

Vol. XL, No. 2

April, 1947



University of Arizona Record

ANNOUNCEMENT FOR THE SUMMER SESSION

1947

First Term
June 9-July 12

Second Term
July 14-August 16



PUBLISHED BY
University of Arizona
TUCSON, ARIZONA

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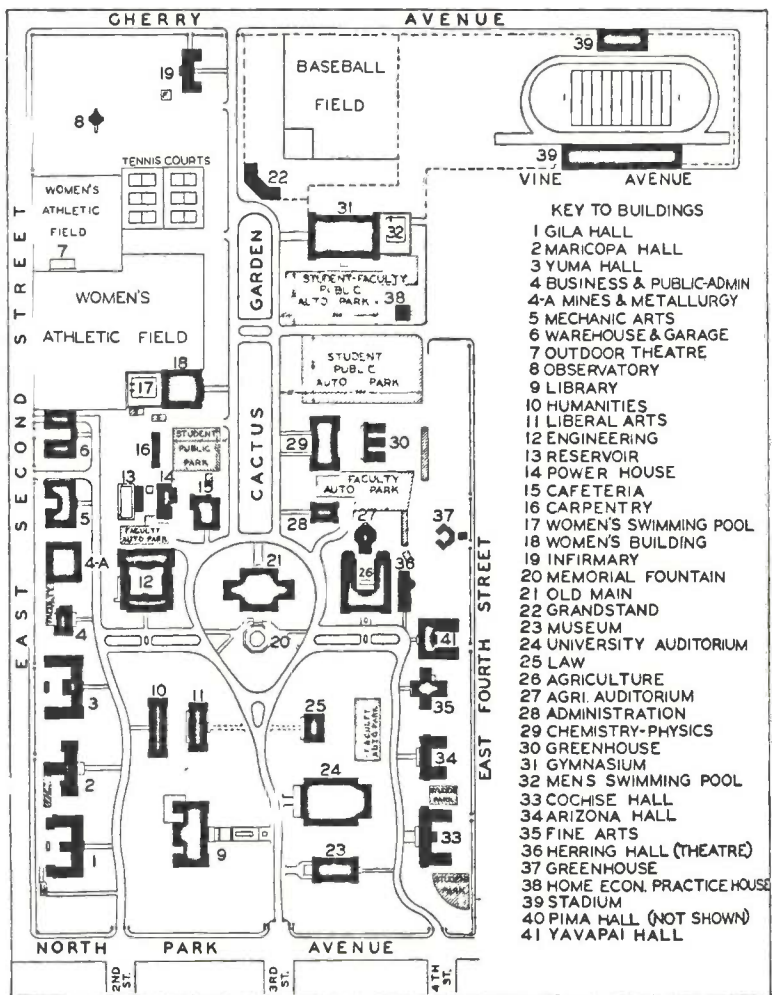
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UNIVERSITY OF ARIZONA SUMMER SESSION, 1947

LOCATION

The University of Arizona conducts its Summer Session on the University campus at Tucson.

Tucson has an altitude of 2,400 feet. It lies in a broad valley surrounded by rugged mountains that constitute a setting of unsurpassed beauty. The campus itself with its masses of common and exotic trees, shrubs, and cacti is a veritable park of unique character. It is about a mile from the business center of the city, with which it is connected by bus service and excellent paved streets.

CALENDAR OF THE SUMMER SESSION

The Summer Session is made up of two terms of 5 weeks each. Classes will meet 5 days a week, a 2-unit lecture course requiring 5 clock hours a week per term. Laboratory periods are 3 hours. Registration will be held on the first day of each term. A late registration fee of \$2 will be charged in connection with registration after that day. Registration for credit will not be granted after Monday, June 16, for the First Term, or after Monday, July 21, for the Second Term.

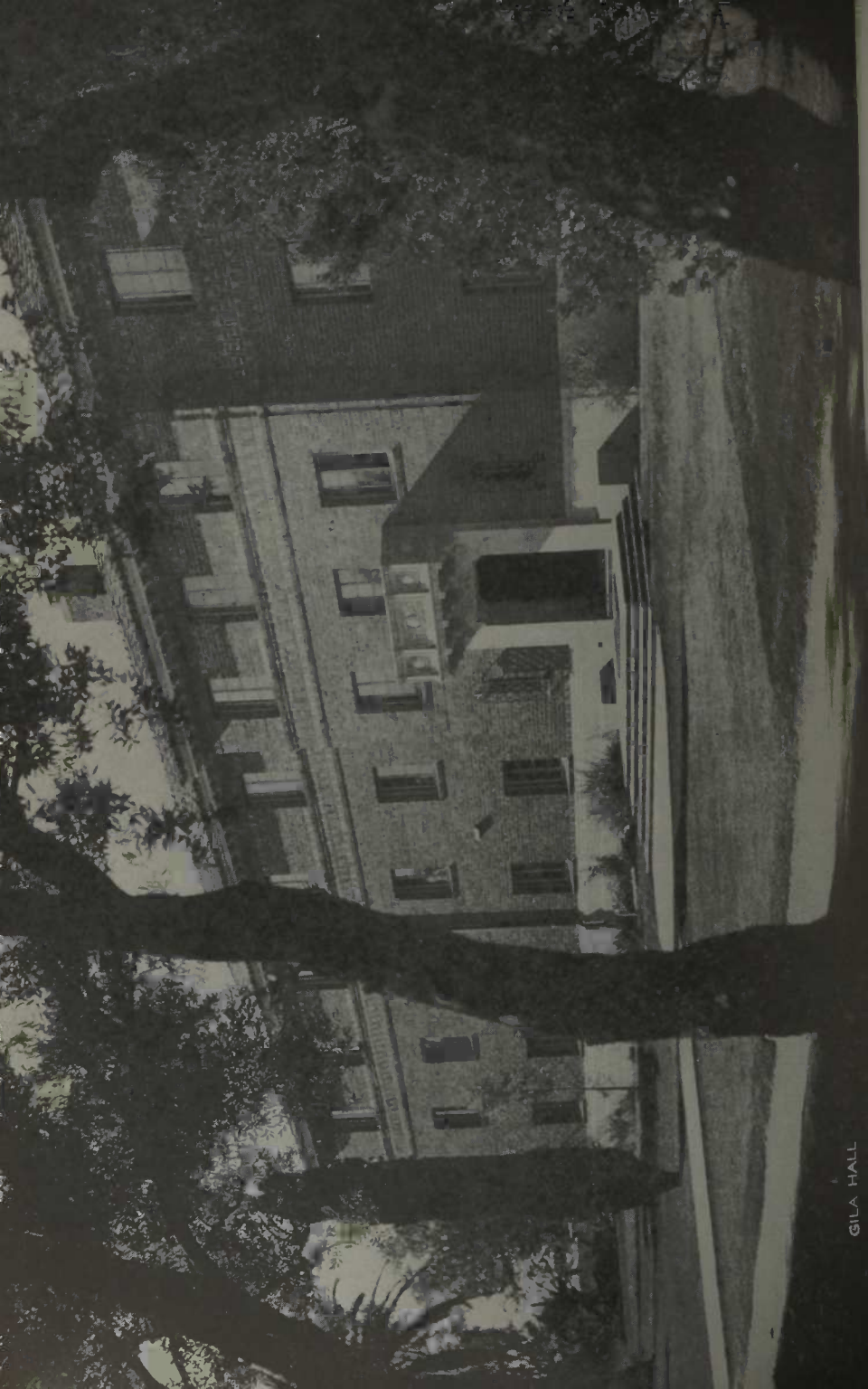
The calendar follows:

June 8, Sunday, 8 A.M.	Residence halls open
June 9, Monday	Registration for First Term
June 10, Tuesday	Classwork begins
July 4, Friday	Independence Day; a holiday
July 11, Friday	Examinations for the First Term begin
July 12, Saturday	First Term ends
July 14, Monday	Registration for the Second Term
July 15, Tuesday	Classwork begins
Aug. 15, Friday	Examinations for the Second Term begin
Aug. 16, Saturday	Second Term ends

SUMMER-SESSION COURSES

The courses of the Summer Session are designed to meet the needs of the following classes of students:

1. Regular students of this or other institutions.
2. Graduate students who are unable to attend during the regular academic year or those who wish to continue their courses or research.
3. School administrators and teachers who desire advanced instruction in academic or professional work looking toward advanced degrees or renewal of certificates or who wish to satisfy requirements of the various states and accrediting associations.
4. Prospective teachers desiring to meet certification requirements for all grades above the kindergarten.
5. Students who desire to avail themselves of cultural or professional courses.



GILA HALL

The Summer-Session courses will be offered through the following departments and divisions:

Agricultural	Education	Music Education
Chemistry	English	Music Theory
Agricultural Educa-	French	Philosophy
tion	German	Physical Education
Agricultural	History	Physics
Economics	Home Economics	Piano
Art	Home Economics	Political Science
Bacteriology	Education	Psychology
Botany	Humanities	Sociology
Business Admin-	Mathematics	Spanish
istration		Speech
Chemistry		Voice
Classical Literature		Zoology
Dramatic Arts		
Economics		

ARIZONA STATE MUSEUM

The State Museum, established by law as an integral part of the State University, is maintained as an educational factor in the institution and the state. Its archaeological collections emphasize the conditions and the achievements of the ancient cave, cliff, and pueblo peoples of the Southwest, and its ethnological collections present the manufactured products of the various Indian tribes. Its natural history collections show the bird life of the state and present many other forms of animal existence. The Museum is open to the public each day except Monday.

