. 119, 120, 215, 219, 235; Ed. 228mu; major instrument, 4 hours; minor instrument, 2 hours. Senior year, Mus. 225; major instrument, 4 hours; minor instrument, 4 hours. Graduate year, Mus. 226g, 245g, 255g, 284g, 288g, 292g, 303, 310, 321, 322, 323, 324 and 390.

Major Teaching Field in Vocal and Instrumental Music. Only students with a good background in both vocal and instrumental music will be accepted as candidates for the major teaching field in vocal and instrumental. The courses listed below are required. Freshman year, Mus. 113, 117, 118; voice, 4 hours; piano, 4 hours; ensemble, 2 hours. Sophomore year, Mus. 115, 116; voice, 4 hours; piano, 4 hours; ensemble, 2 hours. Junior year, Mus. 119, 120, 215, 217, 219, 235; Ed. 228mu; instruments 4 hours. Senior year, Mus. 225; instruments, 4 hours. Graduate year, Mus. 226g, 245g, 255g, 284g, 288g, 292g, 303, 310, 321, 322, 324, and 390.

Minor Teaching Field in Music. The minor in Music consists of at least 15 semester hours. For a minor in vocal music the following sequence of courses is suggested: Mus. 111, 112, 117, 118, 217, 235 and Ed. 228mu. In addition, courses should be chosen from applied music, piano, voice, and chorus. For a minor in instrumental music the following sequence is recommended: Mus. 111, 112, 117, 118, 219, 235 and Ed. 228mu. Participation in band and orchestra should be included.

Arts and Sciences Curriculums

Degree. Students completing an Arts and Sciences curriculum with an area of concentration in Music receive the degree of Bachelor of Arts.

Generalization Requirements

Students seeking the Bachelor of Arts degree must have the generalization requirements outlined under the Arts and Sciences Curriculums, on page 85 of the catalog. In addition they must complete the area of concentration as outlined below.

Area of Concentration

Music. Students taking an area of concentration in Music must take 60 semester hours of work outlined below.

Prerequisite Courses. The following 4 semester hours are prerequisite to other courses: Mus. 111, 112. Students who pass a proficiency test in Mus. 111 and 112 may, with the permission of the adviser, be excused from taking these courses and may substitute four hours of electives, preferably academic.

Required Courses. The following 28 semester hours are, required: Mus. 113, 115, 116, 117, 118, 119, 120, 215, 217, 219, 225, 226, 284, 288.

Optional Groups of Courses. Each student taking Music as his area of concentration will select one of the three phases of emphasis indicated below and will complete 32 semester hours of work in it.

(1) *Emphasis on Voice.* Students selecting voice as an emphasis will take 16 hours in voice as follows: Mus. 101, 102, 103, 104, 201, 202, 203, 204; 8 hours from the following in piano: Mus. 101, 102, 103, 104; and eight hours in activity courses which may include chorus, band, orchestra, and small vocal and instrumental ensembles.

(2) *Emphasis on Violin.* Sixteen hours are required in violin: Mus. 101, 102, 103, 104, 201, 202, 203, 204. Eight hours are required in piano. These courses are the same as given under the "Emphasis on Voice." Eight hours are required in activity courses. See the list under "Emphasis on Voice."

(3) *Emphasis on Piano.* Sixteen hours are required in piano; Mus. 101, 102, 103, 104, 201, 202, 203, 204. Eight hours are required in voice or instrument. A choice may be made between voice or another instrument. Eight hours are required in activity courses. See the list under "Emphasis on Voice."

Description of Courses

Mus 101, 102, 103, 104 *Major Band Instruments—Private Instruction.* Prerequisites: courses taken in order listed. One or 2 lessons a week. Credit, 1 or 2 hours each.

101, 102, 103, 104 *Minor Band Instruments—Private Instruction.* Prerequisites: courses taken in order listed. One or 2 lessons a week. Credit, 1 or 2 hours each.

101, 102, 103, 104 *Piano—Private Instruction.* Courses arranged to meet the needs of students. Public performance provided through afternoon recitals. Prerequisites: courses taken in order listed. One or 2 lessons a week. Credit, 1 to 2 hours each.

101, 102, 103, 104 *Organ—Private Instruction.* Courses arranged to meet the needs of the students. Prerequisite: Piano 104 or equivalent. One or 2 lessons a week. Credit, 1 or 2 hours.

101, 102, 103, 104 *Violin—Private Instruction.* Work arranged to fit the needs of students. Prerequisites: courses taken in order listed. One or 2 lessons a week. Credit, 1 or 2 hours.

101, 102, 103, 104 *Violoncello — Private Instruction.* Study of cello technique and of works of classical and modern composers to fit individual needs. Opportunity for public performance and for orchestra and ensemble playing. Prerequisites: courses taken in order listed. One or 2 lessons a week. Credit, 1 or 2 hours each.

101, 102, 103, 104 *Voice — Private Instruction.* Development in technique of voice production in singing. Prerequisites: courses taken in order listed. One or 2 lessons a week. Credit, 1 or 2 hours each.

111 *Fundamentals of Music.* Elements of music with emphasis on notation, rhythm, major and minor scales, sight singing, and melodic writing. Credit, 2 hours.

112 *Sight Singing and Ear Training.* Music reading with attention to aural recognition and writing. Prerequisite: Mus. 111. Credit, 2 hours.

113 *Sight Singing.* Study of advanced materials in sight singing and ear training. Prerequisite: Mus. 112. Credit, 2 hours.

115 *Harmony I.* Four-part harmonic writing, root position and inversions. Prerequisite: Mus. 112. Credit, 2 hours.

116 *Harmony II.* Melody writing and simple composition. Prerequisite: Mus. 115. Credit, 2 hours.

117 *Music Appreciation.* To develop judgment and discrimination in listening to music. Phonographic recordings used. Credit, 2 hours.

118 *Music Appreciation.* Continuation of Mus. 117. Prerequisite: Mus. 117. Credit, 2 hours.

119 *Keyboard Harmony.* Melodic, harmonic, and rhythmic elements of music. Includes scales, intervals, triads, cadences, notation and dictation. Prerequisites: Mus. 101, 102 (piano), 111, 112. Credit, 2 hours.

120 *Keyboard Harmony.* Seventh chords, key relationship, modulation, and dictation. Prerequisite: Mus. 119. Credit, 2 hours.

121 *Class Piano.* For kindergarten-primary majors. Elements of keyboard technique and sight-reading of folk song material. Two lessons a week. Credit, 1 hour.

122 *Class Piano.* Sight-reading, improvisation, and kindergarten-primary rhythms. Prerequisite, Mus. 121. Two lessons a week. Credit, 1 hour.

123 *Class Piano.* For kindergarten-primary majors. Melody writing, improvisation, and chord accompaniments. Second year, first semester. Prerequisite: Mus. 122. Two lessons a week. Credit, 1 hour.

124 *Class Piano.* Songs, rhythms, and techniques necessary to fluency in performance. Prerequisite: Mus. 123. Credit, 1 hour.

125 *Music Fundamentals for Kindergarten and Elementary Teachers.* The first of three classes planned for students following the kindergarten-primary or the elementary curriculum. These three courses, Mus. 125, 126, and 227 or 229, should prepare students to teach music

in their classrooms. Previous musical training not required. Credit, 2 hours.

126 *Music Fundamentals for Kindergarten and Elementary Teachers.* Continuation of Mus. 125. Prerequisite: Mus. 125. Credit, 2 hours.

127 *Class Voice.* The systematic development of the principles of good singing. Twice a week. Credit, 1 hour.

128 *Class Voice.* Continuation of Mus. 127. Prerequisite: Mus. 127. Credit, 1 hour.

130 *Introduction to Music.* The correlation of music with literature, science and art. Not required of those specializing in music. Credit, 2 hours.

131, 132, 133, 134 *Vocal Ensemble.* Includes madrigal group, quartets and trios. Prerequisites: courses taken in order listed. Twice a week. Credit, 1 hour each.

137 *Class Instrumental Instruction.* Strings, brass, reed and percussion instruments. Instrumental rental \$2.50 a semester. Five days a week. Credit, 1 hour.

138 *Class Instrumental Instruction.* Continuation of Mus. 137. Prerequisite: Mus. 137. Credit, 1 hour.

141, 142, 143, 144 *Instrumental Ensemble.* String, brass and woodwind, and piano ensembles. Prerequisite: courses taken in order listed. Twice a week. Credit, 1 hour each.

151, 152, 153, 154 *Choral Union.* Open to students with reasonable vocal ability. Superior singers selected from the Choral Union form the Concert Choir. Prerequisite: courses taken in order listed. Five days a week. Credit, 1 hour each.

161, 162, 163, 164 *Orchestra.* Study and performance of symphonic literature. Membership selective. Prerequisite: courses taken in order listed. Twice a week. Credit, 1 hour each.

171, 172, 173, 174 *Symphonic and Marching Band.* Staging of formations and drills for football games and other events. Emphasis on symphonic works written for bands. Membership selective. Prerequisites: courses taken in order listed. Three times a week. Credit, 1 hour each.

201, 202, 203, 204 *Major Band Instruments—Private Instruction.* Participation in public recitals required. Prerequisites: Mus. 104, and 201-204 in order listed. Two lessons a week. Credit, 2 hours each.

201, 202, 203, 204 *Piano—Private Instruction.* Participation in formal public recitals required. Prerequisites: Mus. 104, and 201-204 taken in order. One or 2 lessons a week. Credit, 1 or 2 hours each.

201, 202, 203, 204 *Organ—Private Instruction.* Participation in formal public recitals required. Prerequisites: Mus. 104 and 201-204 in order listed. One or 2 lessons a week. Credit, 1 or 2 hours.

201, 202, 203, 204 *Violin—Private Instruction*. Participation in formal public recitals required. Prerequisites: Mus. 104, and 201-204 taken in order. One or 2 lessons a week. Credit, 1 or 2 hours each.

201, 202, 203, 204 *Violoncello—Private Instruction*. Participation in formal public recitals required. Prerequisites: Mus. 104, and 201-204 taken in order listed. One or 2 lessons a week. Credit, 1 or 2 hours each.

201, 202, 203, 204 *Voice—Private Instruction*. Participation in formal public recitals required. Prerequisites: Mus. 104, and 201-204 taken in order. One or 2 lessons a week. Credit, 1 or 2 hours each.

215 *Harmony III*. Altered chords, modulation, form, and creative writing. Prerequisites: Mus. 115, 116. Credit, 2 hours.

217 *Choral Conducting*. Elements of choral technique and interpretation. Required of vocal majors. Three times a week. Credit, 2 hours.

219 *Instrumentation and Conducting*. Required of instrumental majors. Credit, 2 hours.

225 *History of Music*. Survey of music from Grecian sources to the twentieth century. Prerequisite: Mus. 117, 118. Credit, 2 hours.

226g *History of Music*. Continuation of Mus. 225. Prerequisite: Mus. 225. Credit, 2 hours.

227 *Music in the Kindergarten and Primary Grades*. Materials and teaching methods for music in the kindergarten and first three grades. Prerequisites: Mus. 125 and 126 or their equivalent. Credit, 2 hours.

229 *Music in the Elementary School*. Materials and teaching methods for music in the first six grades. Prerequisites: Mus. 125 and 126 or their equivalent. Credit, 2 hours.

231, 232, 233, 234 *Vocal Ensemble*. Continuation of Mus. 131-134. Prerequisites: Mus. 134, and 231-234, taken in order. Twice a week. Credit, 1 hour each.

235 *Music Education*. For music majors. Surveys the entire field of music education on the national, state, and local scale. Includes philosophy, curriculum, materials, and teaching methods. Credit, 3 hours.

241, 242, 243, 244 *Instrumental Ensemble*. Continuation of Mus. 141-144. Prerequisites: Mus. 144, and 241-244 taken in order. Twice a week. Credit, 1 hour each.

245g *Band and Orchestra Methods*. Survey of wind, string, and percussion methods and materials used in the development of junior and senior high school bands and orchestras. Credit, 2 hours.

251, 252, 253, 254 *Concert Choir*. Continuation of Mus. 151-154. Public appearances include church, school, radio, and an annual spring tour. Five days a week. Credit, 1 hour each.

255g *Organization and Administration of High School Bands and Orchestras*. Organization problems, procedures and materials. Credit, 2 hours.

261, 262, 263, 264. *Orchestra*. Continuation of Mus. 161-164. Prerequisites: Mus. 164, and 261-264 taken in order. Twice a week. Credit, 1 hour each.

271, 272, 273, 274 *Symphonic Band*. Continuation of Mus. 171-174. Prerequisites: Mus. 174, and 271-274 taken in order. Three times a week. Credit, 1 hour each.

284g *Counterpoint*. Polyhonic style of the sixteenth and seventeenth centuries. Prerequisite: Mus. 215. Credit, 2 hours.

287g *Choral Procedures and Techniques*. An analysis of choral-vocal problems chiefly at the secondary school level and a study of materials for the small choral ensembles and the large chorus. Prerequisite: Mus. 217 and senior standing in music. Credit, 2 hours.

288g *Composition*. Original composing of vocal, solo and instrumental music. Prerequisites: Mus. 215, 284g. Credit, 2 hours.

292g *Form and Analysis*. Study of the architecture and structure of music, including the song forms, suite, sonata allegro, and others. Prerequisite: Mus 215. Credit, 2 hours.

303 *Modern Music*. An approach, through recorded music and discussion, to the works of composers of the twentieth century, beginning with Debussy, Strauss and Stravinsky, on through Schonberg and the French Six to the post World War I years of atonalism. Italian moderns, Ravel and French music of the periods between wars, American Music from Daniel Gregory Mason to Leonard Bernstein, modern Russian works, post War II French music, and the music of modern Mexico and South America. Prerequisite: Mus. 226g. Credit, 2 hours.

310 *Seminar in Music Education*. Discussion of specific teaching problems: assigned readings and reports. Study and performance of new materials in the field. Five lectures and 10 hours laboratory. Credit, 2 hours.

319 *Advanced Conducting*. The study and practice of advanced baton technique for band and orchestra. Score reading, mechanics of conducting, individual criticisms of style. Prerequisite: major in Music or Music Education. Credit, 2 hours.

320 *Instrumentation and Arranging*. Scoring for orchestra, band and small ensembles. Prerequisite: Mus. 215. Credit, 2 hours.

321, 322, 323, 324 *Applied Music—Private Instruction*. For the student who has had the equivalent of four years training in his major performing field, voice or instruments. Prerequisite: Mus. 204 or equivalent. One or 2 lessons a week. Credit, 1 or 2 hours.

Department of Health Education and Physical Education

LAVIK (Head of Department), MURPHY (Director of Women), BROWN, BRYANT, CASTILLO, DICKINSON, KAJIKAWA, ONOFRIO, SMITH, STEVERSON, THOMSON, WHITE, CRAWFORD, GILLANDERS, KLANN, PAVLICH, PITTMAN, SOMERS, STEVENS.

The purposes of this department are: (a) to provide an interesting and beneficial extra curricular and related activity program for each student, (b) to provide courses to meet core curriculum requirements, (c) to serve teachers interested in health education and physical education, (d) to provide experience in coaching and supervision of intramural and interscholastic athletic events, (e) to serve students registered under the Arts and Sciences Curriculums.

Required Courses

Health Education. Required courses in health education are based upon the following aims:

1. To provide information and develop appreciation of health as a personal problem.
2. To provide information and develop appreciation of community health problems.
3. To aid the prospective teacher in meeting school-community health situations.

Physical Education. Certain activity courses are required of all students. These courses should be completed in the freshman and sophomore years. The activity requirement is based upon the four general objectives of physical education:

1. The development and improvement of organic vigor.
2. The development of desirable neuro-muscular coordinations.
3. The development of social experience through group activities.
4. The development of desirable habits of recreation.

Students may be excused from the two semester hours required activity courses only upon filing a request with the Standards Committee accompanied by a written authorization from the college health service.

In certain activity courses uniforms are required. These may be obtained at the college book store.

Men. All freshman men, including members of varsity squads, are required to register for P.E. 107, 108. Team squad members may tem

porarily substitute varsity participation but must return to regular classes at the conclusion of each current varsity season. Courses P.E. 111, 112 are discontinued. During the sophomore year, a man may select his remaining two semesters of physical education activity from any of the departmental offerings. Except in unusual cases, no man may earn more than .5 semester hours of credit in activity during any one semester.

Women. Freshman women are required to register for P.E. 101, 102, Basic P.E., during the freshman year. During the sophomore year, a woman may elect the one remaining semester hour of physical education activity from any of the departmental offerings.

Statements concerning intramural and intercollegiate activities may be found in the sections of the catalog devoted to special group activities.

Teacher-Education Curriculums

The Kindergarten-Primary and Elementary Curriculums

For Students Not Specializing in Health Education. In addition to the required 5 semester hours in health education, students preparing to handle a limited program of health education, will find it helpful to select from the following courses: H.E. 215, 237, 241; P.E. 167, 185, 222, 267; Psych. 215, 225; Ed. 226.

For Students Not Specializing in Physical Education. In addition to the 4 semester hours of required courses in physical education, students who are preparing to handle a limited program of physical education activities, may find it helpful to select from the following courses: Men—P.E. 110, 141, 167, 185, 191, 195, 196, 217, 218, 222, 225, 229, 230, 231, 257; Women—P.E. 103, 105, 110, 117, 119, 131, 134, 167, 185, 222, 223, 224, 225, 226, 228, 229, 233, 238.

For Students Specializing in Physical Education. Students specializing in this department should take the following courses: Zool. 171, 172; P.E. 109, 167, 236, 251; and Ed. 228p. Men also take 254 and Chem. 110. Men may choose additional courses from the following: P.E. 110, 185, 195, 196, 217, 218, 222, 228, 229, 230, 231, 233, 255, 256, 257. In addition, women should select from the following: P.E. 110, 171, 172, 173, 174, 185, 190, 191, 192, 222, 220 or 223, 224, 225, 226, 227, 228, 229, 233, 236, 253, 254, 255, 257; and Ed. 226.

Students under the Elementary Curriculum may complete a major teaching field of forty-five semester hours in Physical Education. Courses should be approved by the curriculum adviser.

The Secondary Curriculum

Major Teaching Field in Health Education. This teaching field consists of at least 45 semester hours to be completed during the first four years. At least 24 hours must be in Health Education or in related subjects. At least 18 of the 45 hours must be in upper division courses. Required courses for this teaching field are:

First and second years: Zool. 171, 172; Bact. 110; H.E. 100, 242; P.E. 167.

Third and fourth years: H.E. 215, 237, 241, 243, 244, 245; P.E. 267; and Psych. 215. The remaining semester hours may be selected from the following: P.E. 185, 222, 245, 251, 254; H.Ec. 101, 104; Psych. 225, 227, 231, 234; Ed. 216, 226, 232; Zool. 111.

Fifth year: It is suggested that students choose electives from the following courses: H.E. 241g, 244g, 245g, 301; P.E. 255g, 300, 301, 330, 340, 345; Ed. 226g, 304, 306, 318, 320; Psych. 239g, 313.

Minor Teaching Field in Health Education. Required courses: P.E. 167, 267; H.E. 215 or 243, and 237. Optional courses may be approved by the head of the department or the director for women. A minimum of 15 hours is required including 6 hours in upper division courses.

Major Teaching Field in Physical Education. This teaching field requires at least 45 semester hours to be completed during the first four years. At least 24 semester hours must be in physical education courses. At least 18 of the 45 hours must be in upper division courses. Additional courses in physical education should be completed in the fifth year. The requirements for this teaching field are:

First and second years: Men may select P.E. 185 and 110. Both men and women are required to take the following courses: Zool. 171, 172; P.E. 109, 167. Additional required courses for men are: Chem. 110; P.E. 195, 196. Additional required courses for women are: P.E. 110, 171, 172, 173, 174, 185, 190, 191, 192, and one semester hour each in sports and dance activity.

Third and fourth years: The following courses are required of both men and women: P.E. 236, 251; Ed. 228p. Men also take P.E. 217, 218, 254. Men may select a minimum of other courses from P.E. 170, 219, 222, 228, 229, 230, 231, 233, 245, 255, 256, 257. Women may select other courses from P.E. 220 or 223, 222, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 245, 253, 254, 255, 257; Ed. 226, 233, 237.

Fifth year: It is suggested that students choose electives from the following courses: H.E. 241g, 244g, 245g; P.E. 229g, 255g, 257g, 300, 301, 330, 336, 340, 345; Ed. 226g, 304, 318, 320, 327.

Minor Teaching Field in Physical Education. Should be started in sophomore year. A minor teaching field of 15 hours is required. This includes 6 hours of upper division courses. Men take P.E. 109, 167, 195, 196, 251 or 254, and select the remaining courses with the approval of the department head. Women take P.E. 109 or 236, 167, 224, 225, 227, and select other courses with the approval of the Director for Women.

