ANNOUNCEMENT
FOR THE
SUMMER SESSION
1949

First Term
June 6-July 9

Second Term
July 11-August 13
University of Arizona Record

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April, 1949

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PUBLISHED BY
University of Arizona
TUCSON, ARIZONA
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YOUNG, LYLE M., M.A.................................Music
    Assistant Professor of Music Education
UNIVERSITY OF ARIZONA
SUMMER SESSION, 1949

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

PRESESSION

May 25 to June 4
Modern Tendencies in Music Education
(A curriculum laboratory)

REGULAR SESSION

The regular 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 per 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 13, for the First Term, or after Monday, July 18, for the Second Term.

The calendar follows:

June 5, Sunday, 8 a.m. Residence halls open
June 6, Monday Registration for First Term
June 7, Tuesday Classwork begins
July 4, Monday Independence Day; a holiday
July 8, Friday Examinations for the First Term begin
July 9, Saturday First Term ends
July 11, Monday Registration for the Second Term
July 12, Tuesday Classwork begins
Aug. 12, Friday Examinations for the Second Term begin
Aug. 13, 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 require-
ments of the various states and accredited 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 profes-
sional courses.
The Summer Session courses will be offered through the follow-
ing departments and fields:

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<th>Mathematics</th>
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<td>Humanities</td>
<td>Zoology</td>
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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 his-
tory 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 and Yuma Hall will be used for women and
Cochise 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 linens is cared for by
the University. Students are advised to provide a warm blanket for
the cooler nights.

Women students.—Gila Hall and Yuma Hall are the newest of the
four women’s residence halls. They represent the latest in construc-
tion 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 halls unless ex-
ception 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.—Cochise Hall is modern in every respect.

Married students.—Information concerning housing facilities for married couples may be secured through the Department of Residence. 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 women, respectively.

Residence-hall reservations.—Accompanying the Registrar’s notifications 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 reservation 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 Director of Admissions a complete, official transcript of high-school credits, with a statement of graduation. Students coming from other universities and colleges must present to the Director of Admissions 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 been 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 Director of Admissions 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.

EXPENSES AND FEES

Tuition.—The tuition fee is $6.50 per semester hour of credit for either 5-week term. There is no nonresident fee for out-of-state students. 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 $3.25 per unit. For students registering for 6 or fewer units of credit, the maximum cost for both credit and audited courses is $39. 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 1/2-hour lessons a week for 5 weeks the fee is $20, with 1 unit of credit. For four 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 Cochise 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 and Yuma Hall, the women's residence halls, 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 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.

<table>
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<th>SUMMARY OF FEES</th>
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<tr>
<td>Tuition (either 5-week term, per unit)</td>
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<tr>
<td>Tuition for auditors (either 5-week term)</td>
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<tr>
<td>Tuition (course audited in addition to credit courses, see above) per unit</td>
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<tr>
<td>Tuition (registration for thesis only)</td>
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<td>Late registration fee</td>
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<td>Piano, organ, and voice (individual instruction) (see statement above)</td>
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<td>Courses in physical education (except theory)</td>
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<td>(Returnable if there are no charges)</td>
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<tr>
<td>Laboratory and materials (see course announcements)</td>
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<td>Field trips (based on mileage)</td>
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<tr>
<td>(See statement above)</td>
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<tr>
<td>Room in residence hall (term in advance)</td>
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<td>Room deposit (Returnable if there are no charges)</td>
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<tr>
<td>Recreation</td>
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<td>Library fee</td>
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<td>Change of program fee</td>
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</tbody>
</table>
As the University is unable to extend credit, it is essential that all students have sufficient funds on entering to defray their immediate expenses.

Return of fees.—Students withdrawing from the University during the first week of either term (June 6 to June 13, inclusive, and July 11 to July 18, 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 4.

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 6. The student must complete the work before the beginning of the Summer Session of 1950. Work done under projected registration will carry the course number 300s 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 specifically provided for individual research in their respective fields. Individual research may be carried on in any department authorized to offer such work, by eligible students who secure the approval of the head of the department and the instructor.

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. Residence during one summer session of 10 weeks is equivalent to a semester of residence.

Admission.—Admission to the Graduate College is open to persons who hold the bachelor's degree from the University of Arizona or from a college or university approved by the University of Arizona. Admission in any case is granted only after approval of the candidate's previous academic record by the Director of Admissions, the Dean of the Graduate College, and the heads of the two departments in which the candidate proposes to do the greater portion of his work. An additional number of undergraduate courses may be required when previous work has not approximated the general requirements for the corresponding bachelor's degree at the University of Arizona or the special requirements for the field in which the candidate proposes to specialize; and prospective graduate students are urged to determine from the Dean their status in this regard. Students whose preparation is such that they are unable temporarily to elect any
work for graduate credit must register in the appropriate under-
graduate college.

Admission must be arranged prior to the date of registration. Ap-
plication forms may be obtained from the Dean of the Graduate
College. Applicants from other institutions must submit complete
transcripts of all undergraduate work done and degrees received.
Transcripts should be sent by the institutions involved directly to
the Director of Admissions, University of Arizona. When the appli-
cant's previous academic record is approved, the applicant will re-
ceive an official certificate of admission from the Director of Admis-
sions. Inquiries concerning admissions should be directed to the Dean
of the Graduate College. Early application is advised; a period of 4
weeks should be allowed for completion of papers.

General prerequisites for graduate credit.—Graduate credit may
be achieved only when the previous work of the student has included
a minimum of 12 semester hours basic to the subject of the course
concerned. The minimum requirement in education, however, is 15
units, 3 of which may be in general psychology; and that in English
is 18 units including Freshman Composition.