LIVING ACCOMMODATIONS

Residence accommodations for both men and women are provided on the campus. Gila Hall will be used for women and Yavapai Hall for men. Additional halls will be opened if the need arises. Rooms are uniformly furnished with tables, dressers, and chairs. Beds, mattresses, pillows, and bed linens are provided, but students must provide their own blankets, towels, laundry bags, and other necessities. The laundering of all bed linen is cared for by the University. Students are advised to provide a warm blanket for the cooler nights. Room telephone service is provided in Gila Hall.

Women students.—Gila Hall is the newest of the four women's residence halls. It represents the latest in construction and facilities. Running water in every room, an electric hair dryer, and a laundry and ironing room on every floor, and elevators are modern conveniences provided to meet the needs of students. Sun decks, a spacious lounge, and an inclosed patio with barbecue pit add much to the pleasure of group life.

During the Summer Session the residence halls are open to both graduate and undergraduate students. All undergraduate women not living at home are required to live in the residence hall unless exception is made by the Dean of Women before or at registration. All residence arrangements must be approved by the Dean of Women at the time of registration and may not be changed without her permission.

Men students.—Yavapai Hall, recently completed men's residence hall, is modern in every respect.

Married students.—Information concerning housing facilities for married couples may be secured through the Department of Resi-

dence. Students should personally inspect such accommodations before making definite agreements with householders. Married couples may, however, secure separate accommodations at the residence halls for men and for women, respectively.

Residence-hall reservations.—Accompanying the Registrar's notification that admission has been granted is an application form for reservation of residence-hall space. This should be filled out immediately and mailed to the Director of Residence with a deposit of \$10. Checks should be made payable to the University of Arizona. This deposit is security against damage to or loss of University property. It will be returned, if there are no charges against the student. *Applications for room reservations should not be made until notice of admission is received from the Registrar.*

Only registered students may use the residence halls.

ADMISSION TO THE SUMMER SESSION

The general rules and regulations of the University relating to admission to the University for credit apply to the Summer Session.

Regular students of the University of Arizona in good standing are admitted as at any other time.

Prospective freshmen should file with the Registrar a complete, official transcript of high-school credits, with a statement of graduation.

Students coming from other universities and colleges must present to the Registrar evidence that they are in good standing. Those who propose to become candidates for a degree at the University of Arizona, or who wish to continue in the fall semester must file a complete transcript of record.

Graduate students seeking graduate credit must file a transcript of record, including evidence of having graduated from an approved university or college.

Other students eligible to enter the University will be permitted to pursue such courses as they are qualified to carry.

Note: All students except the first group above should apply to the Registrar for appropriate admission blanks. Admission to the Summer Session does not imply admission in the regular year. For fall registration a separate application must be made.

ACADEMIC CREDIT

The Summer Session is an integral part of the regular University organization, with similar standards of academic accomplishment. The courses are of the same character as those offered during the regular academic year. Credit obtained is fully recognized toward the various degrees which the University confers. All Summer-Session work is counted as work in residence. The maximum number of units for which students may register regularly for credit is 12 semester hours for the 10-week session or 6 semester hours for either 5-week term. This necessitates the intensive study of a few subjects at a time. Registration may not be changed after the first week of each term except by approval of the Dean of the Summer Session.

Students who receive failing grades in 50 per cent of the total number of units for which they were registered during the Summer Session are subject to denial of registration in the first semester of the next academic year.

As the University is unable to extend credit, it is essential that all students have sufficient funds on entering to defray their immediate expenses.

EXPENSES AND FEES

Tuition.—The tuition fee required of students registering for the normal student load of 6 semester hours and desiring credit is \$25 for either 5-week term. There is no nonresident fee for out-of-state students. Students registering for 5 units or less pay a tuition fee of \$5 per unit, with a minimum fee of \$10. When, under extraordinary circumstances, students are permitted to register for more than 6 units, an additional fee of \$5 per unit is charged for the excess registration. The tuition fee for registration for thesis only is \$5. For registration after the first day of the term a late registration fee of \$2 is charged. The tuition fee for those attending classes without credit (auditors) is \$10 for either term. The fee for courses audited in addition to those taken for credit is \$2.50 per unit. For students registering for 6 or fewer units of credit, the maximum cost for both credit and audited courses is \$25. Each student before attending classes must obtain from the Registrar's office a certificate of registration showing that all fees have been paid and that the student is entitled to enter upon his classwork.

Physical education courses.—Students registering for courses in physical education (except theory) pay a locker and towel fee of \$2. One dollar of this fee is returnable if there are no charges against the student.

Piano and voice.—For individual instruction in piano or voice a fee is charged in addition to the regular tuition fee, as follows: for two $\frac{1}{2}$ -hour lessons a week for 5 weeks the fee is \$20, with 1 unit of credit. For four $\frac{1}{2}$ -hour lessons a week for 5 weeks the fee is \$30 with 2 units of credit. The rental fee for practice pianos is: for 1 hour per day, 5 weeks, \$1.50; for 2 hours per day, 5 weeks, \$2.

Laboratory and material fees.—In certain laboratory courses fees are required to cover the cost of materials and of breakage. Statements of the amounts of such fees are found in the descriptions of the courses.

Residence halls.—Rooms in Yavapai Hall, the men's residence hall, may be obtained for \$20 per 5-week term, per person, two in a room. To the extent that rooms are available, single occupancy will cost \$32.50 per term. Rooms in Gila Hall, the women's residence hall, will cost \$24 per term, per person, two in a room. Single occupancy, when available, will cost \$40 per term. All students occupy separate single beds.

Board.—Excellent meals at reasonable rates may be secured at the University dining hall and at restaurants, tea rooms, and cafeteria just off the campus.

Trips.—For field trips required in connection with courses fees based on mileage will be charged.

Recreation.—To provide funds for recreational and social activities a nominal fee of 50 cents per term is charged.

SUMMARY OF FEES

Tuition (either 5-week term, 6 units).....	\$25.00
Tuition for auditors (either 5-week term).....	10.00
Tuition (courses audited in addition to credit courses, see above) per unit.....	2.50
Tuition (5 units or less, minimum \$10) per unit.....	5.00
Tuition (registration for thesis only).....	5.00
Tuition (excess registration) per unit.....	5.00
Piano, organ, and voice (individual instruction) (see statement above)	
Courses in physical education (except theory).....	2.00
(\$1 returnable if there are no charges)	
Laboratory and materials (see course announcements)	
Field trips (based on mileage)	

Room in residence hall (term in advance) (See statement above)	\$20.00 to 40.00
Room deposit (Returnable if there are no charges)	10.00
Recreation	.50
Library fee	1.00

Return of fees.—Students withdrawing from the University during the first week of either term (June 9 to June 16, inclusive, and July 14 to July 21, inclusive) will be charged \$5 for registration expenses. Students changing their programs during the first week will receive a corresponding adjustment of fees. After the first week no fees of any kind except room and breakage deposits and half the locker fee will be returnable. Room reservation deposits will not be returned unless notice of cancellation reaches the Department of Residence by June 7.

PROJECTED REGISTRATION

Students who have regularly registered for a full course of 12 semester hours of credit during the current summer and have demonstrated their ability to do independent work may be permitted to enroll for a maximum of 3 semester hours of work to be done in **absentia**. Work thus undertaken must be in the nature of an individual problem. The student must outline the problem and secure the written approval of the instructor under whose direction he will do the work and the approval of the Dean of the Summer Session. The approved statement of the problem and the outline must be filed in the office of the Dean of the Summer Session **not later than Saturday, August 9**. The student must complete the work before the beginning of the Summer Session of 1948. Work done under projected registration will carry the course number 300 and will be accepted for residence credit. Graduate credit will be granted under the conditions outlined below. There is no additional charge for this privilege.

GRADUATE STUDY AND ADVANCED DEGREES

The University of Arizona Summer Session offers excellent opportunity for graduate study. Several of the departments of the University have provided for individual research in their special fields. Such work is listed under the respective departments. Students who wish to pursue any of these courses must obtain the consent of the respective instructors before registering for the courses.

In certain departments provision is made for teachers in service and others who are unable to attend the University during the regular year to complete the requirements for the master's degree by attendance at Summer Sessions only.

Registration for graduate credit is restricted to students holding the bachelor's degree from an approved school and, through petition to the Graduate Study Committee, to qualified Seniors who have almost completed the requirements for the bachelor's degree. Every student registering for graduate work must give evidence of having not less than **12 semester hours** of undergraduate credit basic to the graduate work.

All courses numbered from 200 to 299 are definitely organized as graduate courses and carry graduate credit. Certain courses numbered from 100 to 199, designated by the letter G following the title, may be taken for graduate credit. Since graduate credit implies intellectual accomplishment at a higher level than that usually demanded of undergraduate students, to receive graduate credit a student must receive a grade of not less than 3 in the courses taken,

and the average of the grades in all courses offered toward an advanced degree must be 2 or better.