Arts and Sciences Curriculums

The area of concentration in Physical Education is designed to serve the following types of students: (a) Those who do not immediately intend to teach but have a special interest in technical aspects, such as occupational and physical therapy; (b) those who plan to

enter the field of school health, or public health; (c) those who wish to enter the field of community recreation.

Degree. Completion of the Arts and Sciences Curriculum with an area of concentration in health and physical education leads to the degree of Bachelor of Science.

Generalization Requirements

All students seeking the B.S. degree must meet the generalization requirements listed under Arts and Sciences Curriculums found on page 85 of the catalog.

Area of Concentration

Physical Education. This area of concentration consists of 39 semester hours as outlined below.

Prerequisite Courses. The following are prerequisites: Zool. 171, 172.

Required Courses for Both Men and Women. The following 11 hours are required: P.E. 109, 167, 251, 254.

Required for Women Only. The following are required: P.E. 110, 171, 172, 173, 174, 185, 191, 192, 222, 253.

Required for Men Only. The following the required: P.E. 195, 196, 217, 218, 230, 236; Chem. 110. The following may be elected: P.E. 110 and 185.

Optional Groups of Courses. In addition to the required hours listed above, each student in this area will select one of the four following groups of courses and complete 16 semester hours in it.

(1) Emphasis on Physical Education. P.E. 228, 229, 232, 233, 236, 238, 245, 255, 256, 257, 281, 282; Zool. 111, 163; Chem. 110, 111, 180; Psych. 215, 225, 240; Ed. 216, 226, 233, 237.

(2) Emphasis on Health Education. H.E. 242, 244, 245; P.E. 228, 229, 245; Soc. 120; Ed. 216; Zool. 111, 163; H.Ec. 101, 104; Psych. 231, 234.

(3) Emphasis on Recreation. P.E. 105, 117, 119, 121, 131, 141, 181, 222, 228, 229, 230, 231, 232, 233, 238, 253, 257; Art 100, 105, 117, 121, 151, 171; I.A. 121, 123, 133; Ed. 212, 216, 226, 232; Psych. 231, 234.

(4) Emphasis on the Therapies. Physiotherapy, Zool. 163; Psych. 215, 240; Soc. 225; Chem. 110, 111, 180. Occupational Therapy, Psych. 114, 215; Zool. 163; Art. 105, 117; I.A. 121, 123, 133; Mus. 111, 118.

Description of Courses

Courses For Men Only

Physical Education

P.E. 107 *Sports Survey—Men.* Individual and team sports. Required of men in first semester of freshman year. Members of varsity teams may be excused from attendance but only during the actual playing season. Credit, $\frac{1}{2}$ hour.

108 *Sports Survey Men.* Continuation of P.E. 107. Required of all men in second semester of freshman year. Members of varsity teams may be excused from attendance but only during the actual playing season. Credit, $\frac{1}{2}$ hour.

113 *Athletics Men. Second year.* Participation in football, basketball and other first semester varsity sports. Five times a week. Credit, $\frac{1}{2}$ hour.

114 *Athletics Men. Second year.* Participation in baseball, track and other second semester varsity sports. Five times a week. Credit, $\frac{1}{2}$ hour.

115 *Sophomore Sports Men.* Continuation of Sports Survey, P.E. 108. Prerequisite: P.E. 108. Twice a week. Credit, $\frac{1}{2}$ hour.

116 *Sophomore Sports Men.* Continuation of P.E. 115. Prerequisite: P.E. 115. Twice a week. Credit, $\frac{1}{2}$ hour.

124 *Beginning Gymnastics.* Techniques of performing and teaching gymnastic skills. One section for tumbling and one for apparatus. Twice a week. Credit, $\frac{1}{2}$ hour.

125 *Advanced Gymnastics.* Continuation of P.E. 124. Twice a week. Credit, $\frac{1}{2}$ hour.

170 *Fundamentals of Scoutmaster Training.* This course involves actual practice in scoutcraft and camping activities. Emphasis is placed upon leadership techniques for boys and men, and the philosophy of scouting organization and practice. Credit, 2 hours.

195 *Professional Activities.* History, organization and techniques of physical activities and minor sports. Present day problems confronting teachers. Two semesters required of men specializing in physical education. Credit, 2 hours.

196 *Professional Activities.* Continuation of P.E. 195. Prerequisite: P.E. 195. Credit, 2 hours.

211 *Athletics—Men. Third year.* Participation in football, basketball and other first semester varsity sports. Five times a week. Credit, $\frac{1}{2}$ hour.

212 *Athletics Men. Third year.* Participation in baseball, track, and other second semester varsity sports. Five times a week. Credit, $\frac{1}{2}$ hour.

213 *Athletics Men. Fourth year.* Participation in football, basketball and other first semester varsity sports. Five times a week. Credit, $\frac{1}{2}$ hour.

214 *Athletics Men. Fourth year.* Participation in baseball, track and other second semester varsity sports. Five times a week. Credit, $\frac{1}{2}$ hour.

217 *Coaching.* Theory and techniques of basketball, track and baseball. Lecture and laboratory, 3 times a week. Credit, 2 hours.

218 *Coaching.* Theory, techniques and officiating of football. Lecture and laboratory, 3 times a week. Credit, 2 hours.

219 *Officiating Football, Basketball, Baseball and Track.* A study of rules and the mechanics of officiating used in football, basketball, baseball and track. Credit, 3 hours.

256 *Techniques of Athletic Training.* Emphasizes the correct use of personal and field equipment, support procedures and therapeutic aids. Laboratory work includes practical techniques in the clinical use of supporting apparatus, physiotherapy. Prerequisites: Zool. 171, 172. Fee, \$2.00. Two lectures, 1 hour laboratory. Credit, 2 hours.

270 *Advanced Scouting.* Principles and practice in scout and cub organization and leadership. For staff officers and field executives. Prerequisites: Scoutmaster certificate and senior standing. One lecture, 2 laboratory hours. Credit, 2 hours.

Courses For Women Only

Physical Education

P.E. 101 *Basic Physical Education.* Required of freshman women not specializing in physical education. Fee, \$2.00, per semester. Twice a week. Credit, $\frac{1}{2}$ hour.

102 *Basic Physical Education.* Required of freshman women not specializing in physical education. Fee, \$2.00, per semester. Twice a week. Credit, $\frac{1}{2}$ hour.

111, 112 *Team Sports.* Classes in volleyball, hockey, softball, basketball, soccer, speedball and track. Twice a week. Credit, $\frac{1}{2}$ hour each.

113, 114 *Team Sports.* Intermediate classes in volleyball, hockey, softball, basketball, soccer, speedball and track. Prerequisite: P.E. 111, 112. Twice a week. Credit, $\frac{1}{2}$ hour each.

165 *Team Sports.* Advanced classes in volleyball, hockey, softball, basketball, soccer, speedball and track. Twice a week. Credit, $\frac{1}{2}$ hour each.

166 *Team Sports.* Continuation of P.E. 165. Credit, $\frac{1}{2}$ hour.

171, 172, 173, 174 *Professional Activities.* The activities included are designated professional because of their value to women students specializing in physical education. Four hours required. Five times a week. Credit, 1 hour each.

223 *Directing Games of Low Organization.* Class organization, methods of presentation, selection and classification of games of low organization, and special events appropriate to programs for middle and upper elementary grades. Credit, 2 hours.

224 *Directing Major Team Sports.* Class organization, teaching and coaching of volleyball, basketball, softball, speedball. Prerequisites: P.E. 171, 172, 173, 174 or the equivalent. Three times a week. Credit, 2 hours.

225 *Directing Individual and Dual Sports.* Class organization, teaching and coaching of tennis, archery, badminton, golf, track and field. Prerequisites: P.E. 171, 172, 173, 174 or the equivalent. Three times a week. Credit, 2 hours.

226 *Directing Dance in the Elementary Schools.* Theory and practice of teaching dance in elementary schools. Sources and material, and attention to rhythmic activities included in the Arizona State Course of Study. Prerequisite: P.E. 190. Three times a week. Credit, 2 hours.

227 *Directing Dance in Secondary Schools.* Theory and practice of teaching dance activities in secondary schools. Sources, material, and accompaniment. Prerequisite: P.E. 190. Three times a week. Credit, 2 hours.

Courses For Both Men and Women

Physical Education

P.E. 103 *Beginning Tap Dance.* Twice a week. Credit, ½ hour.

104 *Advanced Tap Dance.* Twice a week. Credit, ½ hour.

105 *Beginning Square Dance.* Twice a week. Credit, ½ hour.

106 *Advanced Square Dance.* Twice a week.. Prerequisite: P.E. 105 or the equivalent. Credit, ½ hour.

109 *Introduction to Physical Education. Men.* For men who wish to major or minor in physical education. A cumulative index of 1.75 is required for admission to this course. No freshman admitted. Credit, 3 hours. *Women.* An orientation and guidance course. Required of freshmen women specializing in physical education. Credit, 3 hours.

110 *Introduction to Community Recreation.* Orientation to the field of organized recreation in terms of its history, philosophy, and development; and the contribution of organized recreation to the school and community.

117 *Recreational Games.* Instruction and playing experience in table tennis, shuffleboard, bowling, paddle tennis, deck tennis, croquet. Twice a week. Credit, ½ hour.

119 *Beginning Folk Dance.* European, early American, and Latin American dances. Twice a week. Credit, ½ hour.

120 *Advanced Folk Dance.* Prerequisite: P.E. 119. Twice a week. Credit, ½ hour.

121 *Beginning Golf.* Twice a week. Credit, ½ hour.

122 *Intermediate Golf.* Twice a week. Credit, ½ hour.

131 *Beginning Tennis.* Twice a week. Credit, ½ hour.

132 *Intermediate Tennis.* Twice a week. Credit, ½ hour.

133 *Advanced Tennis.* Twice a week. Credit, ½ hour.

134 *Beginning Badminton.* Twice a week. Credit, ½ hour.

135 *Intermediate Badminton.* Twice a week. Credit, ½ hour.

136 *Advanced Badminton.* Twice a week.. Credit, ½ hour.

141 *Beginning Archery.* Fee, \$1.00. Twice a week. Credit, ½ hour.

142 *Intermediate Archery.* Fee, \$1.00. Twice a week. Credit, ½ hour.

- 143 *Advanced Archery*. Fee, \$1.00. Twice a week. Credit, $\frac{1}{2}$ hour.
- 150 *Beginning Social Dance*. Twice a week. Credit, $\frac{1}{2}$ hour.
- 151 *Intermediate Social Dance*. Twice a week. Credit, $\frac{1}{2}$ hour.
- 160 *Beginning Fencing*. Twice a week. Credit, $\frac{1}{2}$ hour.
- 161, 162, 163, 164 *Restricted Activities*. Limited activities for students who cannot, because of disabilities, enroll in regular physical education classes. Written recommendation of the school physician required. Twice a week. Credit, $\frac{1}{2}$ hour.
- 167 *First Aid*. Prevention of accidents, methods of examination and temporary care for victims of accident or sudden illness. Red Cross certification. Credit, 2 hours.
- 181 *Beginning Modern Dance*. Twice a week. Credit, $\frac{1}{2}$ hour.
- 182 *Intermediate Modern Dance*. Twice a week. Credit, $\frac{1}{2}$ hour.
- 183 *Advanced Modern Dance*. Twice a week. Credit, $\frac{1}{2}$ hour.
- 185 *Camping Activities and Skills*. An introductory course in camp counseling involving outdoor cookery, nature study, nature crafts, camp crafts, story telling, dramatics, songs and music, overnight trips, shelters, orienting, axmanship, firecraft, food preservation, and cooking devices. One hour discussion, 3 hours laboratory. Credit, 3 hours.
- 190 *Dance in Education*. History and values of the dance. Dance composition and rhythm analysis. Use of percussion instruments in teaching rhythmic activities. Three times a week. Credit, 2 hours.
- 191 *Dance Production*. Experience in dance production. Required of women specializing in physical education. Prerequisite: P.E. 181. Three times a week. Credit, 2 hours.
- 192 *Dance Production*. Continuation of P.E. 191. Three times a week. Credit, 2 hours.
- 220 *Playground Leadership*. A course designed to present games of low organization, team sports, and rhythmic activities, as prescribed in the state course of study for the elementary grades. Required for elementary certificate. Separate sections for men and women. Credit, 2 hours.
- 222 *Youth Organizations*. Orientation in principles, practices, and leadership experience of national youth serving organizations. Prerequisites: Psych. 141, 142. Credit, 3 hours.
- 228 *Public School Camping and Program Planning*. Designed to equip the student with materials, procedures, and plans for a school camp program, and to establish the relationship of camping to other areas of education. Credit, 3 hours.
- 229g *Camp Organization and Administration*. The organization and administration of camps with special emphasis on school camps; preparation for camp management; consideration of budget, equip-

ment, camp site, personnel, and community interpretation. Credit, 3 hours.

230 *Community Recreation*. Significance, functions, program content, methods of operation, leadership, finance, and legal aspects of municipal recreation. Credit, 3 hours.

231 *Social Recreation*. The development of methods and materials for leadership in social recreational activities for school, church, home, club, and other social groups. Credit, 2 hours.

233 *Program Planning and Recreational Leadership*. A study of the various types of recreational programs, principles, and scope of program; qualifications and role of leaders in community recreation. Credit, 3 hours.

236 *Organization and Administration of Physical Education*. Organization, administration, and supervision of the physical education program in elementary and high schools. Separate sections for men and women. Prerequisite: P.E. 109. Credit, 3 hours.

245 *Tests and Measurements in Health and Physical Education*. Types of tests and uses, including classification and grading of students. Practice in administering tests. Credit, 3 hours.

251 *Applied Anatomy and Kinesiology*. Analytic and synthetic studies of body movements with emphases on neuromuscular skills and body mechanics. Prerequisites: Zool. 171, 172. Credit, 3 hours.

253 *Methods of Officiating*. Qualification of officials, techniques of officiating, interpretation of rules and opportunity to qualify as an NSWA rated official in tennis, volleyball, basketball, softball. Credit, 3 hours.

254 *Physiology of Exercise*. The effects of exercise upon bodily functions. Prerequisites: Zool. 171, 172. Credit, 3 hours.

255g *Corrective Physical Education*. The organization and administration of the preventive and corrective aspects of the body mechanics program. Discussions of corrective exercises and other aspects of body mechanics. Laboratory observations will be provided at the Children's Hospital. Prerequisites: Zool. 171, 172; P.E. 251, 254. Credit, 3 hours.

257g *Organization and Administration of Intramural Activities*. Deals with materials and methods for the organization and administration of an intramural program on the elementary and secondary level. Credit, 2 hours.

267 *First Aid Instructorship*. For individuals who wish to receive certification as Red Cross First Aid Instructors. Prerequisite: must be 20 years of age and hold current advanced certificate. Credit, 1 hour.

271, 272, 273, 274 *Physical Activities*. Participation in individual and dual sports; major team sports and dance. Prerequisite: recommendation of instructor. Twice a week. Credit, $\frac{1}{2}$ hour each.

281g *Dance Composition*. Theory and practice in dance composition. Form in music related to dance composition. Study of archaic, pre-classic, and modern style. Prerequisites: P.E. 191, 192, or teaching experience. Credit, 2 hours.

282g *Percussion and Improvisation*. Theory and practice in use of percussion instruments. Improvisation of simple dance studies. Compositions of percussion accompaniment for modern dance studies. Prerequisites: P.E. 191, 192, or teaching experience. Credit, 2 hours.

300 *Seminar in Health, Physical Education and Recreation*. Practices and procedures in the various areas of health, physical education and recreation. Credit, 3 hours.

301 *Seminar in Health, Physical Education and Recreation*. Continuation of P.E. 300. Either semester's work may precede the other. Credit, 3 hours.

330 *Research Procedure and Critical Analysis of Professional Literature*. A study of the methods and techniques of research in health and physical education and a critical analysis and evaluation of the professional literature. Credit, 3 hours.

336 *Problems in Physical Education*. Consideration of problems and controversial issues in physical education with particular stress on methods of approach toward solution of such problems. Credit, 2 hours.

340 *Curriculum Construction in Health Education and Physical Education*. Principles, practices and a functional philosophy of curriculum making with application of this theory. Prerequisites: Major in P.E., or minor in Health Education or teaching experience. Credit, 2 hours.

345 *Advanced Test and Measurements*. A study of various types of measurements in the field of health and physical education with emphasis upon administration and use of results obtained. Prerequisite: P.E. 245. Credit, 3 hours.

Health Education

H.E. 100 *Hygiene*. Required of all students. Separate sections for men and women. Credit, 2 hours.

215 *Health in Elementary Schools*. Materials and methods of health instruction. Required for minor in health education. Prerequisite: H.E. 242 Credit, 3 hours.

237 *Organization and Administration of Health Education*. The areas of health service, health instruction and physical education are shown in their relationships to each other and to the general educational scheme in schools and communities of different sizes. Required of minors in health education. Prerequisite: H.E. 215 or 243. Credit, 3 hours.

241g *School Health Problems*. An advanced and more intensive study of the school health program. Designed to help teachers develop skills in screening techniques, analysis of individual pupil health needs, and use of community resources. Prerequisites: H.E. 242; Ed. 260 or teaching experience. Credit, 2 hours.

242 *School-Community Health*. This course includes the three main divisions of the school health program—Health Services, Health Instruction, Healthful School Living—and the role and duties of the classroom teacher in relationship to each of these divisions, so far as the health of the school child is concerned. Practical experiences in screening tests and techniques, survey of available free materials, discussion of available health texts and health readers, and previewing of usable films in each of the broad areas of health education. Prerequisite: H.E. 100. Credit, 3 hours.

243 *Health in Secondary Schools*. Methods and materials of health instruction. Required for a minor or major teaching field in Health Education. Prerequisites: P.E. 100, 242. Credit, 3 hours.

244g *Principles and Practices of Public Health*. Survey of the field of public health and the principles involved in the development of such a program for community. Field practice with organization in the immediate community. This course is one of the requisites for a fellowship that may be offered to students having interest and ability in this particular type of work. Prerequisites: H.E. 100; H.E. 242; Soc. 215 or Ed. 266; Psych. 225 or 215. Credit, 3 hours.

245g *School-Community Health Council*. Steps involved in the organization of a School-Community Health Council. The use of this organization as an approach to the solution of existing health problems. Prerequisites: H.E. 241, 244. Credit, 3 hours.

301 *Problems in Health Education*. Consideration of problems and controversial issues in health education with particular stress on methods of approach toward solution of such problems. Prerequisite: major in Health Education. Credit, 2 hours.

Department of Physical Sciences

BATEMAN (Head of Department), BROWN, BURGOYNE, FUCHS,
MILLER, MORTENSEN, RAWLS, RENNER, WAGER, YALE.

The department offers courses in the following fields: chemistry, geography, general science, geology, and physics. These offerings are designed to meet the needs of the following: (a) students desiring a cultural training in physical sciences, (b) prospective elementary and secondary teachers who plan to major or minor in one of the divisions of physical sciences, (c) prospective teachers and pre-professional or other students requiring lower division science courses to meet the requirements of the various professional, academic and vocational fields.

Teacher-Education Curriculums

The Kindergarten-Primary and Elementary Curriculums

For Students Not Specializing in Science. In addition to G.S. 100, 110, and 231 required of all students, it is suggested that courses in geography will be especially helpful.

For Students Specializing in Science. Students doing special work in science should choose the following: G.S. 100, 110, 231; Geog. 100; Zool. 171, 172. It is suggested that they add enough courses selected from the following to make 24 semester hours: Bot. 110; Chem. 110, 180; Phys. 105, 110; Geog. 101, 200, 209, 211, 215; Zool. 110. Those desiring a major teaching field, see below under secondary curriculum.

The Secondary Curriculum

Students planning to teach general science, chemistry or physics in the high school should take basic courses in biology, chemistry, physics and mathematics. Over-specialization is to be avoided because the prospective science teacher may find it necessary to give instruction in most of the above fields.

To complete a major teaching field at least 45 semester hours of work, in physical sciences and related fields, must be completed in the undergraduate program. A minimum of 18 semester hours shall be upper division courses. Not less than 25 semester hours must be completed in one subject field and the remaining 20 hours from related fields. Major teaching fields are offered in: (1) Earth Science, (2) Physics and Chemistry.

Each student should begin to plan his program with his adviser not later than the second year. Required courses for each teaching major are listed. The optional courses in science and related subjects

should be selected under the guidance of the adviser. Candidates for the Master's degree in secondary science teaching should complete additional science work during the period of graduate training. In each major teaching field a number of courses for graduates are recommended.