Graduate credit for seniors.—A student of senior standing in the
University of Arizona who is within 15 units of completing all re-
quirements for graduation may register for graduate work if recom-
ended by the head of the department and approved by the Dean
of the Graduate College. For such registration a petition for grad-
uate credit in excess of senior requirements must be filed with the
Dean at the time of registration, or within 10 days thereafter, for
the action of the Graduate Study Committee. This petition must
be approved by the instructor in charge of the course, the student’s
major professor, and the student’s Dean.

Graduate credit courses.—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.

Transfer of graduate credit.—The University of Arizona accepts
graduate credit by transfer on a provisional basis only; courses in
which such credit is offered must have been completed in institutions
accredited for graduate work. Not more than 7 transferred semester
hours may be offered toward the master’s degree and not more than
30 toward the doctor’s degree.

Advanced degrees.—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 Grad-uate 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 1949 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 9. Written examina-
tions, 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 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 in this state must, in addition to existing requirements, take a course in the provisions and principals 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.

Presession course.—Particular attention is called to a presession course, Modern Tendencies in Music Education. This will be conducted as a curriculum laboratory from May 25 to June 4.

For teachers of agriculture.—As usual, intensive courses for teachers of agriculture will be offered from June 6 to June 22.

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 bene-
fit 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

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 resort 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. Several campus dances are given during the summer.
COURSES OFFERED*  
IN THE  
1949 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)  
Cline-Schafer

Observation and participation in the activities of a teacher of agriculture under the direction of a supervising teacher for a period of 4 weeks. Readings, conferences, and written reports. Prerequisite, Ed. 109. (Hours to be arranged.)

211. Investigations and Service Studies in Agricultural Education.  
(2)  
Cline

Types of studies and research conducted in this field and evaluation of the findings. Selecting a problem and developing procedures to use in the study. Prerequisite, six units of graduate study in the student's major field. (June 6 to June 22. Hours to be arranged.)

HOME ECONOMICS EDUCATION

202s. Creative Procedures in Teaching Home Economics.  
(2)  
Jones

Planning new and evaluating existing procedures and learning experiences to be used in teaching the areas of Home Economics that constitute a complete program. Special emphasis will be placed on developing procedures for specific purposes. Prerequisite, Education 139h. 8:10-9:10.

214s. Procedures in Curriculum Planning.  
(2)  
Jones

A study of each of the steps used in preparing a study guide for the high-school Home Economics curriculum. The philosophy underlying the preparation and use of a study guide will parallel the study of the steps. Class will prepare one or more aspects of the program for the state study guide. Prerequisite, Ed. 139h. 10:30-11:30.

AGRICULTURAL ECONOMICS

Professor Barr (Head of the Department).

200s. Current Problems in Agricultural Economics.  
(2)  
Barr

Study of the economic problems associated with the entry into the farming business; land appraisal, financing through long-term and short-term credit and farm and ranch leasing arrangements. Prerequisite, the bachelor's degree in agriculture. (June 6 to June 22.) Includes a two-day field trip and other hours to be arranged. Fee, $3.

*Unless otherwise specified, all classes meet for 1 clock hour daily from Monday to Friday, inclusive. The Arabic numerals in parenthesis 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.
AGRICULTURAL ENGINEERING

Assistant Professor Schafer.
Instructor Holekamp.

1s. Agricultural Shop Practice. (2) I. Schafer

Mechanical drawing, carpentry, painting, glazing, tool conditioning, farm electricity, and arc and gas welding. Fee, $3. (June 22 to July 9. Hours to be arranged.)

112s. Problems in Farm Power and Machinery. (2) I. G. Holekamp-Schafer

Efficient use of farm machinery with special reference to selection of proper equipment, efficient operation, and maintenance. Principles and trends in the designs of farm tractors and field machinery. Field and laboratory work in operating, adjusting, and maintaining various tractors and pieces of field machinery and in trouble shooting tractor ignition and fuel systems. Fee, $4. (June 6 to June 22, hours to be arranged.)

ANTHROPOLOGY

Assistant Professor Kraus.

1a-1b. Anthropology. (3-3) I-II. Kraus

A survey designed to give the student a general knowledge of the field of anthropology.
1a. A consideration of man as an organic being and a preview of Old and New World archaeology.
1b. Living groups, their distribution, arts, sociology, religion, and language.
1a is not prerequisite to 1b. 8:10-9:40.

20a-20b. World Ethnography. (3-3) I-II. Kraus

The distribution and racial and cultural aspects of Old World peoples. Prerequisite, 1a-1b. 20a is not prerequisite to 20b. 10:00-11:30.

ART

Associate Professor Scott.
Instructors Quinn, Richards.

3a-3b. Art Fundamentals. (2-2) I-II. Quinn

Fundamental principles underlying all art. Practical training in water color. Laboratory fee, $1 each semester. 1st Term: 9:50-12:50; 2nd Term: 9:20-12:20.

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.

12a-12b. Drawing. (2-2) I-II. Quinn

Beginning drawing from casts and still life; charcoal and pencil techniques. Laboratory fee, $1 each semester. 8:10-11:10.

102b. Still Life and Landscape in Color. (2) I. Scott

Beginning work in oil painting including still life and landscape. Prerequisites: 4, 12a-12b, 15. Laboratory fee, $1 each semester. 9:50-12:50.

117b. History of Modern Art. (3) I. Scott

Analytical study of the modern schools of art and their origins and influences. 117a is not a prerequisite to 117b. 8:10-9:40.