All students registering in the Graduate College of the University of Arizona for the first time must complete and file with the Dean appropriate admission forms. Applicants from other institutions should have complete transcripts of all undergraduate work done and degrees received sent by the institutions involved directly to the Registrar, University of Arizona. Both the completed application form and the transcripts should be on file prior to registration. Students registering with the expectation of becoming candidates for an advanced degree should read carefully, in the general catalogue of the University of Arizona, the regulations governing the granting of that degree. At some time during the first 2 weeks of residence they should consult with the Dean of the Graduate College regarding the requirements for advanced degrees.

Candidates for the master's degree who expect to complete their work for the degree during the Summer Session of 1947 should have their theses completed and approved by the departments concerned as early as possible. The original copy of the completed thesis must be submitted to the Dean of the Graduate College at least 4 days prior to the date of the oral examination. All oral examinations must be taken **not later than Tuesday, August 12**. Written examinations, when given, must precede the oral by not less than 7 days.

CANDIDATES FOR DEGREES

All candidates for degrees who expect to complete their work for a degree at the end of either term must file an application during the first week of the term. Blanks are available at the Registrar's office.

TEACHERS' CERTIFICATES

One of the important functions of the University is the preparation of teachers. All the resources of the University are available for this work.

Secondary certificates are granted to the holders of the bachelor's degree from an accredited university or college authorized to prepare secondary-school teachers who present, in addition, evidence of the satisfactory completion of not less than 30 semester hours of graduate work at the University of Arizona or at other accredited institutions.

Pre-Secondary certificates entitle the holders to qualify for the regular Secondary certificate by in-service preparation while they are teaching. Such certificates have a preliminary requirement of 6 semester hours of graduate work.

Elementary certificates are granted to holders of the bachelor's degree from an accredited university or other teacher-preparation institution authorized to prepare elementary-school teachers.

Teachers now holding valid Arizona secondary or elementary certificates based on lower requirements have until September 1, 1950, to qualify.

Elementary and secondary certificates are valid for 4 years. They are renewable any number of times for periods of 6 years, upon presentation of evidence that the holder has, during the life of the certificate, completed 4 years of successful teaching and has carried to completion satisfactorily 5 semester hours of approved professional work at an accredited school or 10 semester hours when the teaching experience has been deficient. For the initial renewal 2 years' teaching and 5 semester hours are required.

ADMINISTRATIVE CERTIFICATE

Administrative certificates are granted upon evidence of at least 3 years of successful teaching experience, eligibility for an elementary or a secondary certificate, and 15 semester hours of education in addition to and after securing the baccalaureate degree, devoted to school organization, administration, and supervision. The certificate is required of any administrator in charge of a school or school system with five or more teachers.

APPLICATION FOR CERTIFICATES

All persons applying for certificates authorizing them to become superintendents (or principals) or teachers in the public schools and colleges of this state must, in addition to existing requirements, take a course in the provisions and principles of the Constitution of the United States and of this state. Candidates for certificates may satisfy this requirement by taking the course, Political Science 100.

Certificates for teachers and school administrators are not granted automatically; formal application must be made. As considerable time is sometimes required to secure the necessary data, candidates should file the application early in the term in which they expect to qualify. Necessary blanks and detailed information relating to teachers' and administrative certificates may be secured at the office of the Dean of the College of Education.

ACCELERATED PROGRAMS

Entering Freshmen may speed up their college work by starting in the summer. There will be a broad choice of required and elective courses. **Sophomores, Juniors, and Seniors** will find many courses available to enable them to accelerate their programs.

SPECIAL FEATURES

New courses.—In meeting and anticipating advanced needs and interests, the Summer Session each year offers new courses in several departments. This year new courses will be offered in accounting, art, English, history, physical education, and physics.

Library science.—As a preliminary step toward a full major in library science, four fundamental courses will be offered in 1947.

For teachers of agriculture.—As usual, intensive short courses in agricultural education will be available from June 9 to June 25 and June 26 to July 12 and also during the second term.

Spanish.—Tucson is unexcelled in the United States in the appropriateness of its setting for the study of Spanish. One cannot walk through the main streets without hearing it spoken; on the shop windows one sees the familiar "Aquí se habla español" (Spanish is spoken here); the older part of the city is still essentially Spanish-American in character; and only 2 hours away by auto, train, or bus is Mexico itself, teeming with the characteristics of a different world. Courses for the beginner and the advanced student are offered during the session.

German.—Full-year beginning and advanced courses in German will be offered.

INFORMATION FOR VETERANS

Both the University and the Veterans' Administration maintain special offices to assist veterans to make the most adequate and most rapid adjustment to University life. Veterans with educational entitlement under Public Law 16 (the Rehabilitation Law) or under

Public Law 346 (the G.I. Bill), are invited to use the Summer-Session facilities and the special offices established for their benefit.

The Veterans' Administration maintains a Contact Office, a Training Office, and a Guidance Center on the campus.

The Contact Officer will answer all questions as to rights, privileges, and benefits available to veterans under the laws established by Congress and the procedures established by the Veterans' Administration. The various forms necessary to secure these benefits are available in his office. Either the Contact Officer or his secretary will be glad to help veterans apply for any benefits to which they are entitled.

The Training Officers will assist students who are planning long-term educational programs, students who are interrupting or re-establishing training programs, and students who wish to change objectives or institutions. After a program is once established by a student, all changes should be checked with the training officers so that no misunderstanding will interrupt the payment of subsistence, tuition, etc.

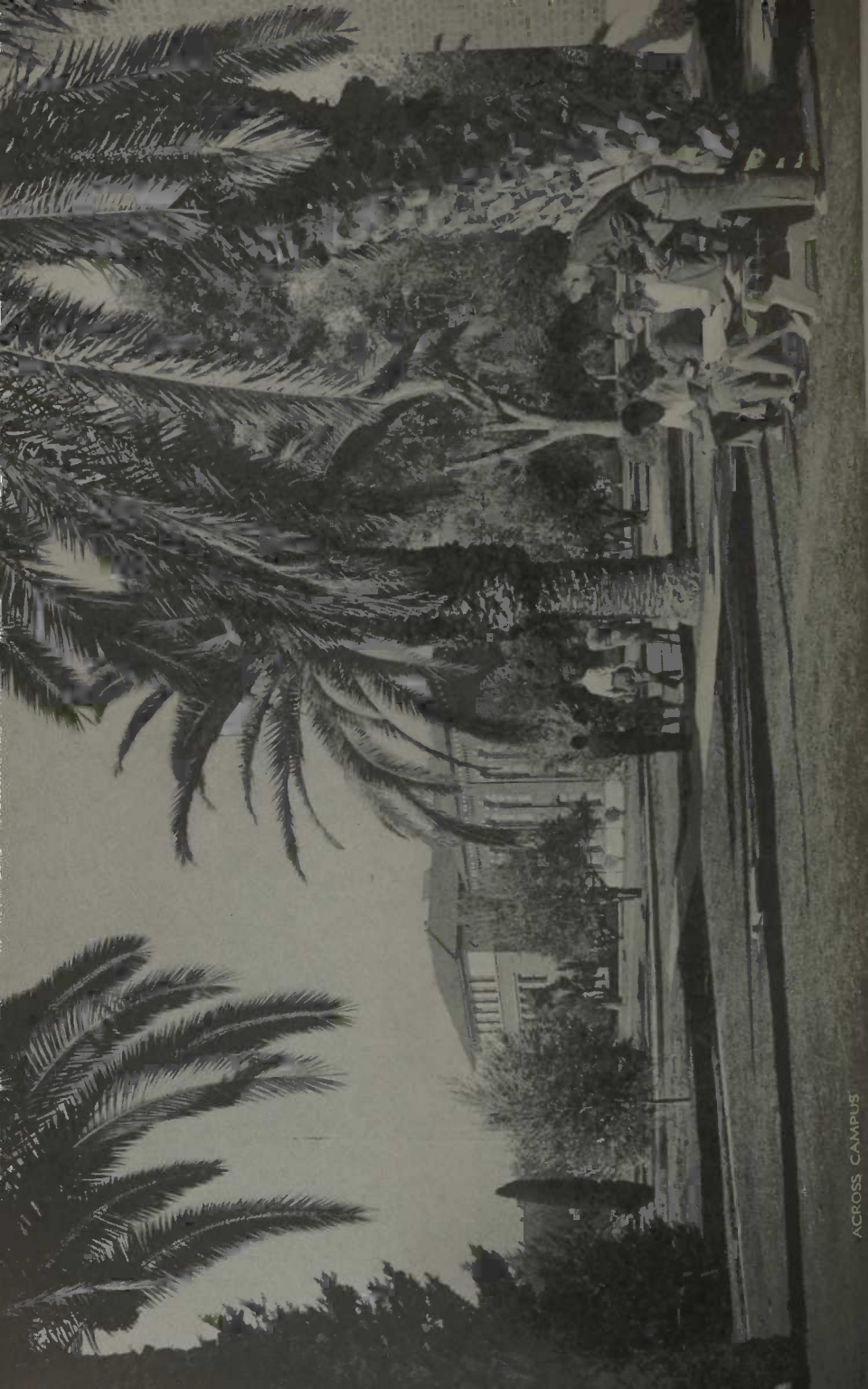
The Guidance Center is maintained to render vocational and educational guidance to all veterans, and to render personal counseling to those veterans who are facing special problems which interfere with their progress or adjustment. The Center, in conjunction with the Department of Psychology of the University, maintains complete guidance facilities to assist all veterans to get the greatest benefit from the educational entitlement provided by Congress. The extent of these entitlements is limited by law, and all veterans are urged to utilize the Guidance Center to be sure that they are enrolled in the courses for which they are best suited. Failures and changes of courses use entitlement without corresponding benefit to the veteran. Such failures and changes can be reduced to a minimum by the use of the guidance facilities.