Major Teaching Field in Earth Science. Students planning to teach geography, social studies, and related subjects should select this field. Undergraduate courses required: Geog. 100, 101, 105, 200, 206, 209, 211, 215; Geol. 151, 152. Optional courses: at least 20 semester hours will be selected from geography, and related fields with adviser's approval. Recommended courses for graduates: Geog. 254g, 270g, 275g, 289g.

Major Teaching Field in Physics and Chemistry. Those interested in teaching physics should take a minor in mathematics, while the prospective chemistry teacher is advised to minor in either mathematics or biology. Undergraduate courses required: (Bot. 110, Zool. 110), or G.S. 110; Chem. 110 or 111, 112, 141, 180; Phys. 111, 112, 113, 200, 210; Geol. 151. Remainder of semester hours are to be selected from chemistry and physics under guidance of adviser. Recommended courses for graduates: Chem. 251g, 252g, 260g, 271g, 272g, 280g, 281g; Phys. 222g, 231g, 241g, 242g, 250g.

Minor Teaching Fields in Physical Sciences. Minor teaching fields are offered in general science, geography, chemistry, and physics. Each student desiring a science teaching minor shall begin planning with his science adviser not later than the beginning of his third year. Any courses required for the major will not be accepted as meeting the requirements for the minor teaching field. A minor consists of at least 15 semester hours, of which not less than 3 semester hours shall normally be upper division. Suggested program for each minor teaching field is given below. The student may select the courses in any one of the following fields that fits his interests and requirements.

Minor Teaching Field in Chemistry. Chem. 110 or 111, 112, 141, 142, 180, 260, 280.

Minor Teaching Field in Geography. Geog. 100, 101, 120, 200, 206, 209, 211, 215, 250, 270; Geol. 151, 152.

Minor Teaching Field in General Science. G.S. 110; Chem. 110, 180; Phys. 105, 110, 210; Geol. 151.

Minor Teaching Field in Physics. Phys. 111, 112, (or 121, 122), 113, 200, 210.

Arts and Sciences Curriculums

The Department of Physical Sciences offers the opportunity for students to concentrate in chemistry, geography, geology, physics, or a combination of these fields.

Degrees. Students completing the requirements of the Arts and Science Curriculum with an area of concentration in any of the fields of physical sciences listed below may receive the degree of Bachelor of

Arts or Bachelor of Science depending upon the selection of courses to meet the generalization requirements.

Generalization Requirements

Each student is required to complete the generalization requirements outlined on page 85 of the catalog.

Area of Concentration

Physical Sciences. The student may concentrate in chemistry or physics or geography and geology. By completing one of the fields of emphasis consisting of 48 semester hours of work as outlined below, the student may qualify for industrial or civil service positions such as junior chemist, geologist, geographer, physicist, or for entrance into a graduate school. Students concentrating in chemistry or physics are advised to complete Math. 122, 123 by the end of the second year. Before graduation, a reading knowledge of German, French or Russian should be developed. The student should select one of the following fields of emphasis and begin to plan his program with his adviser not later than the first year. Required courses for each of the physical science fields are outlined below. The optional courses should be selected under the guidance of the adviser.

(1) Emphasis on Chemistry. Required courses: (Bot. 110, Zool. 110), or G.S. 110; Phys. 111, 112, 113; Math. 119, 120, 122, 123; Chem. 110 or 111, 112, 141, 142, 211, 212, 251, 252. Optional courses: Chem. 215, 260, 271, 272, 273, 280, 281; Phys. 200, 215, 220, 221, 222; Math. 221; Geol. 151, 152, 211, 212.

(2) Emphasis on Physics. Required courses: (Bot. 110, Zool. 110), or G.S. 110; Chem. 110 or 111, 112; Math. 119, 120, 122, 123; Phys. 111, 112, (or 121, 122) 113, 215, 219, 220, 221, 231, 250. Optional courses: Geol. 151, 152, 211, 212; Chem. 141, 142, 251, 252; Math. 221, 226, 243, 244, 257; Phys. 200, 210. In order to qualify for recommendation to graduate work, the following courses are recommended: Math. 222; Phys. 222, 241, 242; French or German.

(3) Emphasis on Geography and Geology. In this area the student may emphasize either geography or geology. (a) Geography. Required courses: Geo. 100, 101, 200, 206, 209, 211, 215; Geol. 151, 152. Related courses will be selected under guidance of the adviser. (b) Geology. Required courses: Geol. 151, 152, 211, 212, 215, 220; Chem. 110 or 111, 112; Phys. 111, 112; Math. 119 or equivalent; Geog. 105, 250. Related courses will be selected under the guidance of the adviser.

Professional and Preprofessional Curriculums

Other curriculums of interest to the students concentrating in the sciences are listed in the section of the catalog on pre-professional and professional curriculums. These programs include the following: pre-dental, pre-dietetics, pre-engineering, pre-forestry, pre-veterinary,

pre-optometry, and pre-medical. Curriculums leading to the Bachelor of Science degree are also offered in medical technology and nursing.

Description of Courses

General Science

G.S. 100 *Introduction to the Physical Sciences*. Principles and facts in fields of physics, chemistry, meteorology, geology, and astronomy. Does not meet science requirements in pre-professional curriculums. Fee, \$1.00. Credit, 4 hours.

231 *Science for the Elementary School*. Development of an integrated science program in each grade of the elementary school. Lectures, library reports, class discussion, field observation and a three-day camping trip. Prerequisites: G.S. 100; Geog. 100. Fee, \$1.00. Credit, 3 hours.

310 *Seminar in Science Education*. Review and survey of current publications. Consideration and solution of problems dealing with the field. Credit, 2 hours.

Chemistry

Chem. 110. *Introductory Chemistry*. The principles of general chemistry. Primarily for students in agriculture, home economics, nursing, biology and other non-chemistry majors. Students may take Chem. 180; or, with permission of instructor, Chem. 112 during the next semester. Fee, \$4.00. Three lectures, 3 hours laboratory. Credit, 4 hours.

111 *General Chemistry*. Fundamental principles of chemistry. Prerequisite: high school algebra or algebra concurrently. Fee, \$4.00. Three lectures, 3 hours laboratory. Credit, 4 hours.

112 *General Chemistry and Qualitative Analysis*. Continuation of Chem. 111. Qualitative separation and identification of common cations and anions. Prerequisite: Chem. 111 or equivalent. Fee, \$5.00. Three lectures, 2 recitations, 4 hours laboratory. Credit, 5 hours.

114 *General Chemistry*. Chemistry of metals, nonmetals and carbon. Prerequisite: Chem. 110 or 111.. Fee, \$4.00. Three lectures, 3 hours laboratory. Credit, 4 hours.

131 *Qualitative Analysis*. Principles and methods of separation of the common cations and anions. Prerequisite: Chem. 112 or 114. Fee, \$5.00. Two lectures, 6 hours laboratory. Credit, 4 hours.

141 *Quantitative Analysis*. Fundamental principles of volumetric and gravimetric analysis. Prerequisites: Chem. 112 and algebra. Fee, \$6.00. Two lectures, 6 hours laboratory. Credit, 4 hours.

142 *Quantitative Analysis*. Continuation of Chem. 141. Prerequisite: Chem. 141. Fee, \$6.00. Credit, 4 hours.

150 *Glass Blowing*. Laboratory techniques in glass blowing. Limited to science majors. Fee, \$3.00. Four hours laboratory. Credit, 1 hour.

180 *Elementary Organic Chemistry*. Survey of the compounds of carbon, including representative groups of aliphatic and aromatic series. For students of home economics, agriculture and biology. Prerequisite: Chem. 110 or 111. Fee, \$4.00. Three lectures, 3 hours laboratory. Credit, 4 hours.

211 *General Organic Chemistry*. Chemistry of organic compounds including aliphatic and aromatic hydrocarbons and derivatives. Prerequisite: Chem. 141. Fee, \$5.00. Three lectures, 3 hours laboratory. Credit, 4 hours.

212 *General Organic Chemistry*. Continuation of Chem. 211. Prerequisite: Chem. 211. Fee, \$6.00. Credit, 4 hours.

215g *Qualitative Organic Analysis*. Systematic identification of organic compounds. Prerequisite: Chem. 212. Fee, \$6.00. One lecture, 6 hours laboratory. Credit, 3 hours.

231 *Elementary Physical Chemistry*. Properties of solids, liquids, gases, solution, equilibrium, colloidal state. For premedical, biology agriculture, etc. students. Prerequisites: Chem. 110 or 111, 141, 180. Fee, \$5.00. Three lectures, 3 hours laboratory. Credit, 4 hours.

251g *General Physical Chemistry*. Includes gases, liquids, solids, solutions, equilibrium, phase rule, electrochemistry, thermo-dynamics, atomic structure, radioactivity, and colloids. Prerequisites: Chem. 142, Phys. 112, Math. 123. Fee, \$5.00. Three lectures, 1 three-hour laboratory period. Credit, 4 hours.

252g *General Physical Chemistry*. Continuation of Chem. 251. Prerequisite: Chem. 251. Fee, \$5.00. Credit, 4 hours.

260g *Applied Chemistry*. Applications of chemistry to agriculture, mining, water, sanitation, and fuels. Prerequisites: Chem. 180 or 212. Credit, 3 hours.

271g *Instrumental Analysis*. Advanced analysis utilizing instruments in qualitative and quantitative determinations. Prerequisites: Chem. 142 and 212, Phys. 112. Fee, \$6.00. Two lectures, 3 hours laboratory. Credit, 3 hours.

272g *Advanced Inorganic Chemistry*. Periodic relationships, preparation and applications of common elements and compounds. Prerequisite: Chem. 142. Credit, 3 hours.

273g *Advanced Inorganic Chemistry Laboratory*. Preparation of the less easily produced inorganic compounds. Prerequisite: Registration or credit in Chem. 272g. Fee, \$5.00. One lecture, 3 hours laboratory. Credit, 1-2 hours.

280g *Biochemistry*. Chemistry of animal and plant life including biological compounds, tissues, foods and digestion, enzymes, etc. Prerequisites: Zool. 172; Chem. 180 or 212. Three lectures. Credit, 3 hours.

281g *Biochemistry Laboratory*. Qualitative and quantitative chemistry of carbohydrates, fats, proteins, enzymes; milk, blood and urine analysis. Prerequisite: consent of instructor. Fee, \$6.00. Three to six hours laboratory. Credit, 1-2 hours.

Physics

Phys. 105 *Descriptive Astronomy*. A study of the solar system, planets, and stars from the observational and descriptive viewpoint. Fee, \$1.00. Credit, 2 hours.

110 *Introduction to Physics*. Survey of the fundamental principles of physics, presented with a minimum of mathematics, to give the student an understanding of the concepts of physics as applied to everyday life. Fee, \$4.00. Three lectures, 3 hours laboratory. Credit, 4 hours.

111 *General Physics*. The fundamental principles of mechanics, heat, and sound. Elementary trigonometric functions will be developed as needed. Prerequisites: high school geometry and Math. 106 or 107. Fee, \$4.00. Three lectures, 3 hours laboratory. Credit 4 hours.

112 *General Physics*. The fundamental principles of magnetism, electricity, and light. Prerequisite: Phys. 111. Fee, \$4.00. Three lectures, 3 hours laboratory. Credit, 4 hours.

113 *Introductory Modern Physics*. Fundamental principles of spectroscopy, X ray, nuclear theory, cosmic rays, photoelectricity, and other recent developments in physics. Prerequisites: Phys. 112, algebra and trigonometry. Credit, 3 hours.

121 *Engineering Physics*. The principles of mechanics, heat, electrostatics, and magnetostatics presented from the engineering viewpoint. Prerequisite or corequisite: Math. 122. Fee, \$5.00. Four lectures, 3 hours laboratory. Credit, 5 hours.

122 *Engineering Physics*. The principles of current electricity, sound, light, and modern developments presented from the engineering viewpoint. Prerequisite or corequisite: Phys. 121 and Math. 123. Fee, \$5.00. Four lectures, 3 hours laboratory. Credit, 5 hours.

200 *General Astronomy*. A study of the solar system, motions of the planets, eclipses, stars, galaxies, and an introduction to navigation and astrophysics. Prerequisite: Phys. 112. Fee, \$1.00. Credit, 3 hours.

210 *Photography*. A study of the principles and applications of photography from the viewpoint of physics and chemistry. Prerequisites: Phys. 112 and Chem. 110 or 111. Fee, \$5.00. Two lectures, 3 hours laboratory. Credit, 3 hours.

215 *Electronics*. A study of the principles of electronics with applications to vacuum tube circuits. Prerequisites: Phys. 112; Math. 122. Credit, 3 hours.

219 *Advanced Mechanics*. A study of mechanics from the viewpoint of the Calculus. Prerequisites: Math. 123 and Phys. 112, or equivalent. Credit, 3 hours.

220 *Advanced Heat*. Principles of heat and the kinetic theory of matter with an introduction to thermodynamics. Prerequisites: Math. 123 and Phys. 112, or equivalent. Credit, 3 hours.

221 *Advanced Electricity and Magnetism D.C.* A study of electrostatics, magnetostatics, and direct current electrical phenomena. Prerequisites: Math. 123 and Phys. 112, or equivalent. Credit, 3 hours.

222g *Advanced Electricity and Magnetism A.C.* Study of alternating current theory with an introduction to electronics. Prerequisite: Phys. 221. Credit, 3 hours.

231g *Advanced Light and Optics.* A study of geometrical and physical optics with an introduction to spectroscopy. Prerequisites: Math. 123 and Phys. 112, or equivalent. Credit, 3 hours.

241g *Atomic Physics.* A study of extra nuclear phenomena from an advanced viewpoint. Prerequisites: Math. 123 and Phys. 112, or equivalent. Credit, 3 hours.

242g *Nuclear Physics.* Study of intra nuclear phenomena from an advanced viewpoint. Prerequisites: Math. 123 and Phys. 113 or 241. Credit, 3 hours.

250g *Advanced Physical Measurements.* Advanced experimental measurements in the fields of classical and modern physics. Prerequisites: Phys. 112 or equivalent, and consent of instructor. Fee, \$5.00, per credit hour. Three to 9 hours laboratory. Credit, 1 to 3 hours. (Course may be repeated for credit.)

Geology

Geol. 151 *Physical Geology.* Earth changes due to temperature, wind, water, ice, volcanoes, earthquakes, etc. Fee, \$2.00. Three lectures, 3 hour laboratory a week, a minimum of 18 hours field work a semester. Credit, 4 hours.

152 *Historical Geology.* Origin and chronological succession of events that have developed our earth and its life. Fee, \$2.00. Three lectures, 3 hours laboratory a week, a minimum of 18 hours field work a semester. Credit, 4 hours.

211 *Mineralogy.* Mineral structure and identification based on crystal forms, physical properties and chemical composition. Prerequisites: Chem. 112 or 114; Geol. 152. Fee, \$3.00. Two lectures, 3 hours laboratory. Credit, 3 hours.

212 *Mineralogy.* Continuation of Geol. 211. Prerequisite: Geol. 211. Fee, \$3.00. Credit, 3 hours.

215 *Economic Geology.* Distribution, origin, occurrence, production and utilization of metallic and nonmetallic minerals. Fee, \$2.00. Credit, 3 hours.

220 *Structural Geology.* Study of rock structures, the principles and mechanics of their formation, and their relation to surface features and mineral deposits. Prerequisites: Geol. 151 and 152. Fee, \$1.00. Credit, 3 hours.

Geography

Geog. 100 *Elements of Geography.* Climate, relief, drainage, soils, plant and animal life; their inter relationship and influence upon man. Fee, 50 cents. Credit, 3 hours.

- 101 *Economic Geography*. Production, distribution, and consumption of various types of commodities of the world and relationships to the activities of man. Fee, 50 cents. Credit, 3 hours.
- 105 *Meteorology*. Weather elements, meteorological instruments, weather maps, forecasting and their relation to activities of man. Prerequisite: Geog. 100. Fee, \$1.00. Credit, 3 hours.
- 120 *Map Making and Interpretation*. Develops skill in map making and interpretation. Fee, \$1.00. One lecture, 3 hours laboratory. Credit, 2 hours.
- 200 *Geography of North America*. Physiographic provinces of the continent with their respective climates, products, and major activities of man. Prerequisite: Geog. 100 or 101. Fee, \$1.00. Credit, 3 hours.
- 206 *Geography of Arizona*. Landscape features, climate, soils, minerals, water resources, plant and animal life, and industries and influence on man's activities. Prerequisite: Geog. 100 or 101. Fee, \$1.00. Credit, 2 hours.
- 209 *Geography of South America*. Physiographic regions, their climates, products, and human activities. Prerequisites: Geog. 100 or 101. Fee, \$1.00. Credit, 3 hours.
- 211 *Geography of Europe*. Natural regions of Europe, their climates, relief features, drainage, soils, plants, and animals and their influence upon man's activities. Prerequisite: Geog. 100 or 101. Fee, \$1.00. Credit, 3 hours.
- 215 *Geography of Asia*. Physical and cultural landscapes of the continent. Emphasis on U. S. S. R., its industries, resources and world relationships. Prerequisite: Geog. 100 or 101. Fee, \$1.00. Credit, 3 hours.
- 221 *Geography of Africa, Australia, and Oceania*. Climates, vegetation, surface features, resources, and peoples, and their role in the modern world. Short discussion of Antarctica included. Prerequisite: Geog. 100 or 101. Fee, \$1.00. Credit, 3 hours.
- 230 *Climatology*. Principles of climate; attention to climatic regions and climate cycles. Prerequisites: Geog. 100, 105. Fee, \$1.00. Credit, 3 hours.
- 250 *Conservation of Natural Resources*. Distribution, conservation, and most efficient use of natural resources of the United States, including soil, water, minerals, wild life, and recreational facilities. Prerequisites: Geog. 100 or 101. Fee, \$1.00. Credit, 3 hours.
- 254g *Geography of Trade and Transportation*. Geographic analysis of the world's trade routes by land, sea and air. Prerequisites: Geog. 100, 101. Fee, \$1.00. Credit, 3 hours.
- 270g *World Geography*. Evolution or modification of cultures and economics influenced by natural environment. Prerequisites: Geog. 100, 101. Fee, \$1.00. Credit, 3 hours.
- 275g *Political Geography*. Geographic factors influencing the development and growth of national states and their relationships with

each other. Prerequisites: Geog. 100 or 101, or Hist. 101 and 102, or P.S. 101. Fee, \$1.00. Credit, 3 hours.

289g *Geography of World Problems*. The study of world problems as a product of their geographic setting and the effects of man in changing his environment. Prerequisite: Geog. 100 or 101. Fee, \$1.00. Credit, 3 hours.

Medical Technology

The following courses are offered in the laboratories at St. Joseph's, Good Samaritan, and Memorial Hospitals in Phoenix and are open only to seniors taking the Medical Technology curriculum. See pages 90-91.

Med. Tech. 225 *Pathogenic Bacteriology*. Disease producing bacteria studied by special stains, culturing and animal inoculation. Credit, 4 hours.

240 *Biological Laboratory Technique*. Examinations of stained smears for identification of bacteria, sputum examinations, etc. Credit, 4 hours.

250 *Histology*. Structure of tissues and organs. Preparation of stained sections. Credit, 4 hours.

265 *Serology*. Serological and immunological procedures. Complement fixation and precipitation tests for diagnosis of syphilis. Credit, 2 hours.

271 *Parasitology*. Parasites of intestines and blood. Recognition of ova, the life cycle of parasites and mode of transmission. Credit, 2 hours.

273 *Hematology*. Normal and abnormal blood cells, and alteration of the formed elements, etc. Credit, 4 hours.

282 *Biochemistry*. Chemistry of animal life, biological compounds, etc. Credit, 4 hours.

284 *Blood Chemistry*. Examination for pathological compounds, abnormal chemical changes, abnormal substances, etc. Credit, 4 hours.

286 *Clinical Examination of the Urine*. Changes in chemical composition of the urine and abnormal values of usual constituents. Credit, 2 hours.

288 *Chemistry of Digestion*. Chemical examinations of the gastric and duodenal contents, bile, and feces. Credit, 2 hours.

Department of Psychology

SKINNER (Head of the Department), BALL, BOLLING, CRAWFORD,
GRIMES, GURNEE, SMITH, YOUNG.

The aims of the work of the Department of Psychology are four fold: (a) to further the general educational objectives of the college, (b) to give student an understanding of the psychological principles that will enable them to make satisfactory adjustments to the problems of everyday living, (c) to enable those who are preparing to become teachers to apply psychological principles to the problems of the classroom so that children may make better adjustments and learn more efficiently, and (d) to give the background necessary to those who plan to do special work in the field of psychology.

Teacher-Education Curriculums

For Students Not Specializing in Psychology. Students wishing to try a few courses should consult the head of the department.