176. Art in the Elementary School. (2) I. G. Richards

Suitable activities and experiences in art for the grades, and the modern methods of handling them with emphasis upon the use of art for the enrichment of other subjects. Prerequisites, 3a, 7a, 7b, and, for graduate credit, teaching experience.
This course may be substituted for 3b in the curriculum for elementary-school teachers. 10:30-11:30 M.W.F. (Lab. to be arranged.)
ANNOUNCEMENT FOR THE SUMMER SESSION

ASTRONOMY

Assistant Professor Wood.

1a-1b. General Astronomy. (4-4) I-II. Wood

1a, the solar system; 1b, the stars, nebulae, and "island universes." Observations with the telescope and other types of astronomical instruments. Fee. $1 each term. Prerequisites, 1 entrance unit in algebra and 1 unit in geometry. 8:10-9:40. (Lab. 1:40-4:30 T,Th.; telescopic observation and laboratory 8:00-10:30 M.)

BACTERIOLOGY

Assistant Professor Evenson.

107. General Bacteriology. (4) I. Evenson

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 25. 8:10-9:10. (Lab. 9:20-12:20.)

Instructor Peebles.

BOTANY

1. General Botany. (4) I. Peebles

The elements of botany with emphasis upon the structure, function, and development of the plant. Laboratory fee, $5. 8:10-9:10. (Lab. 9:20-12:20.)

3s. Plants of the Tucson Area. (2) I. Peebles

A course in the identification of plants of the Tucson area. Consideration will be given to principles of plant classification. Travel and laboratory fee, $5. 7:00-8:00. (Three afternoon field trips will be arranged.)

BUSINESS ADMINISTRATION

Professors Howard (Head of the Department), Herrick, Wood.
Associate Professor Strickler.
Assistant Professor Bogart.
Lecturer Parnell.
Instructor Hutchins.
Assistants Chalke, Myers.

6. Introduction to Business. (3) II. Hutchins

A survey of the fundamental characteristics and functions of modern business. Not open to those who have had 171a-171b. 8:10-9:40.

11. Economic Geography. (2) I. Herrick

The world's resources, their distribution, use, and conservation. The struggle for raw materials. Climate and cultivation. Fee, $1. 7:00-8:00.

31a-31b. Principles of Accounting. (4-4) I-II. Myers

A beginning course in basic principles of accounting, including sole proprietorships, partnerships and corporations at retail, wholesale, and manufacturing levels. Five lectures and three 3-hour laboratory periods per week. Fee, $1 each term. 8:10-9:40. (Lab. to be arranged.)

120a-120b. Business Law. (3-3) I-II. G. Parnell-Strickler

The fundamental principles of the law of contracts, agency, negotiable instruments, sales, partnership, and corporations. Not open to students who have had 6 or more units of law. Prerequisite, Economics 1b or 2b or equivalent. 7:00-8:30.

131a-131b. Intermediate Accounting. (3-3) I-II. Howard-Bogart

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; analysis and interpretation of financial statements. Prerequisite, 31b. 10:00-11:30.
155. Statistical Methods in Business. (4) I. G. Herrick
Collection, tabulation, and analysis of statistical material; graphic presentation of numerical data. Five lectures and three 3-hour laboratory periods per week. Prerequisite, Mathematics 69a or 20 or 22. 8:10-9:40. (Lab. to be arranged.)

161. Marketing Principles and Problems. (3) II. G. Wood
Functions, organizations, and methods involved in the marketing process; solution of marketing problems of various types of business concerns. Prerequisite, Economics 1b or 2b. 10:00-11:30.

173s. Real Estate. (2) II. G. Strickler
Title and transfer of title. Determination of value. Problems of appraisal, liens, taxation, and zoning of real estate. Prerequisite, Economics 1b or 2b. 9:20-10:20.

CHEMISTRY

Professors Anderson (Head of the Department), Roberts. Associate Professor Rhodes. Assistant Professors Seeley, Sherwood.

1a-1b. Introductory General Chemistry. (4-4) I-II. Rhodes
Fundamental principles of chemistry. Properties of elements and compounds. For students without credit in high-school chemistry. Laboratory fee, $6; breakage deposit, $2.50. 8:10-9:40. (Lab. 1:40-4:30 T.Th.; 9:50-12:40 W.)

2a-2b. General Chemistry. (4-4) I-II. Roberts-Sherwood
Fundamental principles of chemistry. Properties of elements and compounds. For students who have had credit in high-school chemistry. Laboratory fee, $6; breakage deposit, $2.50. 8:10-9:40. (Lab. 1:40-4:30 M.W.F.)

103a-103b. General Organic Chemistry.
(4-4) I-II. G. Anderson-Seeley
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.)

CIVIL ENGINEERING

123. Structures 1. (3) I. Park
Graphic statics and the design of simple structures for static loads only. Prerequisite, 114R. Drafting room fee, $1. 8:10-9:10 M. through F.; 1:40-4:30 W.

126. Structures 2. (3) II. Park
Continuation of 123, including joint layout, eccentric connections, elementary structural theory for moving loads, unit influence lines, and simple criteria for moving loads. Includes problems in the design of simple trusses, plate girders, and reinforced concrete. Prerequisite, 123. Drafting room fee, $1. 8:10-9:10 M.W.F. (Lab. 9:20-12:20 M. through F.; 1:40-4:30 W.)

ECONOMICS

Professor Gray (Head of the Department), Schmidt. Visiting Professor Palmer. Associate Professor Hudson. Instructor Hutchins.

1a-1b. Introduction to Economics. (3-3) I-II. Hudson-Hutchins
The first term is devoted to methods of logical economic analysis and the derivation of fundamental economic principles. The second term is devoted to the application of methods of reasoning and principles to the actual problems of economic life. Prerequisite to all advanced courses in Economics. 10:00-11:30.
105. Labor Problems and Trade Unionism. (3) I. G. Gray
   Employment, wages, hours, risks of industry, sub-standard workers, and structures and unions, history of unionism, union policies and practices. Prerequisites, 1b or 2b and junior standing. 8:10-9:40.