ENTERTAINMENT AND RECREATION

During the Summer Session a regular weekly program, including lectures, concerts, and other features, will be provided. Several dances are given during the summer.

Opportunities for diversion and recreation are numerous. Sabino Canyon, Bear Canyon, Fort Lowell, Picture Rocks, San Xavier Mission, and other places of interest near Tucson make possible many trips or picnic parties which students of the Summer Session may enjoy. For somewhat longer trips, Colossal Cave, White House Canyon in the Santa Rita Mountains, the Casa Grande Monument, the Tumacacori Mission, and the resorts of Soldiers' Camp and Summerhaven on Mount Lemmon in the Santa Catalina Mountains afford excellent opportunities for week-end excursions. In the Santa Catalina Mountains, among the great pine trees there are many ideal camp sites where the atmosphere is invigorating and the surroundings stimulating to both student and the lover of nature. The border city of Nogales, Sonora, within 2 hours' drive from Tucson, presents a very colorful Old World atmosphere to the visitor. The University will endeavor to arrange trips and excursions to these points for those who wish to avail themselves of the service. A trip fee sufficient to cover costs of transportation will be charged.

There are excellent tennis courts and a large outdoor swimming pool on the campus. Swimming tags are obtained from the Cashier. A municipal golf course within easy reach of the University is available to the devotees of this popular form of sport. Bowling and dancing are always easily available.



ACROSS CAMPUS

COURSES OFFERED*
IN THE
1947 SUMMER SESSION

AGRICULTURAL AND HOME ECONOMICS EDUCATION

Professor Cline (Head of the Department).
Associate Professor Jones.
Assistant Professor Schafer.

AGRICULTURAL EDUCATION

- 121s. Introduction to the Teaching of Agriculture. (3) II. Cline-Schafer
Observation and participation in the activities of a teacher of agriculture under the direction of an approved supervising teacher for a period of 4 weeks. Readings, conferences, and written reports. Prerequisite, junior standing. (Hours to be arranged.)
- 191s. Teaching Agricultural Practices. (2) I. G. Schafer
The development of information and techniques on special farm and ranch practices taught in classes of vocational agriculture. Organizing and conducting demonstrations and field classes. One lecture and one 3-hour laboratory period. Prerequisite, 199. Fee, \$2. (June 25 to July 12, hours to be arranged.)
203. Teaching Out-of-School Groups. (2) I. Cline
Objectives, principles, and practices in preparing course layouts, organizing and using teaching information, visual and real materials, and directing learning on the job. Prerequisite, 199. (June 9 to June 25, hours to be arranged.)
- 224s. Conducting Student Organizations. (2) I. Cline
Organizing and conducting group educational activities for students of vocational agriculture, with special reference to problems of Future Farmer Chapters and responsibilities of advisers. Prerequisite, 199. (June 9 to June 25, hours to be arranged.)

HOME ECONOMICS EDUCATION

- 208s. Planning and Supervising Home Experiences. (2) I. Jones
Types and values of home experiences in teaching home economics. Techniques used in guiding students to select, plan, carry out, and evaluate home practices and projects. Prerequisite, Education 139h. 8:10-9:10.

*Unless otherwise specified, all classes meet for 1 clock hour daily from Monday to Friday, inclusive.
The Arabic numerals in parentheses indicate the number of units of credit. The Roman numerals indicate the term in which the course is offered. The letter "G" indicates that graduate credit is permissible.
Where prerequisites are given in terms of numbered courses, equivalents of these courses are acceptable.
The University reserves the right to withdraw any course for which there is an insufficient registration.

- 212s. Planning, Furnishing and Equipping Home
Economics Departments. (2) I. Jones
Trends and procedure of planning new and remodeled departments and selecting furnishings and equipment. (Students who expect to work on plans for their own schools should write to the instructor prior to May 15 in order to bring necessary data.) 11:40-12:40.
299. Seminar in Home Economics Education. (2) I. Jones
Readings and study on current problems, including curriculum, administration, evaluation, and other phases of the program. Prerequisite, Education 139h. 10:30-11:30.

AGRICULTURAL CHEMISTRY AND SOILS

Professor Buehrer (Head of the Department).

- 102s. Fertilizers. (2) I. G. Buehrer
A study of the fertilizer materials used in irrigation agriculture, their selection and methods of application. Lectures, illustrated by demonstrations and visual aids. Prerequisites, 12 units in soils or closely related fields, subject to approval of the instructor. (June 9 to June 25, hours to be arranged.)

ART

Associate Professor Scott.
Instructor Quinn.

- 1a-1b. Art Fundamentals. (2-2) I-II. Quinn
Fundamental principles underlying all art. Practical training in water color. Laboratory fee, \$1 each term. 9:20-12:20.
- 2a-2b. Drawing. (2-2) I-II. Quinn
Beginning drawing from casts and still life; charcoal and pencil techniques. Laboratory fee, \$1 each term. 8:10-11:10.
- 7as-7bs. History and Appreciation of Art. (2-2) I-II. Quinn
The great art movements of the past, their influences and effects, with the study of the great leaders up to the time of the Italian Renaissance. 7:00-8:00.
- 102a-102b. Still Life and Landscape in Color. (2-2) I-II. Scott
Beginning work in oil painting including still life and landscape. Prerequisites, 1a-1b and 9, or equivalents. 9:20-12:20.
- 107as-107bs. History of Modern Art. (2-2) I-II. Scott
Analytical study of the modern schools of art and their origins and influences. 107as is not prerequisite to 107bs. 8:10-9:10.

BACTERIOLOGY

Assistant Professor Evelyn Wallraff.

107. General Bacteriology. (4) I. Wallraff
Fundamental facts of bacteriology. Characteristics of important groups of microorganisms studied in laboratory. Prerequisite, Chemistry 1b or 2b; recommended, Zoology 4 and Botany 1. Laboratory fee, \$10. Enrollment limited to 30. (Lab. 9:20-12:20.)
- 187s. An Introduction to the Filterable Viruses. (2) I. G. Wallraff
The nature of filterable viruses, techniques of cultivation, concentration and purification. Consideration will be given to some of the more important virus diseases of man, animals, and plants. Prerequisites, Bacteriology 107 and one additional upper-division course in bacteriology or in a related field; Chemistry 103b or 40. 7:00-8:00.

BOTANY

Instructor Parker.

1. General Botany. (4) II. Parker
The elements of botany with emphasis upon the structure, function, and development of the plant. Laboratory fee, \$3. 8:10-9:10. Lab. 9:20-12:20.)
- 3s. Plants of the Tucson Area. (2) II. Parker
A course in the identification of plants of the Tucson area. Consideration will be given to principles of plant classification. This course will not be substituted for Botany 4 in a sequence. Travel and laboratory fee, \$5. 7:00-8:00. (Three afternoon field trips will be arranged.)
- Individual Studies. II. Staff
The department makes available to undergraduate students opportunity to work individually through Special Problems (2-4), fee, \$1 per unit; and to graduate students through Research (2-8), fee, \$1 per unit. (Hours and credit to be arranged.)

BUSINESS ADMINISTRATION AND ECONOMICS

Professors Howard (Head of the Dept. of Bus. Admin.), Wood, Gray.
Assistant Professor Hudson.

- 6s. Introduction to Business. (2) II. Hudson
A survey of the fundamental characteristics and functions of modern business. Not open to those who have had 171a-171b. 10:30-11:30.
- 31a-31b. Principles of Accounting. (3-3) I-II. Howard
Accounting for sole proprietorship, partnerships, and corporations. 8:10-9:40.
- 108s. Industrial Relations. (2) II. G. Gray
A study of collective bargaining methods including legal aspects of labor contracts and some of the problems which arise out of operating under these contracts. 8:10-9:10.
- 131a-131b. Intermediate Accounting. (3-3) I-II. G. Howard
Review of fundamental processes of accounting; form and content of the balance sheet and income statement; valuation theory and practices; theory and advanced problems of accounting for liabilities, capital stock, surplus, and reserves of corporate enterprises; income and its determination; installment sales; insurance and other special accounting problems; analysis and interpretation of financial statements. Prerequisite, 31b. 10:00-11:30.
- 151as. Insurance Theory and Practice. (2) I. G. Hudson
Phases of most general application: life, fire, automobile. 10:30-11:30.
- 164s. Principles of Advertising. (2) I. G. Wood
Principles, problems, technique, and practice of advertising. 9:20-10:20.
- 1as-1bs. Introduction to Economics. (2-2) I-II. Wood-Hudson
The first term is devoted to methods of logical economic analysis and the derivation of fundamental principles—distinctly a tool course. The second term is devoted to application of methods of reasoning and principles to actual problems of economic life. 1as, Section A: 7:00-8:00 (H); Section B: 8:10-9:10 (W). 1bs: 7:00-8:00.
- 105s. Labor Problems and Trade Unionism. (2) II. G. Gray
A study of employment, wages, hours, substandard workers, types of unionism, policies and practices of labor organizations. 9:20-10:20.
- 145s. Public Finance. (2) II. G. Hudson
Collection, administration, and expenditure of funds by governments. Taxation, public debts, budgets. 8:10-9:10.