For Students Specializing in Psychology. Students may select with the approval of the head of the department such courses as may fit their individual interests, needs, and abilities. A minimum of 24 hours is suggested.

Arts and Sciences Curriculums

Degree. The arts and sciences curriculum with an area of concentration in psychology leads to the degree of Bachelor of Science.

Generalization Requirements

These requirements are outlined on page 85 of the catalog.

Area of Concentration

Psychology. In addition to the 40 semester hours in the Generalization Requirements, the following 50 semester hours are required.

Prerequisites. The following 10 semester hours: Soc. 120; Psych. 100; G.S. 110, or approved substitute in biological science.

Required Courses. The following 11 hours are required: Psych. 211, 225, 230, and 244.

Optional Courses. Additional courses in psychology to constitute a minimum of 24 semester hours approved by the adviser and 16 semester hours to be selected from two or more other department: Zool. 171, 172; Biol. 204; Ed. 216, 232, 250, 265, 266; Soc. 125, 204, 205, 206, 212, 215, 220, 225; H.Ec. 209; Spch. 127, 220, 227, 257; Bus. Ad. 219, 265; P.S. 203; Philos. 150, 200, 202, 203, 204, 205; Eng. 252.

Description of Courses

Psychology

Psych. 100 *Elementary Psychology*. Considers basic principles of psychology and such activities as emotions, motives, thinking, observing, learning, and intelligence. Fee, 50 cents. Credit, 3 hours.

114 *Applied Psychology*. Application of psychological principles in business, industry, medicine, law and personnel. Prerequisite: Psych. 100. Credit, 3 hours.

140 *Human Growth and Development*. Hereditary and prenatal factors in development. Physical, language, motor, and mental development of the child from birth to adulthood. Observation and experience with children required. Designed especially for the needs of the teacher or others who work with children. Prerequisites: Soc. 120; Psych. 100. Fee, 50 cents. Credit, 2 hours.

141 *Human Growth and Development*. Continuation of Psych. 140. Emotional and social development, play, home and school adjustment of the child from birth to adulthood. Observation and experience with children required. Prerequisites: Soc. 120; Psych. 100, 140. Fee, 50 cents. Credit, 2 hours.

200 *Educational Measurements*. Construction, interpretation and use of tests. Practice in simple graphical and statistical methods. Prerequisite: Psych. 100. Fee, 50 cents. Credit, 3 hours.

211g *Statistical Methods*. Interpretation and application of statistics as employed in education and psychology. Assembling and analysis of data. Measures of central tendency, variability, reliability, and simple correlation. Prerequisites: Psych. 200, 213. Credit, 3 hours.

213 *Educational Psychology*. An analysis and application of psychological facts and laws particularly relevant to the problems of education. Prerequisite: Psych. 100. Credit, 3 hours.

214 *Business Psychology*. A review of the principles of employment testing and personnel selection; analysis of the psychological problems relating to advertising, selling, and business practices. Prerequisite: Psych. 100. Credit, 3 hours.

215 *Mental Hygiene*. Factors necessary for good mental health; basic needs of the individual; prevention of mental disorders and correction of personality disorders in their early stages. Prerequisite: Psych. 100. Credit, 2 hours.

220g *Individual Mental Testing*. A study of the Stanford-Binet and other scales, and of performance tests. Practice in giving these tests. Prerequisites: Psych. 100, 200, 213, 224. Fee, \$1.00. Two lectures, 2 hours laboratory. Credit, 3 hours.

224 *Clinical Psychology*. Survey of clinical work on diagnosis and adjustment of problem children. Educational and other adjustment problems are diagnosed and remedial measures suggested. Prerequisites: Psych. 141, 200. Credit, 3 hours.

225 *Social Psychology*. The behavior of man in his social relations. Problems of crowd behavior, social control, propaganda, suggestion, imitation, competition, cooperation, and leadership. Prerequisites: Psych. 100 and Soc. 120. Credit, 3 hours.

226g *Behavior Problems and Juvenile Delinquency*. A review of investigations on behavior problems and delinquency; factors contributing to delinquency; prevention and correction; case studies. Prerequisite: 3 courses in psychology. Credit, 2 hours.

227 *Adjustments in Marriage*. Techniques for happy marriage; compatibility factors; understanding the opposite sex; reconciling common maladjustments; divorce problems; understanding the child; making marriage work. Prerequisites: Psych. 100 or Soc. 120. Fee, \$.50. Credit, 3 hours

228g *Psychology of Reading*. A survey of the recent psychological literature in reading. Special emphasis on psychological problems in reading, therapy, diagnosis and reading readiness at all levels. Prerequisites: Psych. 100, 140, 141, 213. Fee, \$1.00. Credit, 2 hours.

230g *Abnormal Psychology*. Prevention, symptoms and treatment of mental deficiency and insanity. Prerequisites: twelve hours in psychology. Credit, 2 hours.

231 *Psychology of Adolescence*. Methods and findings of recent studies of the development, growth and problems of the adolescent, with implications for education. Prerequisites: Psych. 141 or 213. Credit, 2 hours.

234 *Child Psychology*. Development, growth and psychological activities of the child. Problems of adjustment and child training. Survey of experimental and observational studies. Prerequisite: Psych. 100. Credit, 3 hours.

237g *Experimental Psychology*. A survey of typical experiments in psychology including reaction time, perception, learning and problem solving. Emphasis on methods of experimentation. Demonstrations. Prerequisite: 16 hours in psychology or equivalent. Fee, \$1.00. Credit, 3 hours.

239g *Psychology of Motivation and Emotions*. An analysis of underlying motives and emotions functioning in human development. Emphasis is placed on applications to educational and clinical psychology. Prerequisites: Psych. 100, 213, and 224. Credit, 2 hours.

240 *Psychology of Personality*. The elements of personality, and the conditions which determine the pattern and the direction of its growth. Methods of judging personality and character. Prerequisite: at least 3 courses in psychology. Credit, 3 hours.

242g *Recent Problems in Psychology*. Seminar based on readings and discussions of contemporary problems in psychology. Prerequisite: 12 hours in Psychology. Credit, 2 hours.

244 *History of Psychology*. Major problems and trends of modern psychology traced from their beginnings to the present including the

development of the modern scientific approach. Prerequisite: 12 hours in psychology. Credit, 3 hours.

245g *Psychology of Religion*. Problems and experiences in the field of religion. Methods and techniques for gathering and evaluating data. Prerequisites: at least 3 courses in psychology. Credit, 3 hours.

250g *Clinical Techniques*. Principles and techniques of clinical diagnosis including therapy, counseling, interviewing, projective techniques, and diagnostic tests. Prerequisites: Psych. 200, 220, 224. Credit, 3 hours.

260g *Directed Observation and Experience*. Supervised observation and experience in work of a psychological nature; observation and experience in either a school, State or County institution according to the interests, needs, and abilities of the student. Prerequisites: A major in Psychology and the completion of 80 semester hours, or a graduate student. (Enrollment by permission only.) Credit, 3 hours.

261g *Directed Observation and Experience*. Continuation of Psych. 260g (Enrollment by permission only). Credit, 3 hours.

280g *Advanced Psychological Clinic*. Laboratory practice in psychological testing and diagnosis. Intelligence, personality, interest and vocational testing and advisement. Prerequisites: Psych. 220, 224. Fee, \$1.00. Credit, 2 hours.

281g *Advanced Psychological Clinic*. Continuation of Psych. 280g. Prerequisite: Psych. 280g. Fee, \$1.00. Credit, 2 hours.

282g *Reading Clinic*. Laboratory practice in administration, interpretation and application of diagnostic tests and remedial procedures in reading on elementary and secondary school levels. Prerequisites: Psych. 200, 213, 224 or permission. Fee, \$1.00. Credit, 2 hours.

308 *Advanced Educational Psychology*. Review of scientific publications on the facts, laws, and theories of learning, with reference to problems of education. Prerequisites: Psych. 200, 213. Credit, 2 hours.

313 *Recent Studies in Educational Psychology*. Survey of the latest experimental reports relevant to current problems of teaching. Prerequisites: Psych. 200, 213. Credit, 2 hours.

314 *Learning and Problem Solving*. A survey of facts, principles, and theories of learning with emphasis on recent findings. Various practical applications will be discussed. Credit, 3 hours.

315 *Theory and Function of Test Construction*. Extensive treatment of the theory and functions of measurement in education and psychology and techniques of test construction. Prerequisites: Psych. 200, 211g, 213. Credit, 3 hours.

320 *Individual Differences*. The nature and extent of psychological differences among individuals and groups, and their significance for curriculums and educational methods. Prerequisites: Psych. 200, 213. Credit, 2 hours.

322 *Psychology and Education of Exceptional Children*. Psychological principles essential for the understanding and education of exceptional children. Prerequisites: Psych. 200, 213 or 234. Credit, 2 hours.

333 *Personnel Techniques and Problems.* Application of psychological principles to student, business and industrial personnel problems. Prerequisite: at least eight hours in psychology. Credit, 2 hours.

334 *Psychology of Interviewing.* Survey of interviewing principles applied to counseling, therapy, informational interviewing, employment techniques, and public opinion surveys. Actual practice provided. Prerequisite: At least 5 hours in clinical sequence. Credit, 2 hours.

335 *Aptitudes and Aptitude Tests.* The theory of aptitudes, types of aptitude tests, and use of aptitude tests in the guidance program. Prerequisites: Psych. 200, 213. Credit, 2 hours.

350 *Theory and Practice of Clinical Counseling.* A survey of the major theories and techniques underlying psychotherapy including psychoanalysis, directive therapy, non-directive therapy, group therapy, play therapy, psychodrama, etc., together with their possible application to the school situation. Credit, 2 hours.

Philosophy

Phil. 150 *Logic.* Principles and methods of correct thinking. Examples of logical fallacies and ways of detecting them. Credit, 3 hours.

200 *Introduction to Philosophy.* Fundamental issues and contributions in philosophy. The development of philosophical thought from the late medieval to modern times. Open to upperclassmen *only*. Prerequisites: Psych. 100, Soc. 120. Credit, 3 hours.

202 *Principles of Ethics.* The meaning of right and wrong, the development of moral understanding, the ethical foundations of personal and social relations. Prerequisites: Psych. 100; Philos. 200. Credit, 3 hours.

203 *Readings in Ancient Philosophy.* Readings in the philosophical classics of ancient Greece and Rome with special emphasis upon the works of Plato and Aristotle. Prerequisite: Phil. 200. Credit, 2 hours.

204 *Recent and Contemporary Developments in Philosophy.* Emphasis upon the contributions of James, Dewey, Bergson, and Whitehead. Prerequisite: Phil. 200. Credit, 2 hours.

205g *Social Philosophy.* Consideration of important contributions to social thinking, with particular reference to the ideological conflicts of modern times. Prerequisites: Phil. 200 and Soc. 120. Credit, 3 hours.

Department of Social Studies

WYLLYS (Head of the Department), HUBBARD, KRENKEL, MOORE,
RICE, STEWART, TILDEN, TURNER, VAN PETTEN.

Courses in the Social Studies are designed to make the student's college education well-rounded, and to produce intelligent, broad-minded and tolerant graduates of this institution. Not all students are preparing to enter the same profession, but nearly all expect to be citizens of the United States. In order to be able citizens, it is desirable to have some knowledge of human and cultural backgrounds and relationships, gained through an acquaintance with history, sociology, political science, or other Social Studies.

Teacher-Education Curriculums

The Kindergarten-Primary and Elementary Curriculums

For Students Not Specializing in Social Studies. In addition to the courses required in the teacher-education curriculums, P.S. 200, Hist. 101-102 or 103-104, the following are recommended as electives: Hist. 109, 110, 111-112; P.S. 101, 102; S.S. 100.

*For Students Specializing in Social Studies.....*It is suggested that students desiring a limited number of courses choose them as follows: not less than twelve hours in lower division courses chosen from S.S. 100, Hist. 101-102, 103-104, 105-106, 110, 111-112; P.S. 101, 102, 103, 104, and twelve hours of upper division courses such as Hist. 200, 201, 202, 203, 204, 205, 206, 207, 208-209, 210, 211, 212, 213, 214, 215, 216, 217; P.S. 201, 203, 204, 205, 206, 207. Students desiring a major teaching field, see below under secondary curriculum.

The Secondary Curriculum

It is recommended that students planning to teach social studies complete basic courses in history, sociology, economics and political science, since they may be expected to teach several branches of social science. Major teaching fields are offered in general social studies, history and political science. Courses recommended to students majoring therein include work in other related departments. A major teaching field requires the completion, within the first four years, of at least 45 semester hours of work in one of the three fields specified above. At least 25 hours must be in one subject field and not less than 18 of the total shall be upper division. Lower division courses must total at least 27 hours out of 45. Candidates for the master's degree preparing to teach social studies should complete additional courses in one or more of these fields during the fifth year. Programs for each of the teaching fields are outlined below. At least two-thirds of the hours completed toward a major must be completed in the Social Studies department.

Major Teaching Field in General Social Studies. This field is for prospective teachers who may teach several different phases of social

studies. In addition to Hist. 101-102 or 103-104, and P.S. 200, this teaching field requires at least 16 hours in lower division courses chosen from the following: S.S. 100; Hist. 101-102, 103-104, 105-106, 109, 110, 111, 112; P.S. 101, 102, 103, 104; Bus. Ad. 130, 132; Geog. 101, and 18 hours in upper division courses chosen from the following: Hist. 200, 201, 202, 203, 204, 206, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217; P.S. 201, 204, 206; Bus. Ad. 219, 262; Geog. 200, 206, 250, or from other courses selected in conference with the adviser.

Major Teaching Field in History. This field is for those who expect to teach mainly history. In addition to Hist. 101-102 or 103-104 and P.S. 200, the student will complete at least 16 hours in lower division courses chosen from the following: S.S. 100; Hist. 101-102, 103-104, 105-106, 107-108, 109, 110, 111-112, 113, 114, 115-116; P.S. 101, 104; Bus. Ad. 130; Geog. 101, and 18 hours in upper division courses chosen from the following: Hist. 200, 201, 202, 203, 204, 205, 206, 207, 208-209, 210, 211, 212, 213, 214, 215, 216, 217; P.S. 200; S.S. 212; Geog. 200, 206, 209, 211, 215, 270, or from other related courses selected in conference with the adviser.

Major Teaching Field in Political Science. This field is for those who plan to teach mainly political science or civics. In addition to Hist. 101-102 or 103-104 and P.S. 200, the student will complete at least 16 hours in lower division courses chosen from the following: S.S. 100; Hist. 101-102, 103-104, 105-106, 109, 110; P.S. 101, 102, 103, 104; Bus. Ad. 130, 132; Geog. 101, and 18 hours in upper division courses chosen from the following: Hist. 203, 208-209; P.S. 201, 203, 204, 205, 206, 207; Bus. Ad. 205, 206, 217, 219, 262, 265; Geog. 200, 206, 209, 211, 215, 250, 270, or from other related courses selected in conference with the adviser.

A minor teaching field may be selected from any of the three groups of the social studies subjects. It consists of at least 15 semester hours in a subject field in the department, exclusive of courses counted toward the major field. The appropriate general education courses in social studies required by the college may be applied toward a teaching major or minor. At least 6 of the 15 hours in a minor should be in upper division courses. P.S. 200 may be counted toward a minor. At least two-thirds of the hours completed toward a minor must be taken in the Social Studies Department.

Minor Teaching Field in General Social Studies. First year, S.S. 100; Hist. 101-102 or 103-104; choice of P.S. 101, 102 or Bus. Ad. 130; second year, Hist. 101-102 or 103-104; choice of P.S. 103, 104; Geog. 101; Bus. Ad. 132, or Hist. 105-106, 109, 110; third and fourth years, choice of Hist. 200, 201, 203, 204, 206, 208-209, 211, 213, 214, 215, 216, 217; P.S. 201, 204, 206; Bus. Ad. 219, 262; Geog. 200, 209, 250.

Minor Teaching Field in History. First year, S.S. 100; Hist. 101-102 or 103-104; choice of Hist. 105-106, 107, 108, 109, 110, 111-112, 113; Bus. Ad. 130; P.S. 101, 102; Geog. 101; second year, Hist. 101-102 or 103-104; and choice of Hist. 105-106, 107-108, 109, 110, 111-112, 113, 114, 115-116; P.S. 103, 104; Bus. Ad. 132; Geog. 101; third and fourth years, choice of Hist. 200, 201, 202, 203, 204, 205, 206, 207, 208-209,

210, 211, 212, 213, 214, 215, 216, 217; P.S. 203, 204, 205, 206, 207; Geog. 200, 206, 209, 211, 215, 270.

Minor Teaching Field in Political Science. First year, S.S. 100; Hist. 101 102 or 103-104; P.S. 101, 102; choice of Hist. 109, 110; Bus. Ad. 130; second year, Hist. 101 102 or 103 104; P.S. 103, 104; choice of Hist. 105-106; Bus. Ad. 132; Geog. 101; third and fourth years, choice of Hist. 203, 208 209; P.S. 200, 201, 203, 204, 205, 206, 207; Bus. Ad. 205, 206, 219, 262, 265; Geog. 200, 206, 209, 211, 215, 250, 270.

Arts and Sciences Curriculums

Degree. Students completing satisfactorily an Arts and Sciences Curriculum with an area of concentration in the Social Studies receive the degree of Bachelor of Art .

General Requirements

Students seeking the B.A. degree with an area of concentration in social studies or the B.S. degree with an area of concentration in social welfare must meet the generalization requirements listed under the Arts and Sciences Curriculums, on page 85 of the catalog.

Areas of Concentration

Social Studies. The area of concentration in Social Studies requires 39 semester hours in addition to the generalization requirements. Certain other courses in this department may be substituted for those listed below, with the consent of the advisor. The total necessary hours must consist of at least 21 hours in lower division courses, 18 hours in upper division courses.

Required Courses. Each student will select 12 semester hours from the following lower division courses: S.S. 100; Hist. 101, 103, 109; P.S. 101, 102; Geog. 103, and 12 hours from the following upper division courses: Hist. 202, 204, 206, 208, 210, 212; P.S. 201, 206, 207.

Optional Groups of Courses. Each student choosing this area of concentration will select one of the following three fields of emphasis and complete a minimum of 15 hours in it.

(1) *Emphasis on History.* Select 9 hours from the following lower division courses: Hist. 105, 106, 107, 108, 111, 112, 113, 114, 115, 116; Bus. Ad. 130, 132, or both; Geog. 100, and 6 hours from the following upper division courses: Hist. 200, 201, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217.

(2) *Emphasis on Political Science.* Select 9 hours from the following: P.S. 103, 104; Hist. 105, 106, 109; Bus. Ad. 130, 132, or both; Geog. 100. Select 6 hours from the following: P.S. 203, 204, 205, 206, 207; Geog. 203, 204, 217.

(3) *Emphasis on General Social Studies.* Select 9 hours from the following: P.S. 103, 104; Bus. Ad. 130, 132, or both; Geog. 100. Select 6 hours from the following: P.S. 203, 204; Bus. Ad. 205, 219, 262; Geog. 217; Ed. 216, 265; Psych. 114, 225.

Social Welfare. The area of concentration in social welfare provides a broad background of study and preparation for students who expect to enter graduate schools of social work or for those who plan on taking social work positions in communities where graduation from a school of social work is not a requirement. Professional training in social work is taken in graduate schools of social work. The courses offered here are on the undergraduate level and are for the purpose of orienting students to the field of social welfare.

The American Association of Schools of Social Work recommends that prospective students of social work or social administration be urged to take not less than 12 semester hours in economics, political science, psychology and sociology including social anthropology. The association also recognizes the value of courses in biology, history, education, and English literature and composition, as well as other courses which contribute to a broad cultural background. Some schools of social work require that the student, in addition to taking introductory courses in economics, political science, sociology, psychology and biology, complete at least 18 hours of selected courses in one of these subjects. A total of 50 semester hours of required and optional courses must be taken as indicated below:

Prerequisites. The following 14 semester hours: Soc. 120; G.S. 100, 110; Psych. 100.

Required Courses. The following 36 semester hours are required: Hist. 103, 104, 105, 106; Psych. 225; Soc. 203, 205, 212, 215, 220, 225; P.S. 102. Soc. 205 and 212 may not be taken simultaneously; not more than two sociology courses may be taken concurrently without permission from the adviser.

Optional Courses. Twenty semester hours to be selected from the following: Span. 8 hours; Hist. 109, 110, 204; Psych. 140, 114, 234; Bus. Ad. 110, 130, 132, 219; P.S. 101, 103, 200; Zool. 111, 117; Geog. 100; Biol. 204; Phil. 200; Eng. 171; Soc. 125; H.Ec. 103, 203, 209.