117. International Economic Relations. (3) I. G. Palmer
   An analysis of the forces determining international trade, finance, and commercial policy under changing world conditions. Theory of international trade, monetary standards, tariff policy, trade controls. Prerequisites, 1b or 2b and junior standing. 8:10-9:40.

148. Money and Banking. (3) I. G. Palmer
   Survey of the monetary and banking system of the United States, including consideration of problems of money and prices, of banking systems, of problems of monetary standard, and functioning of commercial banking and Federal Reserve System and of credit control. Prerequisites, 1b or 2b and junior standing. 10:00-11:30.

   (3) I. II. G. Hudson-Schmidt
   A survey of economic theory with special emphasis on value and distribution. Required of all graduating seniors in Economics and Business Administration. Prerequisites, 1b or 2b and senior standing. 7:00-8:30.

192s. Economic Investigations. (2) I. II. G. Gray-Schmidt
   Methods and techniques of investigation, sources of material, collection and arrangement of data; preparation of theses. Prerequisite, senior standing. (Conference hours to be arranged.)

EDUCATION

Professors Clarson (Head of the Department), Garretson, Kelley, Larson, Walker.
Visiting Professors Madigan, Merritt, Oleson.
Assistant Professor Nelson.
Visiting Lecturer Sheldon.

104s. Character Education. (2) I. G. Oleson

105s. Principles and Techniques of Guidance. (2) II. G. Nelson
   The basic philosophy and organization of a guidance program. An introductory course for those who expect to specialize in guidance or for the teacher to whom some functions of guidance may be assigned. Prerequisite, 131 (or teaching experience) and Psychology 1a. 9:20-10:20.

111s. History of Education. (2) II. G. Nelson
   A general survey of the educational systems of the leading foreign nations and an evaluation of modern tendencies. 11:40-12:40.

117s. Visual and Auditory Aids in Teaching. (2) I. 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, 124a or 134. 9:20-10:20.

124a. 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; the curriculum in reading. This course meets the certification requirement in the elementary curriculum. Education 151 must precede or accompany this course. (Parts I and II satisfy the 124a requirement of the academic year.) 8:10-9:10.
124a. Language Arts in the Elementary School. (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. This course meets the certification requirement in the elementary curriculum. (Parts I and II satisfy the 124a requirement of the academic year.) 10:30-11:30.

The place of arithmetic and science in the lives of children and in the elementary-school program. What to teach, when to teach them, how children learn them. Emphasis on number as a series of meaningful experiences. Education 151 must precede or accompany this course. This course meets the certification requirement in the elementary curriculum. (Parts I and II satisfy the 124b requirement of the academic year.) 10:30-11:30.

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. This course meets the certification requirement in the elementary curriculum. (Parts I and II satisfy the 124b requirement of the academic year.) 10:30-11:30.

131s. The High School as an Institution. (2) I. G. Garretson
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. 8:10-9:10.

134s. General High-School Methods. (2) II. G. Garretson
The actual problems of teaching with especial reference to the adaptation of the principles of educational psychology. Prerequisite, 151; recommended, 131. 8:10-9:10.

150. Mental Hygiene. (3) II. G. Walker
The principles of mental hygiene and their application to personal and social needs. Prerequisite, 151. 8:10-9:40.

151s. Educational Psychology. (2) I. Merritt
The study of the learning process with attention given to motivation, guidance, and control of children of school age. Prerequisite, Psychology 1a. 11:40-12:40.

157s. Educational Tests and Measurements. (2) I, II. G. Merritt-Madigan
The principles underlying the making and use of informal objective examinations; practice in making and scoring such examinations; surveys of standard tests in the respective fields. Prerequisite, 151. 1st Term: 10:30-11:30; 2nd Term: 11:40-12:40.

210s. Philosophy of Education. (2) I. Nelson
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 and graduates. Prerequisite for seniors, 6 units in education. 8:10-9:10.

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. 7:30-8:00.

227. Elementary-School Administration and Supervision. (2) II. Sheldon
The administrative and supervisory problems of the principal of a ward school or of a small school system. For seniors and graduates. Prerequisites, 124a-124b or teaching experience. 8:10-9:10.

229. Investigations in Reading. (2) I. Kelley
Critical evaluation of investigations in the field of reading. An appraisal of the aims, content, and instructional practices in reading in the light of the
experimental evidence available. Designed for teachers, supervisors, and administrators who are responsible for the reading program of a school. Prerequisite, 9 units in education. 9:20-10:20.

236s. High-School Administration and Supervision. (2) I. Garretson The problems of organization, administration, and supervision of the modern high school. For seniors and graduates. Prerequisite, 131. 10:30-11:30.

251. Individual Differences. (2) I. Nelson Basic principles to be observed in providing for individual differences. Symptoms of maladjustment, together with causes and remedies. 10:30-11:30.

254. Statistical Methods in Education. (4) II. Madigan 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. 8:10-10:10.

260s. General School Administration. (2) II. Sheldon The problems, organization, administration, and supervision of city- and town-school systems. Open to seniors and graduates. Prerequisite for seniors, 6 units in education. 10:30-11:30.

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 and graduates. Prerequisites for seniors, 6 units in education. Required of all graduate students with education as a major. 11:40-12:40.

299. Seminar in Education. (2) II. Garretson Studies in current educational literature. Open to seniors and graduates. Prerequisite for seniors, 6 units in education. Required of all graduate students with education as a major or minor. 10:30-11:30.