- 148s. Money and Banking. (2) I. G. Hudson
Theory and practice in the light of contemporary legislation. 8:10-9:10.
- 192a, 192b. Economic Investigation. (2) I, II. G. Wood-Gray
An individually conducted research course. Open to seniors and graduates. 11:40-12:40.

CHEMISTRY

Professors Roberts, Sands.
Assistant Professor Rhodes.

- 1a-1b. General Chemistry. (4-4) I-II. Roberts-Sands
Fundamental principles of chemistry. Properties of elements and compounds. Prerequisite, high-school chemistry. Laboratory fee, \$5; breakage deposit, \$2.50. 8:10-9:40. (Lab. 1:40-4:30 M.W.F.)
- 2a-2b. Introductory General Chemistry. (4-4) I-II. Rhodes
Similar to 1a-1b but for students without credit in high-school chemistry. Laboratory fee, \$5; breakage deposit, \$2.50. 8:10-9:40. (Lab. 1:40-4:30 T.Th.; 9:50-12:40 W.)
3. Qualitative Analysis. (4) I. Sands
Laws of equilibrium and solutions. Separation and identification of common cations and anions. Prerequisite, 1b or 2b. Fee, \$6. 7:00-8:00 M.W.F. (Lab. 8:10-11:00 daily, and 1:40-4:40 T.W.Th.) Deposit, \$2.50.
- 103a-103b. General Organic Chemistry. Roberts-Sands
(4-4) I-II. G.
A thorough discussion of the general principles and theories of organic chemistry accompanied by the laboratory preparation and examination of numerous important organic compounds. Prerequisite, 1b or 2b. Laboratory fee, \$6; breakage deposit, \$2.50. 10:00-11:30. (Lab. 1:40-4:30 M.W.F.)
120. Colloid Chemistry. (2) I. G. Rhodes
The nature, importance, and theoretical treatment of the subject. The classification, preparation, and properties of colloidal systems. Prerequisites, 3 or 40 and 54. 10:30-11:30.

CLASSICS—HUMANITIES

Professor Percy (Head of the Department).

- 128s. Greek Tragedy. (2) I. G. Percy
The tragic dramas of Aeschylus, Sophocles, and Euripides. The Greek theater and the manner of presenting plays in the classical period. Lectures and readings from selected plays in English. 11:40-12:40.
- 150a-150b. Introduction to the Study of Language. Kurath
(2-2) I-II. G.
General principles of linguistic development. Illustrative material taken from the modern languages. Prerequisite, 24 units of foreign language, or equivalent, and junior standing. 8:10-9:10.

- Introduction to Humanities. (4) I. Percy
The cultural life of the Western World as it developed in literature, art, and philosophy from the Greeks to the present. Required of Sophomores in Business Administration, Liberal Arts, Fine Arts, and Home Economics. Fee, \$1. Section limited to 30. The class meets 2 hours daily. 8:10-9:10 and 10:30-11:30.

DRAMATIC ARTS

Instructor Sencer.

- 21a-21b. Stagecraft and Stage Lighting. (3-3) I-II. Sencer
Construction of scenery, organization backstage, drafting, papier-mâché, physics of lighting, switchboard construction. Practical experience. 8:10-9:40.
- 123as-123bs. Scene Design. (2-2) I-II. Sencer
Practice in actual execution of designs and models. Effects of colored light on colored pigment. Practical experience in techniques of painting and lighting. Prerequisite, 21a-21b. 7:00-8:00.
- 127as-127bs. Problems of Play Production. (2-2) I-II. G. Sencer
Study of theater management, organization, exploitation, financing, and other phases of the university, community, and high-school theaters. Prerequisites, 22a-22b or 125a-125b, and 122a-122b. 10:30-11:30

EDUCATION

Professors Clarson (Head of the Department), Garretson, Larson.
Visiting Professors Oleson, Wivel.
Associate Professor Kelley.
Assistant Professor Nelson.
Visiting Instructors Case, Foster, Newton.

- 103s. The Exceptional Child in the Regular Classroom.
(2) I. G. Newton
The fundamentals of special education for the classroom teacher. How to discover the exceptional child. The causes, prevention, and treatment of physical and mental handicaps in children. Handling the mentally gifted children and those who are behavior problems. 9:20-10:20.
- 107s. Grade- and High-School Physical Education
Programs. (2) I. G. Henderson
Methods and purposes of teaching physical education, the equipment necessary, the proper setting, supervised practice of student leaders. Suggestions in lesson and program formation, organization, and administration. Applications of educational principles to physical education. Recommended for administrators in order to acquaint them with proper principles and practices in physical education. Prerequisites, 134 and 12 semester hours of physical education. 7:00-8:00.
- 111s. History of Education. (2) I. G. Nelson
A general survey of the educational systems of the leading foreign nations and an evaluation of modern tendencies. 10:30-11:30.
117. Visual and Auditory Aids in Teaching. (2) II. G. Larson
Use and management of auditory and visual aids. Motion pictures, stereoscopes, slides, charts, blackboard technique, radio programs. Actual instruction in use of equipment. Prerequisite, 151; recommended, 121a or 134. 8:10-9:10.
- 121s. The Elementary School. (2) II. G. Nelson
The purposes and curriculum of the elementary school. Available courses are studied and evaluated, and a defensible curriculum proposed. This course meets the certification requirement in the elementary curriculum. 9:20-10:20.
- 121as.
(Pt. I.) Improving Reading in the Content Field. (2) I. G. Oleson
The role of reading in the content fields; the nature of reading problems in the content fields; developing reading vocabularies; methods of increasing competence in understanding and interpreting what is read. Education 151 must precede or accompany this course. (Parts I and II satisfy the 121a requirement of the academic year.) 8:10-9:10.

121as.

- (Pt. II.) Teaching the Language Arts. (2) I. G. Oleson
 Reading, composition, spelling, and handwriting in the elementary school; correlation and integration of the language arts. Education 151 must precede or accompany this course. (Parts I and II satisfy the 121a requirement of the academic year.) 9:20-10:20.

121bs.

- (Pt. II.) Problems in the Teaching of Elementary Social Studies. (2) I. G. Oleson
 The child and the social studies; objectives; the social studies curriculum; resources and equipment; procedures; evaluation in the social studies. Education 151 must precede or accompany this course. 11:40-12:40.

131s. The High School. (2) I. G. Wivel

The high school as an institution; historical development; aims, functions, and outcomes; the curriculum; relation to other divisions of the school system. Prerequisite, 3 units in education. 7:00-8:00.

134s. General High-School Methods. (2) II. G. Garretson

The actual problems of teaching with especial reference to the principles of educational psychology. Prerequisites, 151; recommended, 131. 7:00-8:00.

151s. Educational Psychology. (2) I. Wivel

The study of the learning process with attention given to motivation, guidance, and control of children of school age. Prerequisite, Psychology 1a. 10:30-11:30.

157s. Educational Tests and Measurements. (2) I. G. Kelley

The principles underlying the making and using of informal objective examinations; practice in making and scoring such examinations; surveys of standard tests in the respective fields. Prerequisite, 151. 9:20-10:20.

180s. Book Selection and Ordering (Library). (2) I. Foster

Principles guiding the choice and evaluation of books and materials needed in the modern school library and for the recreational interests of the youth in a community. 7:00-8:00.

181s. School Library Administration and Organization. (2) I. Foster

The contribution of the superintendent, the principal, the faculty, and the librarian to the intellectual and emotional development of the pupils through the successfully administered school library; its function, activities, management, and organization; planning the collection, budget, equipment, personnel, and other pertinent details. 8:10-9:10.

182s. Library Book Organization. (2) II. Foster

Simplified classification and cataloguing; organization of books and materials for school library use; the shelf list; filing of catalogue cards; inventory; approved tools for these purposes. 7:00-8:00.

183s. Library Book Services. (2) II. Foster

The use of books and the school library through the instructional program; the building of subject bibliographies to link with course of study needs; discussion of the reading interests of youth; guidance for the average reader; inspiration for the advanced reader; and remedial co-operation and assistance for the retarded reader, to enrich the entire school experience of the individual pupil. 8:10-9:10.

190s. Safety Education. (2) I. Case

Designed for elementary- and high-school teachers and school administrators. It will include a study and discussion of means to prevent accidents and to promote safety in the home, on the farm, and on the highway. Laboratory work involving instruction in safe driving will be offered. (Hours to be arranged.)