Description of Courses

General Social Studies

S. S. 100. *Introduction to the Social Studies.* Includes introductory material on history, economics, sociology, anthropology, political science. Not open to third and fourth year students. Five times a week. Credit, 5 hours.

History

Hist. 101 *Survey of Western Civilization, I.* Origins of western civilization and its development through medieval times. Credit, 3 hours.

102 *Survey of Western Civilization, II.* Continuation of Hist. 101 through Renaissance and modern times. Credit, 3 hours.

103 *United States Through the Civil War.* From 1783 through Civil War. Credit, 3 hours.

104 *United States Since the Civil War.* Continuation of Hist. 103 to the present period. Emphasis on economic and cultural growth. Credit, 3 hours.

105 *History of England to 1603.* A survey of the political, economic, and social development of the British people from the earliest times to end of the Tudor period. Credit, 3 hours.

106 *History of England Since 1603.* Political, economic and social development of England and the British Empire from 1603 to the present. Credit, 3 hours.

107 *Ancient Orient and Greece.* Western ancient history through the Hellenistic period. Credit, 3 hours.

108 *History of Rome.* Roman period from the origin of Rome to the downfall of the Roman Empire. Credit, 3 hours.

109 *Economic History of the United States.* The development of American economic institutions, with attention given to their early background in Europe. Credit, 3 hours.

110 *Growth of American Institutions.* This course is introductory to the subject of American History. Credit, 3 hours.

111 *The Southwest to 1865.* Survey of southwestern history before Civil War times. Credit, 3 hours.

112 *The Southwest Since 1865.* Development of southwestern states, people and economic life since Civil War. Credit, 3 hours.

114 *Colonization of North America.* Colonial era of American history, both Spanish and English, with some consideration of French and other colonial peoples to 1783. Credit, 3 hours.

115 *Colonial Hispanic America.* Period of exploration, conquest and colony development among Latin American peoples to 1830. Credit, 3 hours.

116 *Independent Hispanic America.* Nationalistic growth of the peoples of Latin America since the winning of independence. Credit, 3 hours.

200 *The Middle Ages.* The development of Western Europe from the fall of Rome to the Renaissance with particular emphasis on the social and cultural development. Prerequisites: Hist. 101-102 or equivalent. Credit, 2 hours.

201g *History of the British Empire.* The growth and development of the British Empire with particular stress on the commercial, economic, and governmental aspects of the empire. Prerequisites: Hist. 101-102 or Hist. 105-106. Credit, 2 hours.

202g *The Far East.* Early and modern history of China, Central Asia, Japan, Malaysia and India. Prerequisites: Hist. 101, 102. Credit, 2 hours.

203g *American Foreign Relations.* The machinery of American diplomacy and development of American foreign policy. Prerequisites: Hist. 103, 104. Credit, 3 hours.

204 *American Frontier*. Territorial expansion and settlement of the American people since colonial times. Prerequisites: Hist. 103, 104. Credit, 2 hours.

205g *French Revolution and Napoleon*. Period of world revolution and imperialist wars, 1763-1815. Prerequisites: Hist. 101, 102. Credit, 2 hours.

206g *Contemporary Europe*. European history since the First World War. Prerequisites: Hist. 101, 102. Credit, 2 hours.

207g *History of Mexico*. The formation, culture and social life of the Mexican people since colonial times. A knowledge of Spanish is desirable but not essential. Prerequisites: Hist. 103, 104. Credit, 3 hours.

208g *American Cultural History*. The development to 1860 of American ideas, ideals, literary expressions and social standards. Prerequisites: Hist. 103, 104. Credit, 2 hours.

209g *American Cultural History Since 1860*. A continuation of Hist. 208g, dealing with American culture since the middle nineteenth century. Prerequisites: Hist. 103, 104. Credit, 2 hours.

210g *Renaissance and Reformation*. Antecedents and development of the Renaissance in Italy, its spread into the rest of Europe, and the resultant revolution in religious and political thought. Prerequisites: Hist. 101, 102. Credit, 2 hours.

211g *Nineteenth Century Europe*. Growth of nationalism in nineteenth-century Europe, with emphasis upon economic, political and social trends. Prerequisites: Hist. 101, 102. Credit, 2 hours.

212g *The Pacific Area*. History of the countries surrounding and controlling the Pacific. Emphasis upon cultural backgrounds. Prerequisites: Hist. 101, 102. Credit, 2 hours.

213g *Contemporary Great Britain*. Survey of British political and cultural history since 1900. Prerequisites: Hist. 101, 102, or 105, 106. Credit, 2 hours.

214g *History of Russia and Eastern Europe*. A general survey of Eastern European and Russian history from ancient times to the present day. Prerequisites: Hist. 101, 102 or equivalent. Credit, 2 hours.

215g *Great Personalities in American History*. Considers the contributions of noted Americans in the scientific, cultural, philosophical, economic, and political development of the United States. Prerequisites: Hist. 103, 104. Credit, 3 hours.

216g *American Biography Since 1860*. Considers the contributions of noted Americans in the scientific, cultural, philosophical, economic, and political development of the United States since 1860. Prerequisites: Hist. 103, 104. Credit, 3 hours.

217g *Constitutional History of the United States*. The origin and development of the Constitution of the United States with special

emphasis on how it has been interpreted by the courts. Prerequisites: Hist. 103, 104. Credit, 3 hours.

219 *Recent American History*. Covers the important developments in American history since the First World War. Prerequisite: Hist. 104. Credit, 2 hours.

220 *Historical Literature*. Deals comparatively with the works and ideas of leading historians. Open to seniors only. Prerequisites: Previous completion of at least six hours in upper division courses in history. Required of all majors in history. Credit, 2 hours.

300 *Seminar in History*. Individual research work covering any field of history. Offered when demand is sufficient. Credit, 2 hours.

301 *Contemporary United States*. American political, social and economic history since 1900. Offered when demand is sufficient. Credit, 2 hours.

302 *Historiography and Historical Philosophy*. Studies in historical method and theories of history. Offered when demand is sufficient. Credit, 2 hours.

Political Science

P. S. 101 *Introduction to Political Science*. Principles of government and theories of law and the state. Credit, 3 hours.

102 *American Government: State and Local*. Workings of the typical American State government, its principles of administration and the conduct of country and local governments. Credit, 3 hours.

103 *Municipal Government*. Structure, methods and principles of American city governments and their administration. Credit, 3 hours.

104 *American Political Parties*. History of leading political parties and principles of famous party leaders. Credit, 3 hours.

105 *American Government: Federal*. Principles and practice of our federal government in its policy-making, administrative, and judicial aspects. Cannot be substituted for P.S. 200. Credit, 3 hours.

106 *History of Political Thought*. Political philosophers and their theories from Plato and Aristotle to modern times. Credit, 3 hours.

200 *Constitutional Government*. National and Arizona government. Meets requirements for certification. Credit, 3 hours.

201 *Comparative National Governments*. Background of present-day typical governments, with consideration of the principles underlying each. Prerequisite: P.S. 101. Credit, 2 hours.

203 *Public Administration*. Practices and principles of government administration, chiefly in the United States. Prerequisites: P.S. 101, 102. Credit, 3 hours.

204g *International Law and Relations*. Principles and practices of national governments under the laws and customs of war and peace. Prerequisite: P.S. 101. Credit, 2 hours.

206g *Contemporary Political Thought*. Political ideas and philosophy from the French Revolution to the present. Prerequisite: P.S. 101. Credit, 2 hours.

207 *Government and the American Economy*. Relationships of business and industry, agriculture, and labor to American government. Prerequisite: P.S. 105 or equivalent. Credit, 2 hours.

208g *Political Opinion and Propaganda*. Analysis of informal and organized influences and pressures upon our political institutions. Credit, 2 hours.

209g *Contemporary Political Leaders*. Consideration of the social status, techniques, and personality traits of selected world political figures of today. Credit, 2 hours.

300 *Seminar in Political Science*. Individual research work in any field of political science. Offered when demand is sufficient. Credit, 2 hours.

301 *Seminar in Public Administration*. Individual investigation of current problems in the activities of selected government agencies. Prerequisite: P.S. 107. Credit, 2 hours.

Sociology

Soc. 120 *Sociology*. Study of human relationships, human wants, and social institutions. Aims to discover foundations basic to a stable and progressive civilization. Credit, 3 hours.

125 *Elementary Anthropology*. Primitive society, religion, material culture, the origin and antiquity of man and civilization, modern races, the linguistic phases of culture, and the principles of anthropology. Credit, 3 hours.

203 *Marriage and the Family*. The family is interpreted as a basic social institution. The development of the family from an economic unit to a companionship is related to cultural factors. Emphasis is placed upon socialization of the individual and his adjustment to the social order as major functions of the family. Prerequisite: Soc. 120. Credit, 3 hours.

204 *Urban Sociology*. A study of contemporary city life and its effect on the individual personality and on the social organization. Rural-urban conflicts of culture. Prerequisite: Soc. 120. Credit, 3 hours.

205 *History of Social Welfare*. Methods of helping the poor from ancient times to the present. Systems of relief in Europe, England, and the United States. Credit, 3 hours.

206 *Social Anthropology*. Social organization, social institutions, and cultural diffusion; acculturation, culture and personality, the community study, selected primitive cultures. Prerequisite: Soc. 120 or 125. Credit, 3 hours.

207. *The American Indian*. Archaeology and ethnology of the American Indian with emphasis upon current, social and economic problems

of the Indians of the Southwest. Prerequisite: Soc. 120. Credit, 3 hours.

208 *Archaeological Field Methods*. The excavation of archaeological sites and the recording and interpretation of data. Includes field experience in this locality. Fee, \$3.00. Two lectures, 3 laboratory

209 *American Minority Peoples*. Problems of racial, national and religious minorities in the United States. Prejudice, acculturation and assimilation. Prerequisite: Soc. 120. Credit, 3 hours.

212 *Introduction to Social Work*. Class discussion and field trips to help students with their relationships with others. Study of social agencies and their approach to human problems. Credit, 3 hours.

215 *Community Organization*. A study of the methods by which a coordinated social agency functions in the community and utilization of community resources. Credit, 3 hours.

220 *Principles of Criminology*. Causation of crime; juvenile delinquency; apprehending, convicting, and sentencing of criminals; probation and parole; penology. Prerequisite: Soc. 120. Credit, 3 hours.

225 *Modern Social Problems*. Current problems of race relations, poverty and unemployment, mental disease, mental deficiency, etc. Prerequisite: Soc. 120. Credit, 3 hours.

Statistics

Summary of Registration 1951-52

COLLEGE

Resident Students — Regular Sessions

	Freshmen	Sophomores	Juniors	Seniors	Graduates	Unclass.	Total	
Men	888	504	549	443	401	6	2791	
Women	540	283	261	224	222	5	1537	
	1428	787	810	667	623	11	4326	4326

Extension Division

Residence Center Students — Regular Session

Men	621
Women	518
Total	1139

Correspondence

Men	90
Women	68
Total	158

Summer Session 1951

Men	1683
Women	977
Total	2660

Total Registration in College

Men	5183
Women	3100
Total	8283

Counted More Than Once

Men	954
Women	519
Total	1473

Net Enrollment

Men	4229
Women	2581
Total	6810

TRAINING SCHOOLS

Boys	407
Girls	411
Total	818

GRAND TOTAL7628

Summary of Graduates 1951-52

Total Graduates Through May, 1951	9170
One, Two, and Three Year Diplomas:	
(Discontinued Commencement 1936)	3522
Earned Degrees:	
Bachelors	
Bachelor of Arts	152
Bachelor of Science	999
Bachelor of Arts in Education	4014
Total	5165
Masters	
Master of Arts in Education	480
Total	480
Total Through May, 1951	5645
Honorary Degrees	
Masters	2
Doctor of Laws	1
Total Through May, 1951	3
Total Degrees Granted Through May, 1951	5648
Earned Degrees Granted May 20, 1952	
Bachelors	
Bachelor of Arts	38
Bachelor of Science	249
Bachelor of Arts in Education	364
Total	651
Masters	
Master of Arts in Education	146
Total	146
Total May, 1952	797
Total Graduates Through May, 1951	9170
One, Two and Three Year Diplomas	
(Discontinued Commencement 1936)	3522
Earned Degrees:	
Bachelors	
Bachelor of Arts	190
Bachelor of Science	1248
Bachelor of Arts in Education	4378
Total	5816
Masters	
Master of Arts in Education	626
Total	626
Total Through May, 1951	6442
Honorary Degrees:	
Master of Arts in Education	2
Doctor of Laws	1
Total	3
Total Degrees Granted Through May 20, 1952	6445
Total Graduates Through May 20, 1952	9967

Bachelor of Arts

- Allan P. Aggson
 *Joe M. Ausere
 William Garner Barnes
with high distinction
 Frederick Thomas Barstow
 *Albert Raymond Bates
 Claude E. Burris
 George H. Dee
with distinction
 *Edward Christopher Dorton
 Perry W. Doyle
with distinction
 Robert Noyes Eaton
 Thor A. Ericson
with high distinction
 Chester John Gurka
 Alvar A. Honka
with high distinction
 Hal Chase Hubele
with distinction
 Henry William Jacobsen, Jr.
 §George Madden Jones
 Patricia Kelley
 Horace Whitney Kimball
 Robert H. Lennon
 *Harold Jerome Lewkowitz
with distinction
 *Leo Robert Mazey
 Alpha Virginia Mills
 Marianne Nina Carter Padfield
with distinction
 §Marrison Aaron Parsons
with distinction
 June Patricia Payne
with distinction
 Maurice Dennis Penfold
with distinction
 Eugene R. Quesada
 §Sidney Denison Smith, Jr.
 Norma Elaine Stevenson
 Sally H. Streeter
 Herbert Franklin Surret
 Fred William Thompson
 Fidel Filiberto Torea
 Elizabeth Ann Townsend
with distinction
 *John Malcolm Walrath
 *Jean Rosetta Wasserman
 Peggy Jean Williams
 Dolores Mae Yonker
with high distinction

Bachelor of Science

- William Charles Ackerman
 *Henry Glenn Adkins
with distinction
 Michelangelo Alaïmo
 §Clyde Emerson Albin
 *Richard Platt Allen
 Palmer E. Amundsen
 Daniel Ruiz Angulo
 §Rosalie Virginia Archey
with distinction
 Robert Kenneth Armistead
with high distinction
 Robert Sidney Bacon
with distinction
 Barford Bishop Badland
with distinction
 §James Richard Bailey
 Nancy Byrns Baker
with distinction
 Walter Kenneth Bandy, Jr.
 §Walter Eugene Beatty, Jr.
with distinction
 §Charles Nelson Bebee
 §Robert William Beharka
 Frank Richard Beigbeder
 §Richard Alvin Betes
 Franklin Ashurst Billingsley
 §Harold Melvin Birtcher
 Erwin Arthur Bischoff
 §Frank Robert Bishop
 Ethel Boman
 *Mark Edward Borton
with distinction
 Nick Roy Bozovich
 *Willmer C. Brillhart
with distinction
 Richard John Brown
with distinction
 William Alanzo Bruner
 Wilton Cox Bryan
 *Dewey L. Bryce
 Lois Grace Burman
 §William E. Burns
 Roger Lee Carlin
 *David Minyard Childers
 Francis V. Christman
 David Lamar Cluff
 §John C. Coale
 Arnold Travis Cole
 William Randolph Cooper
 Union Jerome Cruze
 Robert Franklyn Dare
 §Lena May Davidson
with distinction
 Charles Eugene Davis
with distinction
 Daniel Thomas Davis
 Frank Arthur Davis
 Paul Eugene Davis
 Ralph R. Davis
 Porfirio Delacruz
 Marlowe Tilman Denham
 Fred C. DiSalvo
 §James Henry Dixson
 *David Daniel Doucet
 John Charles Drago
 Shirley Norman Dresback
 Abel Ducasse
 David Leonard Dunne
with distinction
 *Keith A. Dwyer
 *James Rolland Earnist
 *Arthur Jerome Ecker
 Robert C. Erickson
 Raymond L. Evans
 *John Boyd Fattaleh
 Benjamin Wolfe Feiler
 *Ford Ferguson
 §Fred Dean Ferrin
 Charles Ross Findlay
with distinction
 *Joseph Fink
with distinction
 *Peter William Fisher
 William P. Fleming
 Robert Edward Flood
 *William Proctor Flower
 Benno Fochner
 L. Warner Foote, Jr.
 Daniel Edwin Fowler
 Lawrence Arthur Fuller
 §Wendell Webb Gardner
 *James Clark George
 *Mary Eve Gillette
 Leonard Richard Gorczyca
with distinction
 *Robert Milton Greenwold
 John Keith Gunville
 §William Charles Hammer
 §Robert James Harmon
 §Winfield George Harrison
 §George Walter Harter

- Henry Hoy Harter
 *Richard H. Hauser
 Robert Dustin Haycock
 Ruth Sibby Hoxie Hayman
 *William Storen Heffner
 Gerald Warner Hicks
 John Steven Holmes
 Nathan Holt
 §Frank Alden Hudson
 Carolyn Jean Huey
with distinction
 W. Ward Smith Hunter
 §Joseph Nicholas Ieronimo
 Daniel B. Ingers Jackson
 Margaret Lilian Jackson
with distinction
 §Curtis Warren Janssen
 §Charles B. Jenevsky
 William Calvin Jenkins
 Arthur Ray Johnson
 §Kenneth Barry Johnson
 Robert E. Johnson
 Earl C. Johnston, Jr.
 Edgar A. Jones
 Harrington Edward Keyes, Jr.
with distinction
 *John Kenneth Kinnebrew
 Luke Anton Kirby
 Claudine Knight
 Russell Byrne Knister
 Clarence George Koldoff
 John Kopchak, Jr.
 §Milton Carrigan LaJune
 *Dale Herman Lauchlin, Jr.
 *William Leonard Laughlin
 Taft Joe Lee
 §John Stanley Levendoski
 *Frances Cormier Lindow
 Harold Curtis Lippman
 §Richard Earl Lockhard
 *Luis Lomeli
 §Neil Boyd McCleery
with distinction
 Roger Allan McKenzie
 Matthew Vernon McMinn
 Jack C. McPhee
 Robert Finlay Macdonald
 *Wayne Lamarr Macdonald
with distinction
 *Johnny Charles Machen
 Robert Louis Maglich
 John William Mirkham
 Tony P. Marquez
 Peter "B" Marshall, Jr.
 Burnett Goodfellow Maurer
 §Robert Norman Medlyn
 *Geraldine Elinor Meinke
with high distinction
 Wallace Robert Menckel
 Samuel E. J. Menniti
 Norman D. Meyer
 William Cole Miles
 Bob Vernon Miller
 Harold Kirby Miller
with distinction
 Maurice Mitchell
 Robert V. Mitchell
 §Arnold Joe Moore
 Louis Casmer Mroz
 Alfred Murehai
 James Horace Mumme
 §John Jacob Munk
 §Doris Coor Myers
 §Jack Wright Myers
 *Ralph Veldon Naylor
 William George Neubrand
 *Robert Barney Novak
 David John Novick
with distinction
 Veon Duane Nyhus
 *Joseph Francis O'Brien
 Grace L. Ollmert
 Rose B. Panziera
 §Harry Pappas
with high distinction
- Lewis Knight Parker
 Jack Blaine Pattison
 §Ray Denton Paxton
with distinction
 §Paul Edward Pearson, Jr.
 Allen Stuart Pejsa
with distinction
 §Oscar Lattimer Percy
 Ray P. Petersen
 Dean Robert Peterson, Jr.
with distinction
 Leo S. Pickelner
with distinction
 Harry Elton Pickett
 Faye Evelyn Phipps
 §Charles Eugene Howell
 §Billie Frank Powers
 Ronald Prator
 *Ernest Merrell Pratt
with distinction
 Jacqueline Josephine Prentissberg
with distinction
 Walter R. Proctor, Jr.
 Helen Elizabeth Roberg
 John Dale Radewild
 Oiro Foster Ragsdale
 Harvey Arden Rasmussen
 §Jerry Lee Rawlings
 David Franklin Reade
 §Adron Walter Charles Reichert
 William Fred Rintelmann
with distinction
 John Edward Roberts
 Florence May Robertson
with distinction
 Maplette Ductos Rogers
 Dale Arthur Rook
 George Kenneth Rubel
with distinction
 Robert Mervin Rubin
 Robert Huff Russell
 Harold Jerome Sandid
 Harold George Sandler
 *Robert Eugene Sargent
 *Eliard Savul
 *Robert G. Schmidt
 William Henry Schmitt
 Colin Lockery Scott
with distinction
 Harold A. Shaffer
 Lawrence Lee Shelp
 Wright Painter Shill, Jr.
 Robert Byron Showers
 Elaine Rhola Simon
 Stanley Ivins Stott
 §Clyde Ray Skousen
 Carrie Irene Smith
 §Charlotte Wilson Smith
 *Glenn Samuel Smith
with distinction
 Antheel Solikinn
 Marvin Lieke Sordahl
 John Lester Stur
 Charley Lewis St. Clair
 Harold Dale Stupley
 Leo Stem
 *Clarence Lillie Stevenson
with high distinction
 *Roliney Pope Stillion
 Kathryn A. Stone
with distinction
 §Bernard Harold Strasser
with distinction
 *Raymond Aloysius Sullivan, Jr.
 Billy Arden Taylor
 Carol Ann Thiel
with distinction
 Edward R. Tomp
 *John Florian Trimer
 Dushan Yukovich
with distinction
 Richard Clarence Walker
 *Roland James Walker
 Jack Weston Warren
with distinction