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.)

ELECTRICAL ENGINEERING

Associate Professor Bartholomew.
Assistant Professor Stuermer.

100a-100b. Theory of Circuits and Machines. (4-4) I-II. Stuermer 100a: The principles of direct-current circuits. Characteristics of direct-current motors and generators. Auxiliary equipment. 100b: Principles of single-phase alternating current circuits. Characteristics of single-phase transformers. Classes meet 2 hours daily. Prerequisites, Mathematics 95b, Physics 1b. 7:00-9:00.

101a-101b. Electrical Laboratory. (1-1) I-II. Stuermer Illustrating 100a-100b. Reports. Prerequisites, Physics 1b, Mathematics 95b, 100a or concurrent registration therein. Three 3-hour periods. Fee, $2 each term. 9:20-12:20 T.Th.; 1:40-4:30 W.

126a-126bR. Elements of Electrical Engineering. (2-2) I-II. Bartholomew 126aR: Direct-current circuits and machines. 126bR: Alternating-current circuits and machines. For students in nonelectrical branches of engineering. Prerequisites, Mathematics 95b, Physics 1b. 8:10-9:10.

126aL-126bL. Electrical Laboratory. (1-1) I-II. Bartholomew Illustrating 126aR-126bR. Reports. Three 3-hour periods. Fee, $2 each term. 9:20-12:20 M.W.F.
ENGLISH

Professors Solve (Head of the Department), Hamilton, Martin, Muir. Assistant Professors Fuller, Gegenheimer, Stuart. Lecturer Walsh. Instructors Bruner, Donovan, Ramsey, Wiley.

1a, 1b. Freshman Composition. (3) I, II. Staff
The study and practice of good writing, with emphasis on exposition, short and long themes, collateral reading, conferences. Required of all freshmen. Both 1a and 1b will be given each term.
1st Term: 1a. Sections A and B, 8:10-9:40; Section C, 10:00-11:30.
1b. Section A, 7:00-8:30; Section B and C, 10:00-11:30.
2nd Term: 1a, 8:10-9:40.
1b. Section A, 7:00-8:30; Section B, 8:10-9:40; Section C, 10:00-11:30.

24a-24b. American Literature. (3-3) I-II Muir-Gegenheimer
24a: From the beginnings to the Civil War. 24b: From the Civil War to the present. 24a is not prerequisite to 24b. Not open to freshmen or, without special permission, to seniors. 8:10-9:40.

105s. Journalism for High-School Supervisors. (3) I. G. Martin
Theory and practice of news gathering and writing, editing and make-up, the use of pictures, staff organization; presented so as to be serviceable to teachers who supervise student publications. 7:00-8:30.

112s. Feature Writing. (2) I. Martin
The study and writing of long feature stories suitable for publication in news columns, Sunday sections, and magazines. 9:20-10:20.

127a. The Romantic Movement in English Literature. (3) I. G. Solve
The rise of revolutionary ideas and techniques: Wordsworth, Coleridge, and Byron. 8:10-9:40.

131a. Shakespeare. (3) II. G. Stuart
Introductory course. The life and times of Shakespeare; rapid reading of several representative plays. 10:00-11:30.

132as. The Development of English Drama. (2) I. G. Solve
The predecessors and contemporaries of Shakespeare. 10:30-11:30.

134s. Modern Drama. (2) II. G. Fuller
The chief dramatic writers of the last half century. 10:30-11:30.

137a. Chaucer and His Age. (3) I. G. Hamilton
Troilus and Cressida, in the stream of European literature; realistic and satirical writings as well as the courtly tradition; romances, Goliardic poems, and tales to be read in translation; Troilus, The Legend of Good Women and selections from the Gawain poet to be read in Middle English. 7:00-8:30.

142s. Contemporary Poetry. (3) II. G. Fuller
The lyric of England and America in the last three decades. 8:10-9:40.

145s. The European and American Short Novel. (2) I. G. Muir
The short novel in Europe and America. A study of the novelette for its form and content. Includes among other writers Melville, Tolstoi, Flaubert, James, Mann, Katherine Ann Porter. 10:30-11:30.

152s. Utopian Literature of England and America. (2) II. G. Walsh
Concepts of ideal societies in English and American Literature from the Renaissance to the present. Reading and reports will be chosen from: More, Utopia; Bacon, New Atlantis; Shakespeare, The Tempest; Swift, Gulliver's Travels; Paltock, Peter Wilkins; Morris, News from Nowhere; Butler, Erewhon; Bellamy, Looking Backward; Huxley, Brave New World. 10:30-11:30.
160s. History of the English Language. (2) I. G. Hamilton
Required of all English graduate majors. 9:20-10:20.

238. Old English. (3) II. Gegenheimer
The language, with reading of representative prose and poetry including a
study of Beowulf. Required of all graduate English majors. 10:00-11:30.

Professor Tremblay.

FRENCH

3a. Advanced French. (4) I. Tremblay
Review grammar, composition, conversation, reading. Prerequisite, 1a-1b
or 2 years of high-school French. The class meets 2 hours daily. 7:00-8:00

Instructor Bryant.

GEOLOGY

1a. General Physical Geology. (4) II. Bryant
For those who desire a generalized knowledge of the fundamentals of
geology. Fee, $2. 8:10-9:40. (Lab. 1:40-4:30 M.T.Th.)

Associate Professor Schmitz.
Instructors Beck, Smitham.

1as-1bs. Elementary German. (4-4) I-II. Beck
Grammar, pronunciation, class and collateral reading. Classes meet 2 hours
daily. 8:10-9:10 and 10:30-11:30.