201s. Current Problems in Education. (2) II. Wivel

Modern problems in the educational field. Open to seniors. Prerequisite for seniors, 6 units in education. 11:40-12:40.

203. Problems in Educational and Vocational Guidance. (2) II. Nelson
The function and scope of guidance and an analysis and evaluation of the organization and techniques of counseling in the secondary schools. Open to seniors. Prerequisite for seniors, 6 units in education. 10:30-11:30.
- 210s. Philosophy of Education. (2) II. Wivel
A critical study of the data which recent scientific research has furnished with reference to the nature of the learning process; determination of the leading objectives in teaching. Open to seniors. Prerequisite for seniors, 6 units in education. 8:10-9:10.
214. Arizona State School System and School Law. (2) II. Larson
The principles and problems of public education in Arizona. The code relating to schools and a comparison of this code with other state codes and ideal codes. Open to seniors. Prerequisite for seniors, 6 units in education. 9:20-10:20.
- 229s. Investigations in Elementary Education. (2) II. Larson
A critical study and evaluation of the investigations and experimental evidence underlying the aims, content, and instructional practices in the various subject-matter fields of the elementary school. Prerequisite, 9 units in education. 10:30-11:30.
- 233s. Extraclassroom Activities. (2) II. Garretson
The purposes of extraclassroom activities. The technique of administration of various extracurricular activities. Open to seniors. Prerequisites for seniors, 131 and 134 or equivalents. 8:10-9:10.
- 236bs. High-School Supervision. (2) I. Garretson
The principles and practices of supervision as they may be of practical use in the improvement of instruction at the secondary-school level. For graduate students and teachers with one or more years of experience. 8:10-9:10.
251. Advanced Educational Psychology. (2) I. Nelson
An intensive study of some phases of educational psychology. The problems studied will vary from year to year. May be repeated once with different content. Prerequisites, Psychology 1a and 6 units in education, including Education 151 or equivalent. 8:10-9:10.
- 254s. Statistical Methods in Education. (2) I. Garretson
Elementary methods of dealing quantitatively with school data and data resulting from experimental investigations. Required as part of the graduate major in education. For seniors and graduates. Prerequisite for seniors, 6 units in education. 7:00-8:00.
- 260s. School Administration. (2) II. Wivel
The problems, organization, administration, and supervision of city- and town-school systems. Open to seniors. Prerequisite for seniors, 6 units in education. 10:30-11:30.
270. Personnel Problems of Teaching and Administration. (2) I. Wivel
The general personnel problems of teachers and administrators in conducting a modern school; selection, in-service training, and rating of teachers; salary scales; public relations, etc. 9:20-10:20.
290. Techniques in Educational Research. (2) I. Nelson
For advanced students majoring in education. Various methods of research; representative studies of each type. Open to seniors. Prerequisite for seniors, 6 units in education. Required of all graduates with education as a major. 11:40-12:40.
299. Seminar in Education. (2) II. Nelson
Studies in current educational literature. Open to seniors. Prerequisite for seniors, 6 units in education. Required of all graduate students with education as a major or minor. 7:00-8:00.
- Individual Studies. I, II. Clarson
The department makes available to undergraduate students opportunity to work individually through Honors (2) and Special Problems

(1 to 2), and to graduate students through Research (2) and Thesis (4). (Hours and credit to be arranged.)

ENGLISH

Professor Tucker.

Associate Professors Gillmor, Hamilton.

Assistant Professor Morgan.

- 1a, 1b. Freshman Composition. (3) I, II. Staff
 The study and practice of good writing, with emphasis upon exposition. Short and long themes, collateral reading, conferences. Required of all freshmen. Classes will meet 1½ hours daily, Monday through Friday. Students registering for 1a or 1b may register for only one other course. 1a, Section A: 8:10-9:40; Section B: 10:00-11:30. 1b, Section A: 8:10-9:40; Section B: 10:00-11:30.
- 24as-24bs. American Literature. (2-2) I-II. Gillmor-Morgan
 24as: From the beginnings to the Civil War.
 24bs: From the Civil War to the present.
 Wide reading of both prose and poetry. 24as is not prerequisite to 24bs. Not open to freshmen or, without special permission, to seniors. 10:30-11:30.
- 124s. Literature of the Southwest. (2) I. G. Gillmor
 The last frontier in fact and fiction; the accounts of early travelers, the stock western, the true regional novel, poetry. Useful bibliography. 7:00-8:00.
- 127as. Wordsworth and the Romantic Revival. (2) II. G. Hamilton
 Lyrics and longer poems of Wordsworth and the social background of the revolutionary period. 7:00-8:00.
- 129as. Tennyson. (2) II. G. Morgan
 A generous selection of the work of the principal English poet of the Age of Victoria. 8:10-9:10.
- 131as. Shakespeare. (2) I. G. Tucker
 The life and times of Shakespeare. Rapid reading of several representative plays. 8:10-9:10.
- 134s. Modern Drama. (2) I. G. Tucker
 The chief dramatic writers of the last half century. 10:30-11:30.
- 137s. Chaucer. (2) II. G. Hamilton
 Selections from the Canterbury Tales and minor poems. Required of all graduate English majors. 9:20-10:20.
- 141s. Periodical and Pamphlet Literature of the
 Eighteenth Century. (2) I. G. Tucker
 Selections of the prose works of Swift, Addison, Steele, Johnson, and others; the beginnings of journalism. 11:40-12:40.
- 185s. Types of Folklore. (2) I. G. Gillmor
 A study of types including tales, legends, riddles, proverbs, folk songs, children's games, and rhymes. Training in the method of collection and analysis of types. Prerequisites, 6 units of literature and 6 units of selected social science. 9:20-10:20.
- 238s. Old English. (2) II. Hamilton
 The language, with reading of representative prose and poetry. Required of all graduate English majors. 10:30-11:30.
- 240s. Studies in the Seventeenth Century. (2) II. Morgan
 A general view of the period, exclusive of Milton, with selected studies in the central figures, Donne, Jonson, Herrick, Herbert and religious lyricists, the Cavaliers, Dryden; and the prose of Bacon, Walton, Sir Thomas Browne, and Dryden. 11:40-12:40.

FRENCH

Professor Tremblay.
Associate Professor Roy.
Instructor Fioroni.

- 1a, 1b. Elementary French. (4) I. Roy-Tremblay
Grammar, composition, oral practice, and reading. Credit toward graduation in 1a is allowed only after completion of 1b. Classes meet 2 hours daily. 1a: 8:10-9:10 and 10:30-11:30 (R). 1b: 7:00-8:00 and 9:20-10:20 (T).
- 3a-3b. Advanced French. (4-4) I-II. Tremblay-Fioroni
Review grammar, composition, conversation, reading. Prerequisite, 1a-1b or 2 years of high-school French. The class meets 2 hours daily. 8:10-9:10 and 11:40-12:40.
- 125s. Masterpieces of French Literature in Translation. (2) I. G. Roy
A study of the main authors of French literature from Rabelais through the nineteenth century in English translations. No knowledge of French is required for this course. This course does not carry credit toward a French major or minor. Open to juniors, seniors, and graduate students. Prerequisite, Humanities or Survey of English Literature. 11:40-12:40.

GERMAN

Professor Kurath (Head of the Department).
Assistant Professor Schmitz.
Instructor Beck.

- 1as-1bs. First-Year German. (4-4) I-II. Schmitz-Beck
Grammar, pronunciation, class and collateral reading. Credit toward graduation in 1a is allowed only after completion of 1b. Classes meet 2 hours daily. German 1bs will be given both terms. 1as: 9:20-10:20 and 11:40-12:40 (S). 1bs, Both Terms: 8:10-9:10 and 10:30-11:30 (B-S).
- 3as-3bs. Second-Year German. (4-4) I-II. Kurath
Grammar review, simple composition and conversation, class and collateral reading of modern literary texts. The class meets 2 hours daily. 9:20-10:20 and 11:40-12:40.
- 5a-5b. Review Grammar and Composition. (2) I-II. Schmitz
Advanced grammar review. Training in writing and speaking simple German accurately. First Term: 8:10-9:10; Second Term: 7:00-8:00.
- 8as. Readings in Scientific German. (2) I, Beck
7:00-8:00.
- 108a. Training in Reading Scientific German Texts. (2) I. Staff
Individual reading programs in the student's field of specialization. Weekly conferences. Open only to students majoring in German upon consent of the instructor. Prerequisite, 3b. (Conference hours to be arranged.)

HISTORY AND POLITICAL SCIENCE

Professors Hubbard (Head of the Department), Houghton.
Visiting Professor Norton.
Associate Professor Ewing.

- 1as-1bs. History of the United States. (2-2) I-II. Ewing
A general survey of political and social development from the beginning to the Civil War; the western movement; the development of western democracy. 7:00-8:00.