Charles Everett Waters
 William Sterling Weast
 John Raymond Webb, Jr.
 John H. Weber
with distinction
 *Gordon Rees Williams
 †Irvine Decker Williams
 *William Blake Willis
 Thomas Clyde Wilmoth
 Leslie John Wolslagel
 Wilmer Perry Woodward

*John Clark Wright
 James Robert Wylie
 Dorothy Patricia Young
 Roland Glenn Yount
 George Ulysses Yuen
with distinction
 Larry Frank Yule
with distinction
 Eugene A. Zawlocki
 Herbert Hamilton Zschiegner
 †Lee Wilson Zuendel

Bachelor of Arts in Education

*Edward Nelson Abbott
 Willard Stanley Aggson
 Joseph Paul Aguilar
 *Pearl Ainsa
 *Eleanor Shirleen Allen
 *Jesus Guzman Alvarez
 †Virginia Lee Anderson
 George Kenneth Anger
 Lino Albert Aragon
 Ray Lawrence Arbizu
 Joann Archambeau
 *William Gayle Armstrong
 Betty Jeanne Attebery
with distinction
 †A. Joe Ausere
 *Robert Edmond Austin
 Richard Frank Bailey
 †Robert Nelson Baird
 †Carolyn Mary Banks
 Fred G. Banks
 *Marjorie Ruth Barr
with high distinction
 Jeannine Bartoo
 Lawanda Jo Beck
 †Frederick Harold Bell
 †Delores Benavidez
 Barbara Joan Bennett
 Joe Pete Bertoglio
 Harold Owen Bigelow
 Charles Bishop
 *Margaret Jarvis Black
 *Myrtle Velma Stiver Blackman
 Kathryn Stratton Blake
 Marilyn Moss Blake
 †Margaret Elizabeth Bouse
with distinction
 *Doris Edna Bradshaw
 Joanne M. Branigan
 Della Nadine Brazeal
 Patricia Jean Brewer
 George Stanley Briggeman
 Yvonne Marie Briggeman
 Cynthia May Brown
 Edith Rae Brown
 *Katherine Christina Bunch
with distinction
 George Edward Burns
 †Peter J. Cailotto
with distinction
 William Edmund Caldwell
 Thomas L. Cambron
 Helen Ruth Camp
 †Dorothy Marilyn Cannon
 Isabel Grace Casares
 †Evelyn Rose Chapman
 †Carol Louise Chastain
 Rollie Thomas Childers
 *Geraldine Christopher
 Elizabeth Clark
 *Sheldon Oakley Clark
 Robert Earl Cognac
with distinction
 William Charles Colborne
with high distinction
 Leland George Coleman
 Dorothy Conner
 Bettye Ann Cooper
 Mac Cornett
 Anne Freese Cosper
with distinction

*Charles Henry Cossmann, Jr.
 Mack Franklin Courtland
 Theodore Elwood Coxon
 Jo Ann R. Crawford
 *Mauvolene Farmer Croomes
 *Arda Frances Croy
 *Christine Sedler Cummins
 Louis Cvijanovich, Jr.
 *Raymond A. Dad
 Yolande Daly
 Thaddeus Henry Damiencki
 †Mary Louise Danks
with distinction
 Marian Katherine Davis
 Jacquelyn Anna DeRosier
 Robert Albert Deidrich
 †Fred John Dobney
 Daisy B. Donelson
 *Bess Dooley
 †Sena Eileen Dorskind
 James Murphy Doughty
 †Dorothy McGehee Drago
 †Doris Ruddell DuBose
with high distinction
 †Charles William Dundee
 †Leon Dunn
 *Ruben O. Duran
 †Katherine Grace Eck
 Sanford J. Edelman
 Doris Jane Ehrhardt
 Charles Albert Ellsworth
 †Robert Ellis Ericson
 Shirley Chevront Ericson
with distinction
 *Julio Escobedo, Jr.
 *Reed Talmage Ethington
with high distinction
 *Joseph B. Ezzo
 *Pauline Fanfarillo
 †Irene Heckel Farnbach
with high distinction
 Dolores A. Fast
 †Juanita Morris Ferguson
 †Vern Earl Fetz
 Paul Steffen Finot
 *Richard Jarvis Fleming
 †Frederick Carl Fober
 Lois May Foster
 †Allan Gordon Fougner
 †Warren West Frank
 *Philipp John Frankel
 *Roy Renier Friday
 *Noah Scott Fry
 Charlotte Ann Frost
with distinction
 Clarence Eugene Fulks
with distinction
 Carl Benjamin Furlong
 *Jimmie John Gage
 †Jack Patrick Galvin
with distinction
 *David Arthur Garbe
 Hugh Caldwell Gaston
 Shirley Ruth Gelfand
 Beverly Yvonne Gentry
 *Margaret JoAnn Gibson
 Ralph Goitia
 Teresa M. Goldie

- Doretha Goode
 *Patricia Louise Mende Gray
 Raymond Barry Greene
 §Ann Greenwood
 Menlo Dare Greer
 James Merwin Griner
 William Deppen Grissom
 Abraham Gruber
 with distinction
 Gretchen Laura Grunenwald
 Hugh H. Hackett, Jr.
 with distinction
 §Helen Louise S. Hall
 §Betty Lou Hughes Hammer
 Roger Bruce Hardison
 *Austa Johnson Hurff
 §Caroline Patricia Harris
 with distinction
 Joan Haebnel Hatley
 with distinction
 Kenneth George Haws
 *Janet Lenore Hedrick
 §Max Baker Hinton
 *Beryl M. Hoffman
 Jerry Dee Holland
 §Lucy Wallace Hollis
 Gayle Jorgensen Hoover
 *Virgil Dean Hoover
 *Carolyn R. Hopper
 with high distinction
 Juamita C. Hughes
 with distinction
 *Clifford Bruce Hugoboom
 Shirley Lorraine Inquinto
 with high distinction
 *Edith Frances Jankunis
 *Shirley Lester Jarvey
 Erma Jepsen
 Bessie Johnson
 Dixie Lee Johnson
 with distinction
 §Elizabeth Bevan Jones
 with high distinction
 Helen Jones
 Norma Louise Jones
 §Duane H. Judd
 Mitchell Jurasevich
 Marcine Karchner
 with distinction
 Veronica Mary Keeney
 with distinction
 §Nancy Louise Kellogg
 with distinction
 *Dorothy Awbrev Kelly
 Patsy O'Rourke Kendig
 §William Harvey Kennedy
 Everett Lee King
 §Evert Clay Kirby, Jr.
 Benjamin Klabanoff
 with distinction
 §Raymond Theodore Lahar
 with high distinction
 *Lois Maio Lama
 Betty Lois Landy
 *Robert Ernest Lane
 with high distinction
 §Ruth Mason B. Lantzer
 *Richard Robert Law
 Maurice Alden LeBas
 Mamie Geraldine Lee
 Edna M. Leever
 with high distinction
 Wayne Elmer Legg
 §Ruby May LeSueur
 *Doris I. Lindsey
 Ralph Lingerfelt
 *Galen Arthur Lisonbee
 James Philip Lively
 §Joseph Niels Lofgreen
 Robert P. Lorona
 Alfred Scott Lowman
 Jacqueline Lee Luckie
 Therese Anne Lynch
 with distinction
 §Virginia H. L. McCanlies
 Robert Orick McCartan
 §Raymond Joseph McCaverty
 with distinction
 Eva Lynn McCleery
 Mary Minucci McClure
 Marcia Louise McConoughey
 §Jerry Hardy McCoy
 Harry Carroll McCracken
 *Georgie Hensley McCullar
 *Martha Jane McKinster
 Eleanor Hattie Macpherson
 *Rosalie Helen Clark Magee
 Marion Patricia Maloney
 §Arthur Garcia Marquez
 Robert LaVern Marrs
 with high distinction
 *Ruth Wang Marrs
 Roy Jay Mason
 §Courtland Dana May
 J. Oscar Maynes, Jr.
 Frank Anthony Mendola
 L. Vaughn Merrill
 Barbara Jean Miller
 §Juanita Minitre
 §Etta M. Mishler
 *Mildred G. Miskovich
 Margie F. Mondo
 Carrie Montoya
 James Edward Mooney
 Harriet Ruth Moore
 *Anne Brend Mouton
 *Richard Frank Mrzudich
 Folly Elizabeth Mulroy
 Gertrude Irene Murphy
 Patricia Lee Murphy
 §Betty Marie Nelssen
 Phyllis Ann Newhall
 §Edna Goodknecht Newman
 Mary Elizabeth Norman
 Mildred Frances Norman
 *Wilma Busby Olea
 Patricia D. Oliver
 Helen Gilbertson Osborn
 with distinction
 §Dorothy Leffler Owens
 *Ross A. Owens
 with distinction
 Lawrence Hiatt Packard
 Betty Elyse Painter
 *Acil Palmer
 *Clydine Parker
 Harold C. Parker
 §Gloria Leoda Parra
 Dominic Frank Patrone
 Benjamin Carter Pearson
 *Marva Cutler Pearson
 with distinction
 Margaret Jean Perkins
 Marilyn Laney Perry
 with distinction
 *Robert Meyers Perry
 *Velma Chaney Perry
 Sundra Joan Peterson
 *David Pettus
 with distinction
 Franklin Allen Phillips
 with distinction
 Robert Warren Phillips
 §Michael John Pingitore
 George James Pisaro
 Madeline Marie Plummer
 *Irene Munro Pollak
 §George Arthur Pollard
 Helen Owen Polley
 §Claude H. Pomeroy
 §William Clarence Pomeroy
 Harold W. Porter
 Frederick Gordon Posey
 Richard Paul Pribbenow
 Folly Ellen Pyatt
 *Alfred Peter Quilici, Jr.
 George Soto Quintero
 Jeanne Ragsdale
 Gloria Eleanor Ramsey
 Lillian Rose Rayes

- Orman Robert Reed
 Elsie Charlene Reichert
 §Ruby Rice
 *Cornelia Richardson
 §Waleda Norine Roberts
 *Kenneth Stephen Ryan
with distinction
 Conchita Salcido
 Frances Susan Salerno
 Lois Ann Sauer
 Benjamin Franklin Saylor
 *Emma J. Schroeder
with distinction
 §Lucille Rose Schroeder
 §Judith R. Schwartz
with distinction
 *Leo Mark Sennette
 Shirley Jones Senseman
 Robert Earl Shankula
with distinction
 Melba Denham Shill
 Ernest Lee Shumway
 Billy Kay Shurtz
 James A. Simmons
with distinction
 Carla May Smith
 Charlie M. Smith
 David Nathan Smith
 Eugene Ellis Smith, Jr.
 Jack Donald Smith
with distinction
 Jean Marie Smith
 *Lloyd Victor Smith
 Louis Linford Smith
 Marc Sterling Smith
 *Larue Allen Smithers
 *Marjorie Darcy Snyder
 Aaron Socket
 *Grace Eleanor Solms
 Margaret Leigh Somervell
with distinction
 *Mabel Hall Southworth
 Arlene Bistrow Sova
 Barbara Ann Spooner
 Carol Joyce Stevenson
 *Mollie Barringer Stokes
 §Orma May Strong
 §George John Svob
 §Marion Floyd Swain
with distinction
 Kenneth Loren Swett
 Irene Szafrankowski
 §Joe O. Tameron
 §Eva Song Tang
 Alvin Conley Thrasher
 §Harold Grant Tiffany
 *Leslie Elmer Tiffany
- §Visa Nancy Todd
 §Thomas Lee Townzen
with distinction
 §Aileen Powers Tracy
 Sherry Roberta Turner
 *Carol Ruth Tyler
 §Edith Udall
 Emilia Valenzuela
 Marcella Lorraine Vance
 John Edward Van Such
with distinction
 Bertha Mary Vizcaya
 *Warren Charles Vogt
 *Eleanor B. Walker
with high distinction
 *James McClellan Walker
with distinction
 Marian June Wang
 §Jacob Antonia Wapplehorst
 Betty Jean Watson
 Marvel Eileen Wax
 §Bruce Wiley Waybright
 *Carmen Alyce Weary
with distinction
 §Edna May Webb
 Miron E. Webster
 *Lawrence Edgar Weeks
 May E. Westfall
 Evelyn Hendricks Weston
 *James Weston
 Lawrence Day Whisenant
 Donald Edgar Whitacre
with distinction
 §Charles LeRoy Whitecraft
 Harrison Wible, Jr.
 John Alfred Wilkins
 Bill J. Williams
 Dale Clinton Williams
 Jean Estelle Williams
with distinction
 Lawrence Arthur Williams
 §Sue Zane Beelar Williams
with distinction
 Jerry George Wilson
 Norman Lee Wilson
 Arthur John Winkler
 Barbara F. Winslow
 Felix O. Winslow
 Eleanor D. Wolf
 *John Sylvanus Wolfe
 §Gloria Willis Wood
 William Brabbing Woodman
 Mary M. Yamashiro
 Robert Allen Yonker
with distinction
 §Clifford Jay Zehr
 *Mable Clare Zimmerman

*Completed degree requirements Summer Sessions, 1951.

§Completed degree requirements First Semester, 1951-52.

Master of Arts in Education

- Charles S. Adair, B.S., Brigham Young University, 1950
 John M. Adams, B.M., Eastman School of Music, 1950
 Frank Allen, B.A., Transylvania College, 1938
 Frank R. Amado, B.A. in Ed., Arizona State College at Tempe, 1949
 Louis E. Anderson, B.A. in Ed., Arizona State College at Tempe, 1951
 Georgia P. Andrews, B.A. in Ed., Arizona State College at Tempe, 1947
 Augusta M. Appenfelder, B.A. in Ed., Arizona State College at Tempe, 1947
 Kathryn O. Averill, B.A., Ohio Wesleyan University, 1947
 Kenneth R. Beals, B.A. in Ed., Arizona State College at Tempe, 1948
 Janette C. Belknap, B.A., University of Michigan, 1947
 Hollis H. Bollinger, B.A., Carthage College, 1924
 Adrian C. Bos, B.S., Arizona State College at Tempe, 1948
 Woodrow W. Bowersock, B.E., LaCrosse State Teachers College, 1935
 Kathleen Branigan, B.A., University of Illinois, 1947
 Michael C. Breen, B.A. in Ed., Arizona State College at Tempe, 1949
 E. Douglas Brooks, B.A., Arizona State College at Tempe, 1948
 Virgal L. Bryant, B.A. in Ed., Arizona State College at Tempe, 1942
 Orville L. Buchanan, B.S., Oklahoma A. & M. College, 1948
 Lot S. Burk, B.A. in Ed., Arizona State College at Tempe, 1942
 *Jesse O. Burns, B.M., Henderson State Teachers College, 1939

- John B. Caceletto, B.A. in Ed., Arizona State College at Tempe, 1940
 Lawrence R. Carmignani, B.A. in Ed., Arizona State College at Tempe, 1951
 Augusta T. Carminati, B.A. in Ed., Arizona State College at Tempe, 1949
 May Carpenter, B.A. in Ed., Arizona State College at Tempe, 1948
 Dorothy F. Chamberlain, B.A. in Ed., Arizona State College at Tempe, 1937
 Robert W. Chastain, B.A. in Ed., Arizona State College at Tempe, 1948
 Myrtle Mae Christenson, B.F.A., University of Southern California, 1946
 Guido P. Cislaghi, B.A. in Ed., Arizona State College at Tempe, 1932
 Robert L. Collins, B.A. in Ed., Arizona State College at Tempe, 1950
 Arthur B. Conley, B.A. in Ed., Arizona State College at Tempe, 1951
 George E. Cox, B.S., West Virginia University, 1943
 Elizabeth F. Crump, B.S. in Ed., University of Southern California, 1934
 Samuel R. Cummings, B.A. in Ed., Arizona State College at Tempe, 1947
 Margery F. Curtis, B.A. in Ed., Arizona State College at Tempe, 1941
 Janet Daou, B.A. in Ed., Arizona State College at Tempe, 1949
 John P. Diaz, B.A. in Ed., Arizona State College at Tempe, 1942
 Dale K. Dombey, B.A. in Ed., Arizona State College at Tempe, 1950
 Catherine H. Dundee, B.A., Henderson State Teachers College, 1947
 Robert E. Dunkel, B.A. in Ed., Arizona State College at Tempe, 1951
 Archibald D. Eddy, .A. in Ed., Arizona State College at Tempe, 1951
 George J. Fabricius, B.A., State University of Iowa, 1924
 Clarabelle S. Fast, B.A., Otterbein College, 1926
 O. F. Fees, B.A. in Ed., Arizona State College at Tempe, 1943
 Joseph Fink, B.S., Arizona State College at Tempe, 1951
 Vomen L. Frye, B.A. in Ed., Arizona State College at Tempe, 1935
 Jack P. Galvin, B.A. in Ed., Arizona State College at Tempe, 1952
 Arthur E. Gardner, B.A. in Ed., Arizona State College at Tempe, 1936
 Leo B. Gardner, B.A. in Ed., Arizona State College at Tempe, 1948
 Wanita M. George, B.A., Kansas Wesleyan University, 1928
 Everett G. Givens, B.S., New Mexico College of A. & M., 1941
 Basil H. Goodman, B.A. in Ed., Arizona State College at Flagstaff, 1941
 Curtis O. Greenfield, B.A., Louisville Municipal College of the U. of Louisville, 1938
 William A. Griffith, B.A. in Ed., Arizona State College at Tempe, 1929
 Rees D. Groves, B.A. in Ed., Arizona State College at Tempe, 1942
 Roger T. Gulney, B.S., Arizona State College at Tempe, 1948
 Jess S. Hadden, B.S., Indiana State Teachers College, 1938
 Madelen C. Hamilton, B.A. in Ed., Arizona State College at Tempe, 1938
 Garth N. Hanchett, B.A. in Ed., Arizona State College at Tempe, 1949
 Robert W. Hanson, B.A. in Ed., Arizona State College at Tempe, 1951
 Doris A. Harrison, B.A., Smith College, 1919
 Wayne W. Heffelfinger, B.S. in Ed., Ohio University, 1948
 John A. Hill, B.A. in Ed., Arizona State College at Tempe, 1940
 Gavin C. Humphrey, B.S., University of Nebraska, 1932
 Margery J. Hunter, B.A. in Ed., Arizona State College at Tempe, 1947
 Boris Innocenti, B.S., University of California, 1950
 William A. Isley, B.S., Arizona State College at Tempe, 1950
 Lane W. Jones, B.S., Arizona State College at Tempe, 1948
 Paul L. Jones, B.S., Brigham Young University, 1940
 Eugenia S. Jordan, B.S., Ohio University, 1942
 Roberta C. Kelsey, B.S., Arizona State College at Tempe, 1948
 Lawrence C. Kennedy, B.A., Tarkis College, 1937
 Martin W. Koski, B.A. in Ed., Arizona State College at Tempe, 1949
 Joseph Kovach, B.A. in Ed., Arizona State College at Tempe, 1949
 Eugene S. Kruszynski, B.A. in Ed., Arizona State College at Tempe, 1951
 Willard F. Langley, B.A. in Ed., Arizona State College at Tempe, 1949
 Winifred W. Leonard, B.A., Middlebury College, 1932
 Dwight P. Lewis, B.A. in Ed., Arizona State College at Tempe, 1950
 Gene D. Lewis, B.A. in Ed., Arizona State College at Tempe, 1951
 William R. Lewis, B.F.A., Drake University, 1949
 Robert W. Lloyd, B.S., Arizona State College at Tempe, 1950
 Glenn C. Lundeen, B.S., North Dakota Agriculture College, 1932
 Paul D. McCloy, B.S., Utah State Agricultural College, 1948
 James D. McIlwain, B.S., Kent State University, 1947
 William B. McKellar, B.A. in Ed., Arizona State College at Tempe, 1937
 Leona L. Maclay, B.E., National College of Education, 1947
 Bernard F. Magnusson, B.S., Utah State Agricultural College, 1928
 John J. Mallamo, B.S., University of Arizona, 1948
 Raymond L. Marino, B.A. in Ed., Arizona State College at Tempe, 1951
 A. Winona Marsh, B.A. in Ed., Arizona State College at Tempe, 1937
 James E. Middleton, B.A. in Ed., Arizona State College at Tempe, 1941
 Orville W. Miller, B.A. in Ed., Arizona State College at Tempe, 1950
 Ronald D. Miller, B.A., University of Dubuque, 1946
 Karl A. Minke, B.A. in Ed., Arizona State College at Tempe, 1951
 Thomas W. Moore, B.S., Arizona State College at Tempe, 1949
 Albert J. Morningstar, B.A. in Ed., Arizona State College at Tempe, 1950
 Joan R. Murphy, B.A. in Ed., Arizona State College at Flagstaff, 1947
 Ernest E. Nedd, B.A. in Ed., Arizona State College at Tempe, 1949
 David V. Nelson, B.A. in Ed., Arizona State College at Tempe, 1950
 Charlotte Oldenburg, B.A. in Ed., Arizona State College at Tempe, 1949
 J. Edward Osborn, B.S., Arizona State College at Tempe, 1949
 Harland I. Padfield, B.A., San Diego State College, 1950
 William B. Palmer, B.S., University of Arizona, 1949
 Robert R. Paxton, B.A., College of Emporia, 1928
 Harold W. Pelletier, B.A. in Ed., Arizona State College at Tempe, 1951