3as-3bs. Intermediate German. (4-4) I-II. Schmitz-Smitham
Grammar review, simple composition and conversation, class and collateral
reading of modern literary texts. The class meets 2 hours daily. 7:00-8:00

108a. Individual Readings. (2) II. Smitham
Individual reading programs in the student's field of specialization. Prere-
quise, 3b. (Conference hours to be arranged.)

HISTORY AND POLITICAL SCIENCE

Professors Wedel (Head of the Department), Houghton, Hubbard.
Associate Professor Ewing.
Visiting Instructor Flaccus.

1b. History of the United States. (3) II. Flaccus
A general survey of political and social development since the Civil War;
settlement of the Far West; international affairs. 10:00-11:30.

11s. Development of the English Nation. (2) I. Hubbard
The influence of church and continental relations; development of English
social and political institutions to the end of the Tudor period. 9:20-10:20.

17as. General European History. (2) I. Wedel
The social, economic, and political development of Europe. 8:10-9:10.

105a. Nineteenth Century Europe. (3) I. G. Hubbard
The liberal reform movement of Europe; the evolution of constitutional gov-
ernment; various movements toward national unity. 7:00-8:30.

115a. The Twentieth Century. (2) I. G. Wedel
International relations before 1914; the causes and results of World War I;
the Russian Revolution; the new Europe; emergence of dictatorships. 9:20-
10:20.
122. The Latin-American Republics. (2) II. G. Flaccus
Progress toward stability, prosperity, and international recognition; geography and resources; social, political, and financial situation. 8:10-9:10.

130b. The History of the West. (3) II. G. Ewing
The settlement and development of the West, and its influence upon national and international affairs at each stage. Emphasis on the Trans-Mississippi West. 130a is not prerequisite to 130b. 10:00-11:30.

51s. National Government of the United States. (2) I. Ewing
General survey of the organization and functioning of the national government. 9:20-10:20.

100s. National and State Constitutions. (2) I, II. Houghton-Ewing
Devised to meet the requirements for a teacher’s certificate. 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.

175a. Governments of Latin America. (2) I. G. Ewing
A general survey of the governments of Argentina, Chile, and Brazil. 7:00-8:00.

HOME ECONOMICS

Professors Johnson (Head of the Department), Thompson. Assistant Professor Wood.

12. Nutrition in Health Education. (2) I. Thompson
Basic facts and principles of teaching nutrition to boys and girls. Activities and experiences for the teacher and pupil, teaching aids and information tests. Credit is not permitted in both 12 and 2. 11:40-12:40.

13s. Camp Cookery. (2) II. Wood
The selection and preparation of foods for camps. Three lectures and two laboratory periods a week. Fee, $5. 11:30-12:30 M.W.F. Outdoor laboratory periods and field trips to Mt. Lemmon to be arranged. Registration limited to 15. Open to men and women.

122. Readings in Nutrition. (2) I. G. Thompson
Oral and written reports of current publications. Admission by consent of instructor. (Hours to be arranged.)

137s. Family Relationships. (2) II. G. Johnson
An analysis of the problems of the modern family. 9:20-10:20. For men and women.

156. Housing Problems. (2) II. Johnson
Consideration of the housing problems of (1) the family, (2) the community. 10:30-11:30.

HOME ECONOMICS EDUCATION

(See Agricultural and Home Economics Education.)

HUMANITIES

Professor Powell.
Associate Professor Roy.
Instructors Huggins, Taub.

Introduction to Humanities. (4-4) I-II. Staff
The cultural life of the Western World as it developed in literature, art, and philosophy from the Greeks to the present. Lectures and discussion. Required of sophomores in Business Administration and Liberal Arts. Fee, $1 first term.
Section A, 7:00-8:00 and 9:20-10:20; Section B, 8:10-9:10 and 10:30-11:30; Section C, 8:10-9:10 and 10:30-11:30. Each section meets twice daily. Sections limited to 30.
ANNOUNCEMENT FOR THE SUMMER SESSION

MATHEMATICS

Professors Graesser (Head of the Department), Purcell. Associate Professor Webb. Instructors, Foster, Marsh. Assistant Samuelson.

20. College Algebra. (3) I, II. Foster
Prescribed for all engineering courses. Prerequisite, 1½ entrance credits in algebra. 10:30-12:00.

24. Plane Trigonometry. (2) I, II. Webb-McGarvey
Prescribed for all engineering courses. Prerequisite, 1½ entrance credits in algebra and 1 entrance credit in geometry. 7:00-8:00.

25. Analytic Geometry. (4) II. Samuelson
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. Foster-Marsh
Prescribed in the College of Business and Public Administration. Prerequisite, 1 entrance credit in algebra. 9:20-10:20.

81. Slide Rule. (1) II.
Application of approved methods of calculating, including the use of the slide rule. Prerequisite, 20 or 22, and concurrent registration in 24. 9:20-10:20.

95a-95b. Calculus. (4-4) I-II. Purcell-Graesser
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 10:30-11:30.

101a. Differential Equations. (3) I. G. Webb
An introductory course in ordinary, total, and partial differential equations, with application to geometry, mechanics, and mathematical physics. Prerequisite, 95b. 9:20-10:20.

MUSIC

Professor Snyder. Assistant Professors Buchhauser, Kalis, Young. Instructor Hollenbeck.

1a-1b. Music Appreciation. (2-2) I-II. Young
The initial course for the enjoyment and understanding of music. 1a is offered each term. 1st Term: 1a. 8:10-9:10; 2nd Term: 1a. 7:00-8:00, 1b. 8:10-9:10.