- 11s. Development of the English Nation. (2) II. Hubbard
Influence of continental relations and the church on the development of England; development of social and political institutions to the end of the Tudor period. 7:00-8:00.
- 106as. France Under the Bourbons. (2) I. G. Norton
The growth of the French nation through medieval and early modern times. Emphasis on the evolution of the Bourbon monarchy in France, the ascendancy of France in European affairs, and the approach of the Revolution. 9:20-10:20.
- 106bs. Modern France. (2) I. G. Norton
The Revolutionary and Napoleonic heritage in France and in Europe. The successive French regimes since 1815 with divergent authoritarian and democratic ideologies. Social, economic, and cultural developments, and the role of France as a European and world power in the nineteenth and twentieth centuries. 10:30-11:30.
- 110s. Roman History. (2) II. G. Hubbard
To the fall of the Empire. The organization of the Republic and the Empire; the social and economic development of the people; the relation of Rome to the Mediterranean world. 9:20-10:20.
- 115bs. Europe Since 1914. (2) I. G. Norton
Russia under the revolutionary government; the emergence of dictatorships. 7:00-8:00.
- 123as. The United States and Latin America. (2) II. G. Ewing
Political and economic relationships with Latin America since 1823. Emphasis upon the Monroe Doctrine. Pan-Americanism, dictatorships, and attitudes toward recent European interests in the Western Hemisphere. 10:30-11:30.
- 128s. The Southwest Under Spain and Mexico. (2) I. G. Ewing
Exploration, conquest, and the institutional development from 1531 to 1848. Emphasis upon the mission, presidio, and international rivalry. 10:30-11:30.
- 137s. Studies in the Far East. (2) II. G. Hubbard
Survey of the history of China and Japan; the battle for western concessions; the development of imperialism. 10:30-11:30.
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- 100s. National and State Constitutions. (2) I, II. Ewing
Devised to meet the requirements for a teacher's certificate. 8:10-9:10.
- 140s. Postwar World Problems. (2) I. G. Houghton
Survey of the domestic and international problems which challenge peoples, governments, and the United Nations system. Special attention to our position. 8:10-9:10.
- 155s. American Foreign Policy. (2) I. G. Houghton
Historical survey of basic elements in the development of our foreign policies and practices. Recent and current trends. 10:30-11:30.

HOME ECONOMICS

Professors Johnson (Head of the Department), Thompson.
Instructor Fees.

1. Selection and Preparation of Foods. (3) I. Fees
Principles of cookery. Analysis of recipes and standard products. Laboratory fee, \$6. 8:10-9:10 M.W.F. (Lab. 9:20-12:20 daily.)
2. Introduction to Nutrition. (2) I. Thompson
The nutritional requirements of the college student for optimal health and how they can be met through dietary planning. Open to men and women. 7:00-8:00.

- 137s. The Family. (2) II. G. Johnson
An analysis of the problems of the modern family. For men and women. 9:20-10:20.
156. Housing Problems. (2) II. Johnson
Consideration of the housing problems of (1) the family (2) the community. 10:20-11:30.

HOME ECONOMICS EDUCATION

(See Agricultural and Home Economics Education.)

LIBRARY COURSES

(See Education.)

MATHEMATICS

Professor Graesser (Head of the Department).
Assistant Professor Webb.
Instructor J. F. Foster.
Assistants Clutterham, Haupt, Oxley.

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10. Solid Geometry. (3) I. Webb
Not open to those who presented solid geometry for entrance. Prerequisite, 1 entrance credit in plane geometry. 8:10-9:40.
- 11s. Intermediate Algebra. (2) I, II. Oxley-Foster
The third semester of high-school algebra. Prerequisite, 1 entrance credit in algebra. Students offering more than 1 entrance credit in algebra receive no college credit. Those offering 1 entrance credit in algebra receive either $\frac{1}{2}$ entrance credit or 2 units of college credit but not both. This course may be followed by 20 but may not be taken concurrently. 10:30-11:30.
20. College Algebra. (3) I, II. Webb-Clutterham
Prescribed for all engineering courses. Prerequisite, $1\frac{1}{2}$ entrance credits in algebra. 10:30-12:00.
24. Plane Trigonometry. (2) I, II. Oxley-Clutterham
Prescribed for all engineering courses. Prerequisite, $1\frac{1}{2}$ entrance credits in algebra and 1 entrance credit in geometry. 7:00-8:00.
25. Analytic Geometry. (4) II. Haupt
Prescribed for all engineering courses. Prerequisite, 1 entrance credit in geometry, 20 or 22, and 24. The class meets 2 hours daily. 7:00-8:00 and 10:30-11:30.
- 69a-69b. Mathematics of Commerce. (2-2) I-II. Oxley-Haupt
Prescribed in the College of Business and Public Administration. Prerequisite, 1 entrance credit in algebra. 9:20-10:20.
81. Slide Rule. (1) II. Clutterham
Application of approved methods of calculating, including the use of the slide rule. Prerequisites, 20 or 22, and concurrent registration in 24. 9:20-10:20 M.W.F.
- 95a-95b. Calculus. (4-4) I-II. Graesser-Foster
Fundamental principles of the calculus with their applications to geometry, physics, and mechanics. Prerequisite, 25. The class meets 2 hours daily. 8:10-9:10 and 11:40-12:40.

MUSIC

Assistant Professors Buchhauser, Reece.
Instructors Hollenbeck, Kalis.

- 1a-1b. Music Appreciation. (2-2) I-II. Buchhauser
For students with no technical knowledge of music. The music of the various periods is studied in relationship to other arts; through aural training the attitude of a critical listener is created. Music 1a will be given both terms. 1a, First Term: 10:30-11:30; Second Term: 9:20-10:20. 1b: 10:30-11:30.
- 2a-2b. Fundamentals of Music. (2-2) I-II. Buchhauser
Rudiments of theory and rhythm taught in relation to the piano keyboard. Open only to nonmusic majors for credit. Prerequisite for 2b is the ability to read music. No prerequisite for 2a. 2b will be given both terms. 2a: 7:00-8:00. 2b, First Term: 9:20-10:20; Second Term: 7:00-8:00.
24. String Instrument Class. (1) I, II. Kalis
Class instruction on the string instruments. Fundamental playing technique on violin, viola, cello, and stringed bass; methods and materials for class instruction. No prerequisite. Fee of \$10 covers the use of instruments. Class meets daily. (Time to be arranged.)
- Piano. Individual Instruction. (1 to 4) I, II. Kalis
(Hours and credit to be arranged.)
- Voice. Individual Instruction. I, II. Reece-Hollenbeck
(Hours and credit to be arranged.)

PHILOSOPHY AND PSYCHOLOGY

Professor Simley (Acting Head of the Department).
Visiting Professor Kauffman.
Assistant Professor C. F. Wallraff.

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- 14s. Religions. (2) II. Wallraff
From mana, taboo, and magic to the doctrinal and ethical religions. Relations to science, philosophy, and morality. 9:20-10:20.
120. Problems and Principles of Conduct (Ethics).
(2) II. G. Wallraff
Meaning of moral conduct, responsibility, and freedom. A criticism of historic philosophies of life. 7:00-8:00.
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- 1a-1b. Elementary Psychology. (3-3) I-II. Simley-Kauffman
Fundamental principles of human behavior. Applications of principles are stressed. 10:00-11:30.
- 15s. Social Psychology. (2) II. Kauffman
Foundations of social behavior. Personality and its social basis. Crowds, suggestion, propaganda, motivation, competition, imitation, war. Prerequisites, 1a and 1b or Education 151. 8:10-9:10.
- 113s. Developmental Psychology—The Child. (2) I. G. Simley
The principal changes in human beings from birth to adolescence. Physical, mental, emotional, and social aspects of development will be studied. Prerequisites, 1a and 1b or Education 151. 8:10-9:10.
- 116s. Personality. (2) II. G. Wallraff
Analysis and measurement of personal traits. Conditions affecting personal development. Problems of adjustment. Prerequisites, 1a and 1b or Education 150 or 151. 10:30-11:30.

PHYSICAL AND HEALTH EDUCATION FOR WOMEN

Instructors Rose, Thorsen.
Visiting Instructor Klann.

- 82s. Play and Playgrounds. (2) I. Rose
Theories of play; methods of organization, administration, and management of playgrounds; discussion of equipment; study of methods of producing games or play leaders. 7:00-8:00.
88. Camp Leadership. (2) I. Thorsen
The theories and principles of a well-rounded camp program counselor training, program planning, camp health and safety, outings, and the activity schedule. Fee, \$3. 11:40-12:40.
- 110s. Swimming. (2) I, II. Thorsen-Klann
Students registered for swimming must also be registered in some other University course. Students will register for one of the following divisions upon recommendation of the instructor. Physician's certificate required. Section limited to 30. Locker fee, \$2. 8:10-9:10
A. Elementary swimming
B. Intermediate swimming
C. Advanced swimming and diving
- 112s. Folk and Character Dancing. (2) II. Klann
Study and practice of the folk dances of various countries, folk history, costumes, programs, and festivals; programs suitable for school purposes. Locker fee, \$2. 7:00-8:00.
- 120s. Archery and Minor Sports. (2) I. Thorsen
Instruction in the fundamental techniques of archery. Target shooting and the making of simple equipment. Fundamentals in techniques of minor sports. Locker fee, \$2; breakage deposit, \$5. 9:20-10:20
- 123s. Physical Education for Elementary- and Junior-
High Schools. (2) I. Rose
The theory and practice of activities which may be included in the physical and health education program of the elementary- and junior-high schools. A study of the basic elements of the program and program planning, using the *Teaching Guide in Health and Physical Education* as published by the State Department of Education, 1946. Locker fee, \$2. 10:30-11:30.
- 173s. Recreational Games. (2) I. Rose
Practice and theory of coaching minor sports and modified activities such as table tennis, shuffleboard, badminton, aerial darts, volleyball, and pool. Class limited to 30. Open to both men and women. Locker fee, \$2. 8:10-9:10.
- 181s. Social and Public Recreation. (2) I, II. Henderson-Klann
(For description see Phys. Educ. for Men, 181s.) First Term: 9:20-10:20; Second Term: 10:30-11:30.