Charles D. Penn, B.A. in Ed., Arizona State College at Tempe, 1950
 Don L. Peterson, B.A. in Ed., Arizona State College at Tempe, 1949
 Ainslie C. Potter, B.A., Intermountain Union College, 1938
 John M. Pound, B.S., Arizona State College at Tempe, 1949
 Arthur D. Powell, B.S., Kansas State Teachers' College, 1932
 John A. Ransom, B.A., University of Arizona, 1938
 Frank L. Raymond, B.A. in Ed., Arizona State College at Tempe, 1940
 Lester W. Reid, B.S., Arizona State College at Tempe, 1949
 Sybil D. Rice, B.A. in Ed., Arizona State College at Tempe, 1950
 Stephen D. Rockstroff, B.S., University of Virginia, 1939
 David P. Roderick, B.A. in Ed., Arizona State College at Tempe, 1950
 Melvin D. Rogers, B.A. in Ed., Arizona State College at Tempe, 1951
 V. June Roof, B.A. in Ed., Arizona State College at Tempe, 1946
 William J. Saban, B.A. in Ed., Arizona State College at Tempe, 1939
 John W. Sherman, B.A. in Ed., Arizona State College at Tempe, 1951
 Neil W. Sherman, B.A. in Ed., Arizona State College at Tempe, 1948
 Sigred Shimkus, B.A. in Ed., Arizona State College at Tempe, 1950
 Mamie Sizmore, B.A. in Ed., Arizona State College at Tempe, 1941
 Walter C. Sorgatz, B.A., University of Arizona, 1936
 Jean P. Soule, B.A. in Ed., Arizona State College at Tempe, 1943
 George H. Spears, B.A. in Ed., Arizona State College at Tempe, 1950
 Howard F. Starnes, B.A. in Ed., Arizona State College at Tempe, 1943
 Elmer J. Stepanek, B.S., University of Missouri, 1901
 John F. Stone, B.A. in Ed., Arizona State College at Tempe, 1947
 Milton E. Stone, B.A. in Ed., Arizona State College at Flagstaff, 1943
 Harold B. Strand, B.A. in Ed., Arizona State College at Tempe, 1951
 Robert L. Swor, B.A. in Ed., Arizona State College at Tempe, 1951
 Richard G. Tylor, B.A. in Ed., Arizona State College at Tempe, 1940
 Eleanor M. Te Selle, B.A. in Ed., Arizona State College at Tempe, 1939
 Virginia S. Timmons, B.S., Murray State College, 1948
 Jaren L. Tolman, B.S., Utah State Agricultural College, 1949
 Sim J. Tran, B.A., Southeastern State College, 1977
 Paul L. Takaris, B.A. in Ed., Arizona State College at Tempe, 1951
 Nick Vitkovich, B.A. in Ed., Arizona State College at Tempe, 1951
 Evelyn H. Warren, B.A. in Ed., Arizona State College at Tempe, 1944
 William Warren, B.A. in Ed., Arizona State College at Tempe, 1914
 Lyndon J. Watson, B.A. in Ed., Arizona State College at Tempe, 195
 Huella I. Webber, B.S., Arizona State College at Tempe, 1947
 Hyman R. Weisberg, B.A. in Ed., Arizona State College at Flagstaff, 1930
 Roswell E. Willard, B.A., Brigham Young University, 1930
 Lillie E. Williams, B.S., Oklahoma College for Women, 1911
 Raymond W. Williams, B.A. in Ed., Arizona State College at Tempe, 1942

Class of 1902

Golden Anniversary

Alice (Appleby) Wagon	Edith R. (Stewart) Lane
Rachel (Brady) Walker	Harry R. Trusler
Florence (Ford) Tribby	Jessie (Creager) Kelly
Grace (Godwin) Waterman	J. H. Gerard
Charles A. Haigler	Leona (Gibson) McGee
Leona M. Haulot	Clara W. Johnson
D. Dudley Jones	Stella (Ross) Holladay
Orien C. Jones	Mary J. (Snyder) Kendrick
Orpha (Standage) Babbitt	Victoria Harmon*

* deceased

Senior Honors, 1952

With High Distinction

Robert Kenneth Armistead
William Garner Barnes
Majorie Ruth Barr
William Charles Colborne
Doris Ruddell DuBose
Thor A. Ericson
Reed Talmage Ethington
Irene Heckel Farnbach
Alvar A. Honka
Carolyn R. Hopper
Carolyn Jean Huey

Shirley Lorraine Iaquinto
Elizabeth Bevan Jones
Raymond Theodore Lahar
Robert Ernest Lane
Edna M. Leever
Robert La Vern Marrs
Geraldine Elinor Meinke
Harry Pappas
Clarice Lillie Stevenson
Eleanor B. Walker
Dolores Mae Yonker

With Distinction

Harvey Glenn Adkins
Rosalie Virginia Archey
Betty Jeanne Attebery
Robert Sidney Bacon
Barford Bishop Badland
Nancy Byrns Baker
Walter Eugene Beatty, Jr.
Mark Edward Borton
Margaret Elizabeth Bouse
Wilmer C. Brillhart
Richard John Brown
Katherine Christina Bunch
Peter J. Cailotto
Robert Earl Cognac
Anne Freese Cospier
Mary Louise Danks
Lena May Davidson
Charles Eugene Davis
George H. Dee
Perry W. Doyle
David Leonard Dunne
Shirley Cheuvront Ericson
Charles Ross Findlay
Joseph Fink
Charlotte Ann Frost
Clarence Eugene Fulks
Jack Patrick Galvin
Leonard Richard Gorczyca
Abraham Gruber
Hugh H. Hackett, Jr.
Caroline Patricia Harris
Joan Haehnel Hatley
Hal Chase Hubele
Juanita C. Hughes
Margaret Lillian Jackson
Dixie Lee Johnson
Marcine Kartchner
Veronica Mary Keeney
Nancy Louise Kellogg
Harmon Edward Keyes, Jr.
Benjamin Klabanoff
Harold Jerome Lewkowitz

Therese Anne Lynch
Raymond Joseph McCaverty
Neil Boyd McCleery
Wayne Lamarr Macdonald
Harold Kirby Miller
David John Novick
Helen Gilbertson Osborn
Ross A. Owens
Marianne Nina Carter Padfield
Marrion Aaron Parsons
Kay Denton Paxton
June Patricia Payne
Marva Cutler Pearson
Maurice Dennis Penfold
Marilyn Laney Perry
Dean Robert Peterson, Jr.
David Pettus
Allen Stuart Pejsa
Franklin Allen Phillips
Leo S. Pickelner
Emron Merrell Pratt
Jacqueline Jo Preimsberg
William Fred Rintelmann
Florence May Robertson
George Kenneth Rubel
Kenneth Stephen Ryan
Colin Lockerby Scott
Emma J. Schroeder
Judith R. Schwartz
Robert Earl Shankula
James A. Simmons
Glenn Samuel Smith
Jack Donald Smith
Margaret Leigh Somervell
Kathryn A. Stone
Bernard Harold Strasser
Marion Floyd Swain
Carol Ann Thiel
Elizabeth Ann Townsend
Thomas Lee Townsend
John Edward Van Such
Dushan Vukovich

James McClennan Walker
 Jack Weston Warren
 John H. Weber
 Carmen Alyce Weary
 Donald Edgar Whitacre

Jean Estelle Williams
 Sue Zane Beelar Williams
 Robert Allen Yonker
 George Ulysses Yuen
 Larry Frank Yule

Awards

Academic Scholarships: Betty Attebery, Patricia Harris, Carolyn Huey, Therese Anne Lynch, William Rintelmann, Margaret Somervell, Bernard Strasser, Carol Anne Thiel, Dolores Yonker
 Agriculture Scholarship.....Kenneth Armistead
 Alpha Pi Epsilon Secretarial Award.....Betty Painter
 Alpha Psi Omega Awards.....Isabel Casares, Helen Jones
 Alumni Scholarships.....Margaret Somervell, Charles Eugene Davis
 Arizona Society of
 Certified Public Accountants' Award.....Harry Pappas
 Associated Men Students' Award.....Marlowe Denham
 Associated Women Students'
 Recognition Award.....Gretchen Grunenwald
 Association for Childhood Education Award.....Juanita Hughes
 Beta Chi Awards—Home Economics: Carrie Montoya, Charlotte Wilson Smith
 Chi Omega Social Science Award.....Marianna Nina Padfield
 Art Clark Award.....June Patricia Payne
 Judge Thomas J. Croaff Award.....Carrie I. Smith
 Delta Sigma Pi Scholarship Key.....William Charles Colborne
 English Department Prize.....Mary Lou Danks
 Dixie Dees Gammage Award — A.W.S.....Helen Jones
 Bob Gehres Award.....Fred C. DeSalvo
 Harvard Club Award.....Thor A. Ericson
 Fred M. Jahn Journalism Award.....Frederick T. Barstow
 Kappa Delta Pi Pin.....Robert LaVern Marrs
 Kappa Kappa Psi.....Ralph Lingerfelt
 Krause Awards—Physical and Biological Sciences: Charles Gene Davis, Harmon E. Keyes, Jr.
 McGrew Printery Journalism Award.....Hal C. Hubele
 Mask and Sandal Awards.....Raymond Greene, June Payne
 Moeur Award.....William Barnes
 Mu Rho Alpha Award.....Margaret Somervell
 Phelps Dodge Scholarship.....William Barnes
 Pi Kappa Delta Honorary Forensic Awards: Lawrence Packard, Perry Doyle
 Pi Omega Pi Award.....William C. Colborne
 Tempe Daily News Journalism Award.....Peggy Jean Williams
 Theta Chi Epsilon Senior Art Award.....Sally Streeter
 West Hall Award.....Dolores Benavidez
 Women's Physical Education Award.....Connie Salcido

Gifts and Bequests

Public-spirited individuals in increasing numbers are making gifts of money or are bequeathing part or all of their estates to the educational institutions of their choice.

Arizona State College at Tempe is a growing, progressive institution, and the State of Arizona has not been able to care for some of its special needs. Individuals with money can make their influence felt with present and future generations of young people by making gifts or bequests to the College.

Some donors name the fund given for themselves, or for a wife, son, or daughter. An investment in growing personality is a long-time investment. Moreover, it pays large dividends, and these dividends continue long after the investor is gone.

The needs are many and urgent. The student loan fund is far too small. The College should have many more scholarships for worthy students. Funds for graduate fellowships, research and special projects are needed. Contributions are now being received for the construction of a Student Union Building from students, faculty, alumni, parents, and friends. Help is needed to complete this major project. There are many other needs.

It is suggested that those desiring to make such a gift or bequest go to an attorney and make out a form such as is given below.

I give, devise, and bequeath to the Board of Regents of Arizona

State College at Tempe, Arizona, the sum of.....

.....

dollars. This is to be known as the.....

.....

Fund, and is to be used as indicated below:.....

.....

.....

.....

.....

Index

Absence from classes, Regulations concerning	43
Absentia, Degree in and fee for	46
Accounting courses	124-126
Accreditation of the College	21
Activities, Special Groups	66-67
Activity Building	26
Administration, Assistants in	16-18
Administration, Officers of	6-7
Admission, Requirements	29-32
Admission, Conditional	30
Admission, high school credits, required	30
Admission, non-graduates of high school	30-31
Admission of adults	30-31
Admission of students from junior colleges	32
Admission to graduate work	72
Admission to Summer Session	32
Advanced standing, Admission with	32
Aeronautics courses	167-168
Agricultural Mechanics courses	103
Agriculture courses	97-103
Agriculture, Department of	96-103
Agronomy or Crop Production courses	97-99
Air Science and Tactics courses	105-106
Air Science and Tactics, Department of	104-106
Alumni Association	68-69
Alumni Association, Officers of the	69
Animal Husbandry or Livestock Production courses	99-101
Application for graduation, when to be made	45
Architecture courses	177-179
Architecture Curriculum	86-87
Areas of concentration, for the B.A. and B.S. degrees	86
Art courses	108-112
Art, Department of	107-112
Associated Students	61
Athletics, Intercollegiate	66
Attendance at classes	43
Audio Visual Aids, Bureau of	24
Audio Visual Library	24-25
Auditing courses	34
Auditorium, College	23
Awards to students	50-54
Band	66, 194, 196
Bachelor of Arts Degrees, Requirements	44-46, 85-86
Bachelor of Science Degree, Requirements	44-46, 85-86
Bacteriology courses	116
Bequests and gifts	242
Biology courses	116

Biological Sciences courses	115-119
Biological Sciences, Department of	113-119
Board of Regents	6
Board and room, Fee for	41
Botany courses	116-117
Breakage deposit required of all students	41
Building and Construction courses	168-171
Buildings, College	23-28
Business Administration courses	124-132
Business Administration, Department of	120-132
Business Teacher Training courses	131-132
Calendar for 1953-54	4
Campus, The College	22-23
Certification for teaching	45-46, 78, 84
Changes in Registration	35
Chapel, Danforth	38
Chemistry courses	211-212
Classification of students by years and by credits	33
Clearance required, Financial	46
Climate	22
College aptitude tests	29-30
Commencement exercises, Attendance required	46
Comprehensive Examinations	34-35
Conduct of students	43-44
Correspondence courses	69-70
Correspondence courses, Amount of credit accepted for	70
Counseling	36-37
Course loads	33
Courses offered, Description of	96-230
Course restrictions	34
Credit requirements	44
Credit, Unit of	44
Curriculum Center	24
Curriculum Advisers	33, 37
Curriculums	77-95
Curriculums, Arts and Sciences	85-86
Curriculums, Teacher-Education	78-84
Curriculums, Professional and Preprofessional	86-95
Curriculums, Technical and Semi-professional	95
Degrees conferred	44
Dental, Pre, Curriculum	91-92
Deposits required	41
Dietetics, Pre, Curriculum	88
Dining hall, College	28
Directed teaching	79-80
Directory, Faculty	7-15
Disqualification for deficiency in scholarship	47
Doctor of Education Degree	73-75
Dormitories	27, 37
Dormitory facilities	38
Dormitory regulations	38

Dormitory room reservation	37
Dormitory students, personal equipment	38
Drafting courses	171-172
Dramatics and Dramatics courses	67, 150-152
Dropping courses, Procedure for	35
Dropping Courses, Instructors Request	47
Economics and Management courses	126-128
Education courses	135-144
Education, Department of	133-144
Electricity and Electronics courses	172-175
Elementary Certificate	78
Elementary Curriculum	81-83
Employment of students	49
Engineering, Pre, Curriculum	88-89
English courses	147-153
English, Department of	145-153
Environment	22
Expenses	39-42
Expenses, Summary of student	41
Experience in teaching, No college credit for	32
Experience in teaching, Recognition of	32
Experienced teachers, Admission of	32
Extension Division	69
Faculty personnel	6-15
Farm, College	23, 25
Fees, Deposits, and Expenses	39-42
Fees, Payment and Refund of	42
Final residence required	45
Financial clearance required	46
Foreign Language Courses	155-158
Foreign Languages, Department of	154-158
Forensics	67
Forestry, Pre, Curriculum	88
French courses	155
Fraternities and Sororities	65-66
Freshman registration	34
Freshman tests	29
General expenses	41
Generalization Requirements for the B.A. and B.S. degrees	85
Geography courses	214-216
Geology courses	214
German courses	155-156
Gifts and bequests	242
Government, Student participation in	61
Grade, Change of	47
Grade Points	47
Grades	46-48
Graduate Division	71-76
Graduate Courses	75-76
Graduate Offering	75-76

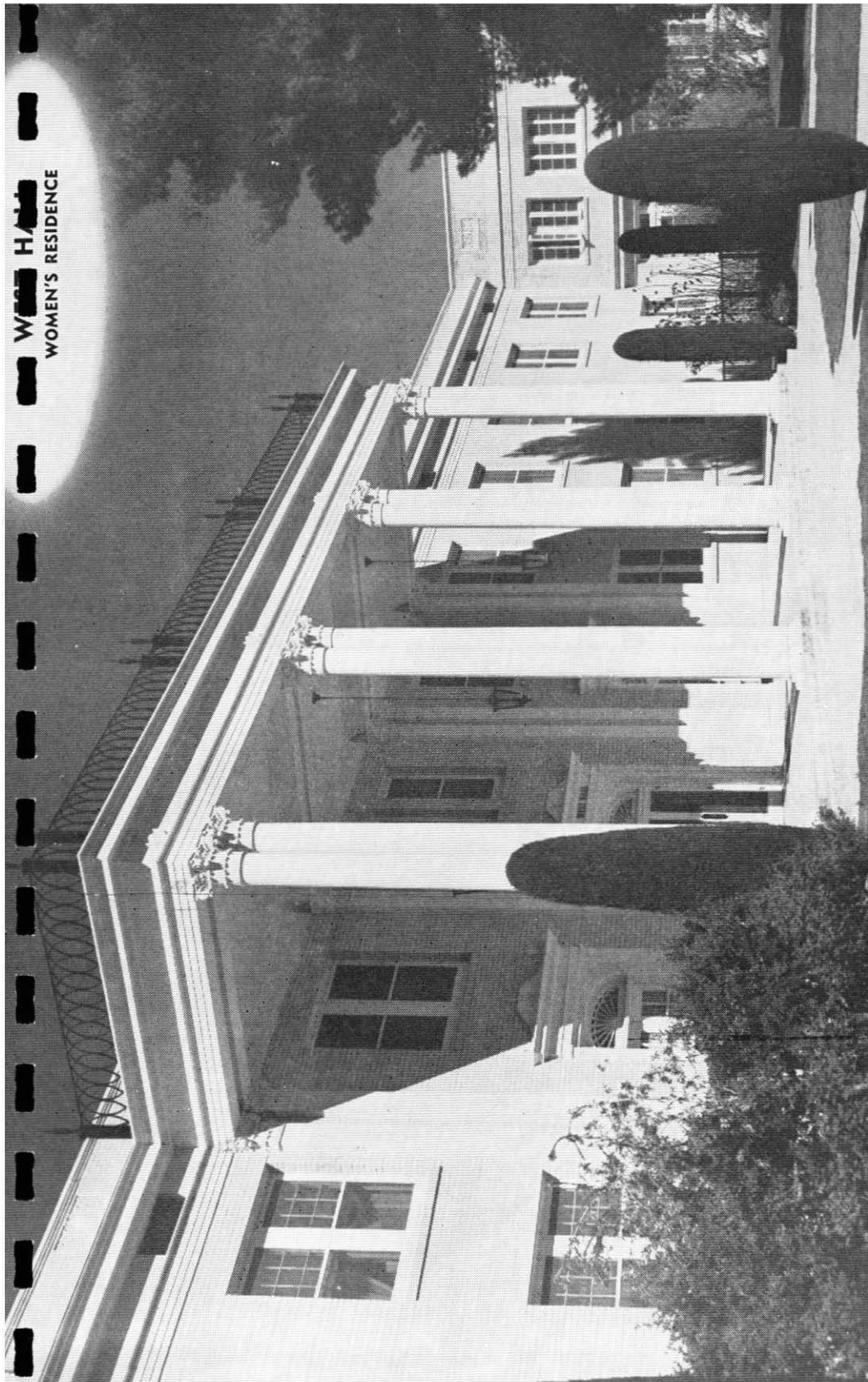
Graduate Program, Enrollment in	72-73
Graduates, 1951-52	233-239
Graduation, Application of	45
Graduation fees	41, 46
Graduation, Requirements for	44-46
Grounds, College	22-23
Group Activities, Special	66-67
Guidance Program	36-37
Gymnasium	26
Gymnasium fee	39
Halls, Residence	27
Health Education courses	206-207
Health Education and Physical Education, Department of	197-207
Health Examination	29
Health fee	39
Health Service, Student	49-50
High school graduates, Admission of	30
History courses	225-228
History of the College	20-21
Home Economics courses	160-162
Home Economics, Department of	159-162
Honor Graduates, 1952	240-241
Honors and Awards	50-54
Horticulture courses	102
Housing	37-39
Incomplete grade marks, Removal of	46
Index of scholarship	47
Individual Problem	75-76
Industrial Arts courses	167-179
Industrial Arts, Department of	163-179
Industrial Arts Education courses	176-177
Information, General	68-71
Insurance courses	128-129
Intramural Sports	66-67
Journalism courses	152-153
Junior colleges, Admission of students from	32
Kindergarten-Primary Curriculum	80-81
Laboratory fees	40
Late registration and fee	35, 41
Latin courses	156
Law, Pre, Curriculum	89-90
Library, Audio-Visual	24-25
Library fee	39
Library, Matthews	23-24
Library Science courses	181-182
Library Science, Department of	180-182
Library Training School	24
Literature and Language courses	147-150