2a-2b. Fundamentals of Music. (2-2) I-II. Young
2a: Course designed for students with no previous experience with music, including the piano keyboard.
2b: A course designed to further the ability to read music. The voice and piano keyboard are used as a medium. Prerequisite, 2a or the ability to play hymn tunes on the piano. 11:40-12:40.

176s. Fundamental Music Education. (2) I. G. Young
Principles and techniques to enable the student to form the basis for the teaching of music in the public schools. Prerequisite, 2b and junior standing or experience in teaching music. Not for credit toward the Master of Music degree. 9:20-10:20.

276. Modern Tendencies in Music Education. (2) Snyder
The evaluation of current courses of study offered in other states; principles of curriculum construction; evaluation of the current courses of study in Music Education; a review of current practices, and the introduction to new materials in the teaching of music; a special assignment in some phase of curriculum construction for each individual student. Prerequisite, 177. (May 25 to June 4, daily except Sunday; hours to be arranged.)
Piano. Individual Instruction. (1-4) I, II. Bachhauser, Kalis
(Hours and credit to be arranged.)

Voice. Individual Instruction. I, II. Hollenbeck
(Hours and credit to be arranged.)

PHYSICAL AND HEALTH EDUCATION FOR WOMEN
Assistant Professor Sancet.
Instructors Clymer, Gruenwald.

8s. Modern Dancing. (2) II. Gruenwald

9s. Folk and Square Dancing. (2) I. Clymer
Study, practices, and theory of traditional folk dances of various countries. Special emphasis on program material for schools and social purposes. Open to men and women. 11:40-12:40.

83. Recreational Games. (2) I. Clymer
Theory and practice of teaching activities, such as badminton, volleyball, table tennis, bowling, shuffleboard, etc. Designed for playground programs or for the physical education program of school systems. 10:30-11:30.

110sA. Elementary Swimming. (1) I, II. Clymer-Sancet
Teaching beginners to swim. Students registered in this course must also be registered in some course other than swimming. Physician's certificate required. Locker fee, $2. 7:00-8:00.

110sBC. Intermediate and Advanced Swimming. (1) I, II. Clymer-Sancet
Teaching swimming to others than beginners. Students registered in this course must also be registered in some course other than swimming. Physician's certificate required. Locker fee, $2. 9:20-10:20.

Lifesaving
(See Physical Education for Men 62.)

First Aid.
(See Physical Education for Men 70s.)

PHYSICAL EDUCATION FOR MEN
Professor Enke.
Assistant Professors Ott, Sancet, Svob.
Instructor Allred.

26. Beginning Swimming. (1) I. Allred
Students registered in this course must also be registered in some course other than swimming. Physician's certificate required. Locker fee, $2. 7:00-8:00 M.T.W.Th.; 2:00-3:00 W.

60abs. Game Supervision and Officiating. (2) II. Sancet
Supervisory details of various athletic contests. Emphasis is placed upon the mechanics of officiating and a thorough knowledge of rules. 7:00-8:00.

62. Lifesaving. (1) I, II. Ott-Sancet
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. Students registered in this course must also be registered in some course other than swimming. Physician's certificate required. Open to men and women. Locker fee, $2. 10:30-11:30 M.T.W.Th.; 2:00-3:00 Th.

70. First Aid. (2) I. Ott
Emergency treatment administered for excessive bleeding, fracture, burns, asphyxiation, poisoning, shock. Transportation of an injured person. The Red Cross First Aid Certificate is issued to qualified students who complete the course. Open to men and women. 8:10-9:10.
181s. Playgrounds and Recreation. (2) I. Allred

Emphasis placed on social recreation; 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. 9:20-10:20.

182s. Supervision of Intramural Sports. (2) I. Svob

Organization of a high-school intramural sports program with emphasis placed upon individual and group scoring plans, units of competition, activities, and awards. 8:10-9:10.

184s. Application of Measurements to Health and Physical Education. (2) I. Allred

A survey and interpretation of the various tests used in measuring in the fields of Health and Physical Education activities. 10:30-11:30.

190. Athletic Training. (2) I. Ott

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. 11:40-12:40.

195. Athletic Coaching—Basketball. (2) II. Enke

Rules, officiating, history, equipment, fundamentals, offense, defense, practice, tournament, play, and organization. 8:10-9:10.

197s. Organization and Administration of Physical Education. (2) II. Enke

Administrative problems involving athletic plant, facilities, and equipment. The conduct of interscholastic athletics and tournament competition; the maintenance of public relations; the importance of intramural athletics and school recreation; and the office management and financing of physical education and athletics. 9:20-10:20.

PHYSICS

Professor Warner (Head of the Department). Associate Professor Corby.

1a-1b. Engineering Physics. (5-5) I-II. Warner, Corby

Prerequisites for 1a: elementary physics, Mathematics 20, 24, and enrollment in Mathematics 95a. Prerequisites for 1b.: 1a and Mathematics 95b. Fee, $4 each term. 7:00-8:30. (Lab. 8:40-11:30.)

PSYCHOLOGY

Professor Simley.
Visiting Professor Kauffman.
Associate Professor Wallraff.

1a-1b. Elementary Psychology. (3-3) I-II. Kauffman-Wallraff

Fundamental principles of human behavior. Applications of principles are stressed. 10:00-11:30.

15. Social Psychology. (3) I. 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.

116. Personality. (2) II. G. Wallraff

Analysis and measurement of personal traits. Conditions affecting personal development. Problems of adjustment. Prerequisites, 1a and 1b or Education 160 or 161. 8:10-9:10.

118. Abnormal Psychology. (2) I. G. Simley

Forms of mental abnormality and deficiency. Interests of premedical and law students considered. Prerequisites, 1a and 1b or Education 151. Field trip fee, $3. 9:20-10:20.
150. Mental Tests and Measurements. (3) I.G. Simley
Principles of mental measurements and the construction of tests. Prerequisite, 1a-1b. Laboratory fee, $2. 10:30-12:00.