PHYSICAL EDUCATION FOR MEN

Associate Professor Enke.
Instructor Ott.
Visiting Instructor Henderson.

62. Lifesaving. (1) II. Ott
Practical application of lifesaving techniques and water safety precautions recommended by the American Red Cross. Qualified students are issued a Senior Lifesaving Certificate on completion of the course. 9:20-10:20 M.T.Th.
70. First Aid. (2) II. Ott
The course covers the emergency treatment administered for excessive bleeding, fracture, burns, asphyxiation, poisoning, shock, and the transportation of an injured person. The Red Cross First Aid Certificate is issued to qualified students who complete the course. 10:30-11:30.
- 181s. Social and Public Recreation. (2) I, II. Henderson-Klann
Emphasis placed on social recreation; modern western square dancing (including calling); organizing and teaching games and other types of activities suitable for use in home, school, or community recreation

programs; promoting and administering public recreation. Open to both men and women. Fee, \$1. First Term: 9:20-10:20; Second Term: 10:30-11:30.

- 190s. Athletic Training. (2) II. Ott
Covers diagnosis, treatment, and the practical application of training techniques in the use of electrotherapy, hydrotherapy, taping, bandaging, and massage in the prevention and treatment of athletic injuries. Prerequisites, Zoology 4, 8, and 57. Four lectures and one laboratory per week. Laboratory fee, \$2. 7:00-8:00 M.T.W.Th. (Lab, 7:00-9:00 F.)
- 192s. Health Education. (2) I. G. Henderson
Objectives of the school health program; integration of health service, health supervision, and health instruction; health demonstrations; health examinations; rural school health; relation of school to outside health agencies; comparative study of health programs; control of contagious diseases. Open to men and women. 10:30-11:30.
- 194s. Athletic Coaching—Football. (2) I. Enke
Theory of coaching, strategy and tactics. Study of the different offenses and defenses. Ethics. Sportsmanship and fundamentals are emphasized. 11:40-12:40.
- 195s. Athletic Coaching—Basketball. (2) I. Enke
An intensive study of rules, officiating, history, equipment, fundamentals, offense, defense, practice tournament, play, and organization. 9:20-10:20.
- (Educ.) Grade- and High-School Physical Education Programs. (2) I. G. Henderson
(For description see Education 107s.)

PHYSICS

Professor Warner (Head of the Department).
Instructor Davis.

- 1a-1b. Engineering Physics. (5-5) I-II. Warner-Davis
Prerequisites for 1a: elementary physics, Mathematics 20, 24, and enrollment in Mathematics 95a. Prerequisites for 1b. 1a and concurrent registration in Mathematics 95b. Fee, \$4 each term. 7:00-8:30. (Lab. 8:40-11:30.) Class limited to 20.

SOCIOLOGY

Professor Conrad (Head of the Department).
Assistant Bogard.

81. Introduction to Sociology. (3) I, II. Conrad-Bogard
The nature, background, and problems of contemporary society. Elements of social theory. Prerequisite to upper-division courses. Not open to freshmen. First Term: Section A. 7:00-8:30 (C); Section B. 10:00-11:30 (B). Second Term: 7:00-8:30.
- 182s. Social Pathology. (2) I. G. Conrad
The nature and causes of social pathology; the disorganization of individual families, groups, communities, etc. 9:20-10:20.

SPANISH

Professor Brooks (Head of the Department).
Assistant Professor Bork.
Instructor Hoffman.

- 1a-1b. Elementary Spanish. (4-4) I-II. Bork
A beginning course that includes grammar essentials and translation; emphasizing especially accurate pronunciation and oral work. Credit

toward graduation in 1a is allowed only after completion of 1b. The class meets 2 hours daily. 7:00-8:00 and 9:20-10:20.

- 3a-3b. Intermediate Spanish. (4-4) I-II. Brooks-Huffman
Introduction to systematic syntax accompanied by reading of modern books. Prerequisite, 1b or 2 years of high-school Spanish. The class meets 2 hours daily. 9:20-10:20 and 11:40-12:40.
- 13a-13b. Elementary Conversation. (2-2) I-II. Brooks-Burk
Prerequisite, 1 year of college Spanish or its equivalent. First Term: 8:10-9:10. Second Term: 10:30-11:30.
- 14a-14b. Elementary Composition. (2-2) I-II. Bork-Huffman
An intensive course in current idiomatic Spanish designed to develop proficiency in the practical use of the language. Translations into Spanish, review of grammar, and elements of commercial correspondence. Prerequisite, 3b or 4 years of high-school Spanish. First Term: 11:30-11:30. Second Term: 8:10-9:10.

SPEECH

Associate Professors Lynn, Mattingly.
Visiting Instructor Little.

- 2as-2bs. Principles of Speech. (2-2) I-II. Staff
The principles of effective speaking and their application in a variety of occasions, both public and private. This course affords training in thinking, emotional control, and the utilization of body, voice, and language in developing basic speech skills of the grosser sort. Assignments adapted to individual needs. Recording fee, \$1.50 each term.
First Term, Section A: 7:00-8:00 (Lynn)
Section B: 9:20-10:20 (Mattingly)
Section C: 10:30-11:30 (Lynn)
Second Term, Section A: 7:00-8:00 (Little)
Section B: 10:30-11:30 (Lynn)
5. Voice and Diction. (2) I, II. Staff
The cultivation of a pleasant speaking voice and the bettering of vocal conditions, in range and quality particularly. Study of vocal faults, attention to careless speech, understanding of faults of others, ear training. Word study and vocabulary building. Recording fee, \$1.50 (optional for those concurrently registered for 2a).
First Term, Section A: 7:00-8:00 (Mattingly)
Section B: 9:20-10:20 (Lynn)
Second Term, Section A: 7:00-8:00 (Lynn)
Section B: 8:10-9:10 (Little)
- 115s. Extemporaneous and Impromptu Speaking. (2) II. Little
Regular practice and training in both types of speaking. 10:30-11:30.
- 136s. Oral Reading and Interpretation. (2) I. Mattingly
The principles and practice of oral reading and the interpretation of various forms and moods of literature. Affords training in voice improvement, cultivation of imagination and discernment, emotional development and control, and effective action. Fee, \$1.50, optional by departmental decision for students who have had 2a-2b at the University. 10:30-11:30.
- 172s. How to Improve the English Speech of Bilingual Children. (2) II. Lynn
Analysis and methods of correcting dialectal forms used by children of foreign-language background, with emphasis on Spanish-American usage. Especially designed to aid elementary- and high-school teachers in working with bilingual children. Prerequisite, Speech 2a or teaching experience. 9:20-10:20.
- 182as-182bs. Advanced Problems in Speech. (2-2) I-II. G. Mattingly-Lynn
Techniques and methods of research in speech; library, laboratory, or independent research on an individual problem; critical evaluations. (Conference hours to be arranged.)

ZOOLOGY

Associate Professor Brown.
Instructor Reed.

4. General Zoology. (4) I. Brown
An introduction to the structure, physiology, development and behavior of animals. Together with 8, 44, or 45, it constitutes a year's course. Laboratory fee, \$5. 8:10-9:10. (Lab. 9:20-12:20.)
45. Comparative Anatomy. (4) II. Reed
Morphology of representative chordates. Required of all zoology majors. Prerequisite, 4. Laboratory fee, \$6. 8:10-9:10. (Lab. 9:20-12:20.)
57. Elementary Physiology. (4) I. Micklewright
Physiological processes of the human body. Primarily for students in physical education, prenursing students, and the general undergraduate. Prerequisite, 8 or 45. Fee, \$5. Enrollment limited to 18. 7:00-8:30. (Lab. 8:40-11:40 M.W.F.)
111. Evolution. (2) II. G. Reed
History, modern theories, factors, and mechanism of organic evolution and its influences on modern thought. Prerequisite, 4 or Botany 1. 7:00-8:00.
116. Heredity. (2) I. G. Brown
The principles and problems of inheritance in plants and animals, including man. Prerequisite, 4 or Botany 1. 7:00-8:00.
- Individual Studies. I, II. Brown-Reed
The department makes available to undergraduate students opportunity to work individually through Independent Study, and Special Problems (2-4), fee, \$1 per unit; and to graduate students through Research (2-4), fee, \$1 per unit. (Hours and credit to be arranged.)