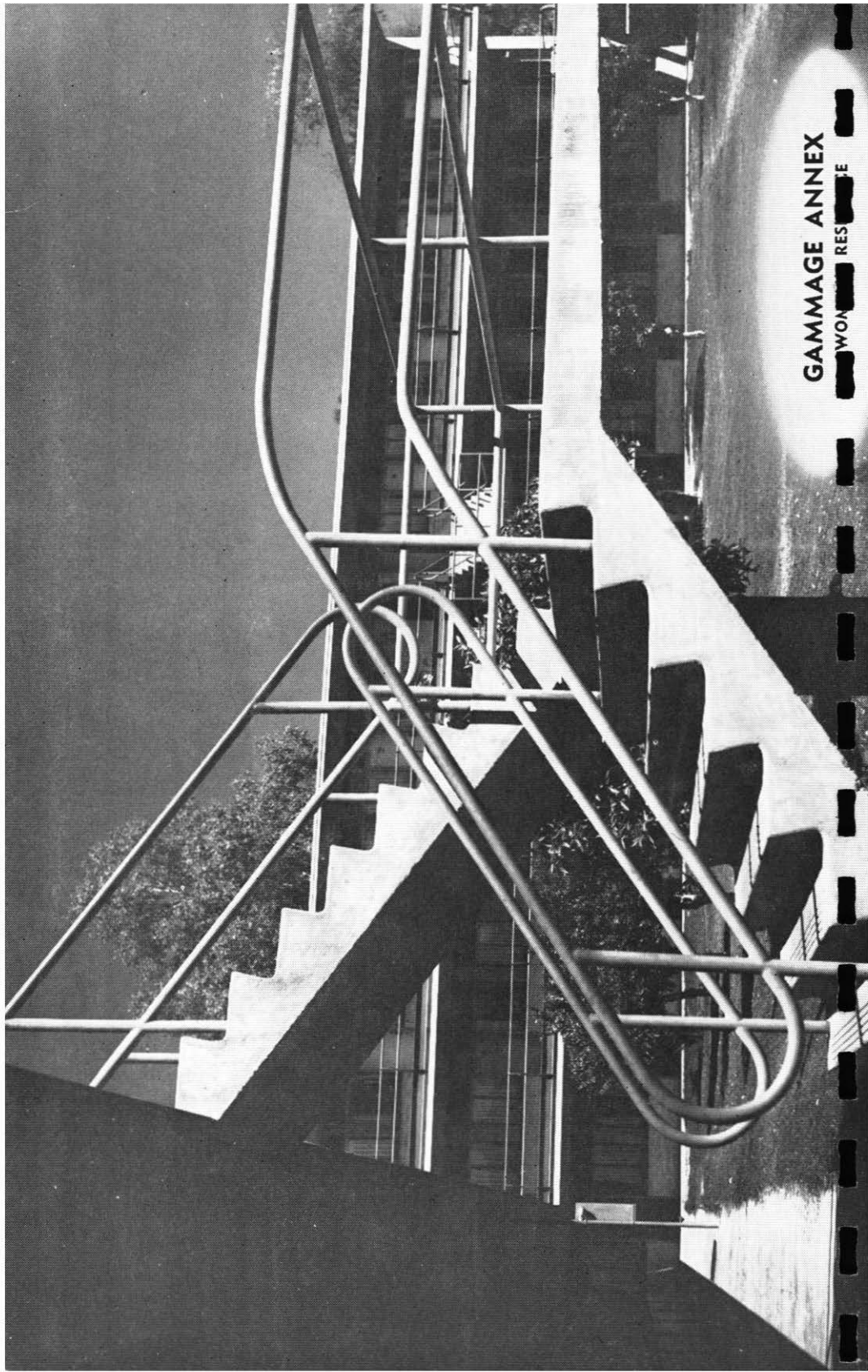
Living arrangements for students	37-38
Load, Student	33
Loan Funds and Foundations	55-56
Location of the College	22
Lyceum, The	23
Maintenance, Assistants in	18
Major Teaching Field	79
Management and Economics courses	101-102
Marketing and Advertising courses	129-131
Marking system	46-48
Master of Arts in Education, Degree of	72
Mathematics courses	184-185
Mathematics, Department of	183-185
Matthews Library	23-24
Matthews Library Staff	15
Meal tickets and meals for guests	41
Mechanics courses	175-176
Medical, Pre, Curriculum	91-92
Medical services	49-50
Medical Technology courses	216
Military Science and Air Science Requirements	44
Military Science and Tactics courses	187-188
Military Science and Tactics, Department of	186-188
Minor Teaching Field	79
Music activities	66
Music courses	192-196
Music, Department of	189-196
Non-resident tuition fee	40
North Central Association, Membership in	21
Nursing and Pre-Nursing	92-94
Off-Campus housing	39
Office Training and Management courses	131 - 132
Officers of Administration	6 - 7
Officers of Instruction	7-15
Optometry, Pre, Curriculum	94
Organizations, Departmental, Interest and Recognition	62-65
Orientation	36
Orchestra	66, 194, 196
Pharmacy, Pre, Curriculum	95
Philosophy courses	221
Physical Activities	66
Physical Education courses	200-206
Physical Education and Health Education, Department of	197-207
Physical Education, Requirement	44
Physical examination	29
Physical Sciences courses	211-216
Physical Sciences, Department of	208-216
Physics courses	213-214
Piano, Instruction in	192, 193, 194

Placement Bureau	49
Political Science courses	228-229
Preprofessional Curriculums	86-95
Professional Curriculums	86-95
Probation	47-48
Psychology courses	218-221
Psychology, Department of	217-221
Publications, Student	67
Purposes	19-20
Radio, Television	25
Real Estate courses	131
Refund of fees	42
Registration	32-36
Registration fee	39
Registration Statistics for 1951-52	231
Religious organizations	64
Reports of Scholarship	48
Reservations of dormitory room, Deposit required for	37, 40
Residence center classes	69
Residence requirements for graduation	45
Room and Board	41
Room Reservation and Breakage Deposit	40
R. O. T. C.	104-106, 186-188
Russian courses	156-157
Sahuaro, Student Year Book	67
Scholarship index	47
Scholastic requirements	45
Scholarships and Fellowships	56-60
Scholarship Reports	48
Scholarship, Unsatisfactory	47
Science, General courses	115-116, 211
Secondary Curriculum	83-84
Semester hour unit defined	44
Services to Students	49-60
Setting, The College	22-23
Social Organizations	61-66
Social Program, Student	61
Social Studies courses	225-230
Social Studies, General Courses	225
Social Studies, Department of	222-230
Social Welfare	225
Sociology courses	229-230
Sororities and Fraternities	65-66
Spanish Language and Literature courses	157-158
Special fees	39-41
Special Problem	77
Speech and Dramatics Activities	67
Speech and Dramatics courses	150-152
Standards of Scholarship	46-48
State Press, student newspaper	67
Statistics, 1951-52	231-232

Student Affairs	61-68
Student Employment	49
Student Government	61
Student Health Service	49-50
Student Organizations	61-66
Student Teaching	79-80
Student Union	61
Summary of Registration, 1951-52	231
Summer Session	70-71
Teaching experience, Recognition of	32
Teaching, Directed	79-80
Technical and Semi-Professional Curriculums	95
Tests, College aptitude	29-30
Training School Staff	14-15
Training Schools	80
Transcripts	29
Tuition for non-resident students	40
Unit of credit defined	44
Unsatisfactory scholarship	47
Vaccination	29
Veterans, Special Information	31-32
Veterinary, Pre, Curriculum	87-88
Visual Aids, Bureau of	24
Withdrawal of Courses	77
Withdrawals from College, Procedure	35-36
Women Students, Associated	61
X-Ray Examination	29
Zoology courses	117-119

W. H. H. H.
WOMEN'S RESIDENCE

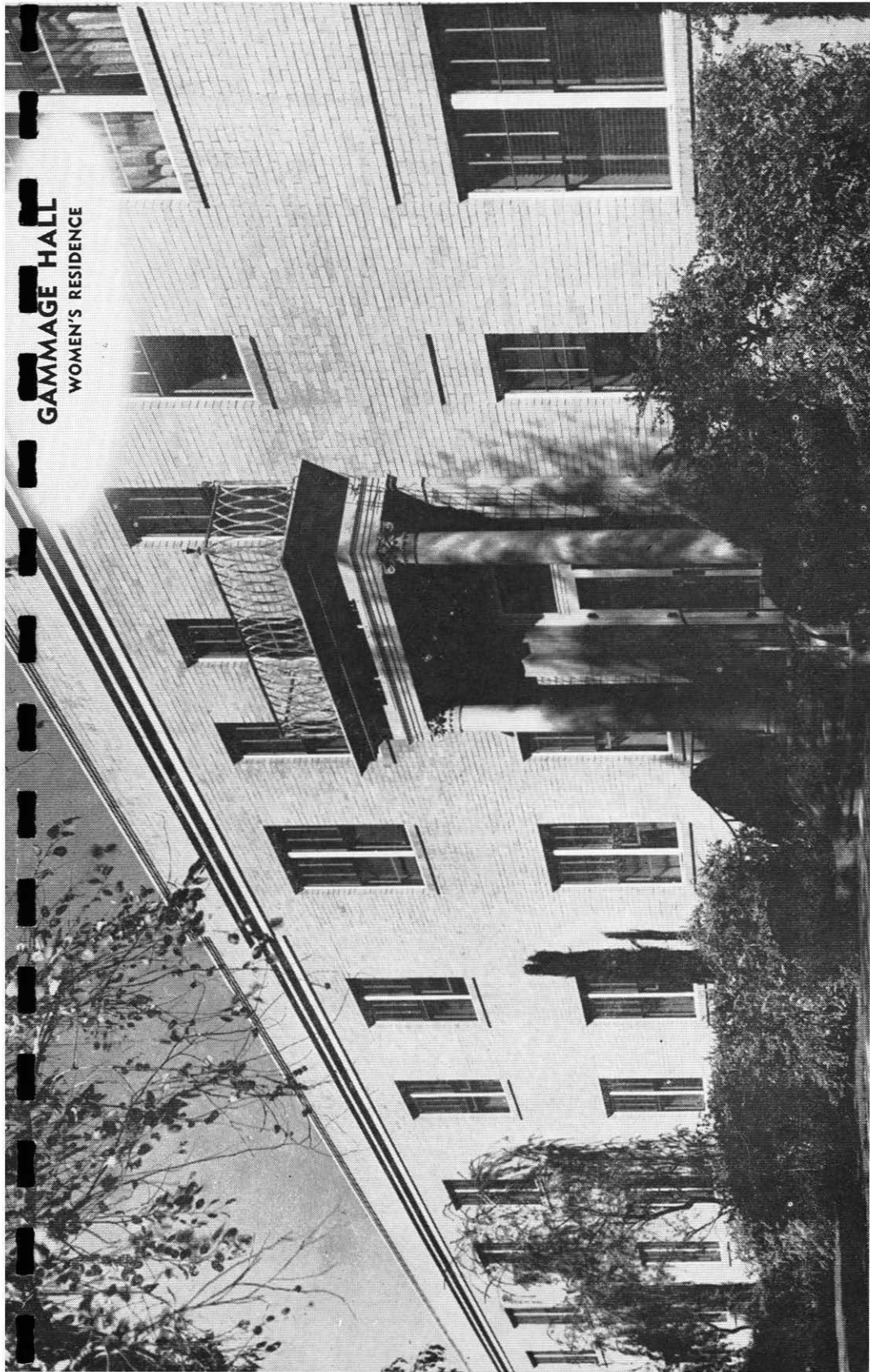




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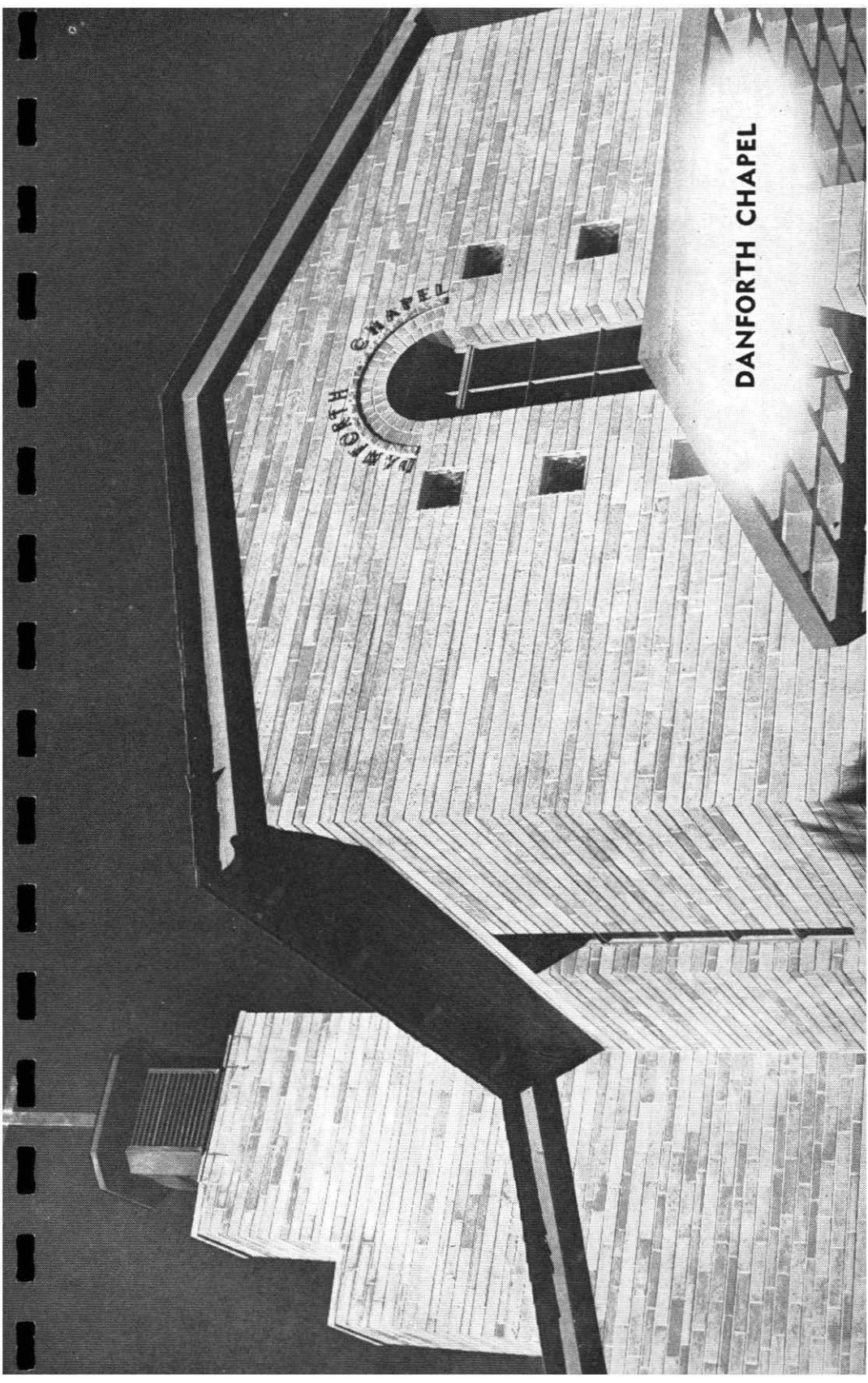
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GAMMAGE HALL
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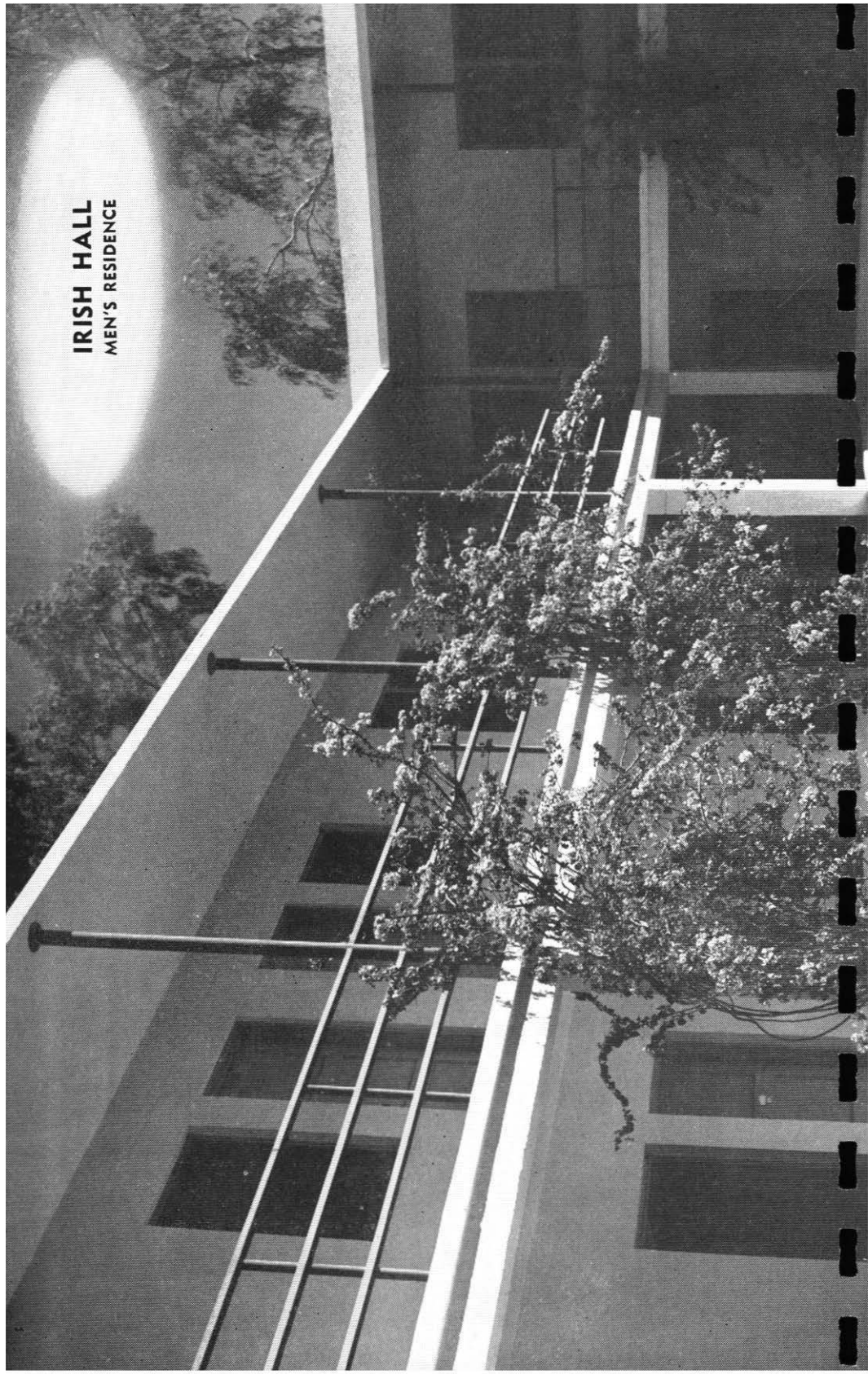
HOME MANAGEMENT





DANFORTH CHAPEL

IRISH HALL
MEN'S RESIDENCE



HAYDEN HALL
MEN'S RESIDENCE

HAYDEN HALL