SOCIOLOGY

Professor Conrad (Head of the Department).
Associate Professor Klaiss.

81. Introduction to Sociology. (3) I, II. Klaiss-Conrad
The nature, backgrounds and problems of contemporary society. Elements of social theory. Prerequisite to upper-division courses. Not open to freshmen. 10:00-11:30.

187. Crime and Punishment. (2) II. G. Conrad

190. Social Control. (3) I. G. Klaiss
An examination of the means of control such as folkways, mores, law, public opinion, propaganda, censorship, pressure groups, etc. 8:10-9:40.

SPANISH

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

1a-1b. Elementary Spanish. (4-4) I-II. Brooks
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. 8:10-9:10 and 10:30-11:30.

3a-3b. Intermediate Spanish. (4-4) I-II. Bork-Percy
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. Percy
Prerequisite, 1 year of college Spanish or its equivalent. 7:00-8:00.

14a-14b. Elementary Composition. (2-2) I-II. Bork
An intensive course in current idiomatic Spanish designed to develop proficiency in the practical use of the language. Translation into Spanish, review of grammar, and elements of commercial correspondence. Prerequisite, 3b or 4 years of high-school Spanish. 9:20-10:20.

Individual Studies. I, II.
In special cases the department makes available opportunities to work individually to juniors and seniors through Independent Study and Special Problems, and to graduate students through Research and Thesis. (Hours and credit to be arranged.)

SPEECH

Associate Professors Lynn, Mattingly.
Instructor Sparks.

2as-2bs. Principles of Speech. (2-2) I-II. Staff
A course for beginning students designed to develop confidence, poise, and clarity in the use of body, voice, language, thought, and feeling in oral communication. Practice in the skills of spoken language. Recording fee, $1.50 for 2as only. 2as will be offered each term.
First Term, Section A: 7:00-8:00. Section B: 10:30-11:30.
Second Term, 2as: 10:30-11:30
2bs, Section A: 7:00-8:00. Section B: 8:10-9:10.

5. Voice and Diction. (2, 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). 

113s. Public Discussion. (2) I. Sparks 
Theory and methods of group discussion. Practice in organizing and leading forums, committee meetings, and panels. Especially helpful for those who need training in conducting business and professional conferences. 10:30-11:30.

136s. The Oral Interpretation of Literature. (3) II. Mattingly 
Discovering and imparting intellectual and emotional meanings of the printed page. Fee, $1.50 (optional by departmental decision for students who have had 2a-2b at the University of Arizona). 8:10-9:40.

169s. Speech Correction. (2) I. Lynn 
A survey of the common defects of speech designed to enable parents and teachers (1) to treat those defects that can be handled in the home and classroom or with a small amount of individual attention, and (2) to recognize those that should be referred to experts. 7:00-8:00.

182as-182bs. Advanced Problems in Speech. (2-2) I-II. G. Staff 
Techniques and methods of research in speech: library, laboratory, or independent research on an individual problem; critical evaluations. (Conference hours to be arranged.)

ZOLOGY

Associate Professor Brown. 
Assistant Professor Reed. 
Instructors Parker, Snyder.

4. General Zoology. (4) I, II. Brown-Reed 
An introduction to the structure, physiology, development and behavior of animals. Together with 8, 44, or 45 it constitutes a year’s course. Fee, $5. 8:10-9:10. (Lab. 9:20-12:20.)

8. Mammalian Anatomy. (4) II. Snyder 
Gross anatomy as exemplified by the cat. Required for all physical education majors, who may register for three lectures and five 3-hour laboratory periods and receive 3 units of credit. Prerequisite, 4. Fee $5. 8:10-9:10 M. W. F. (Lab. 9:20-12:20 daily, and 1:30-4:30 T.Th.)

23. Mammalian Anatomy and Physiology. (4) I. Parker 
The anatomy and physiology of the supporting and motor tissues, the nervous system and special senses. Required of all pharmacy students. Not open to zoology majors. Prerequisites, 4 and Chemistry 103a. Fee, $5. Enrollment limited to 25. 7:00-8:30. (Lab. 8:40-11:40 M.W.F.)

24. Mammalian Anatomy and Physiology. (4) II. Parker 
The anatomy and physiology of the circulatory, respiratory, digestive, and excretory systems. Required of all pharmacy students. Not open to zoology majors. Prerequisites, 22 and Chemistry 103b. Fee, $5. Enrollment limited to 25. 7:00-8:30. (Lab. 8:40-11:40 M.W.F.)

57. Elementary Physiology. (4) I. Snyder 
Physiological processes of the human body. Primarily for students in physical education, pre-nursing students, and the general undergraduate. Prerequisite, 8 or 45. Fee, $5. Enrollment limited to 25. 7:00-8:30. (Lab. 8:40-11:40 T.Th., 1:30-4:30 W.)

111. Evolution. (2) II. G. Snyder 
History, modern theories, factors, and mechanism of organic evolution and its influences on modern thought. Prerequisites, 8 units in zoology or botany, or upper division status in geology. 7:00-8:30.

114. Eugenics. (2) II. G. Reed 
Factors tending toward the development or degeneration of the human race. Prerequisite, 8 units in biology, geology, psychology, or sociology. 7:00-8:00.

Individual Studies. I, II. Staff 
The department makes available to undergraduate students opportunity to work individually through Independent Study and Special Problems (2); and to graduate students through Research (2). (Hours and credit to be arranged.)
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  Department of Physical Education for Women

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