ANNOUNCEMENT
FOR THE
SUMMER SESSION
1948

First Term
June 7 - July 10

Second Term
July 12 - August 14
University of Arizona Record

Vol. XLI, No. 2
April, 1948

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The University of Arizona Record is issued six times a year. Published monthly during February, June, August, and October and semimonthly during April.

Entered as second-class matter April 28, 1933, at the post office at Tucson, Arizona, under the Act of August 24, 1912.
ANNOUNCEMENT
FOR THE
SUMMER SESSION
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UNIVERSITY OF ARIZONA CAMPUS
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Milwaukee Vocational School; Visiting Professor of Education

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Assistant in Mathematics

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Instructor in Classics

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Director of Elementary Education, New Brunswick, New Jersey;
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Instructor in Art

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SCOTT, JAMES P..............................................................Art
Associate Professor of Art

SCULLY, EVA, M.S.............................................................Home Economics Education
State Supervisor of Homemaking Education; Visiting Professor of Home
Economics Education
SIMLEY, OLE A., PH.D..............................................Psychology
   Professor of Psychology

SMITHAN, THOMAS, B.A.............................................German
   Instructor in German

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   Assistant Professor of English

TAYLOR, H. D., B.A....................................................Spanish
   Fellow in Spanish

TAYLOR, HARVEY L....................................................Education
   Superintendent of Schools, Mesa; Visiting Lecturer in Education

THRIFT, INEZ E., PH.D..............................................English
   Professor of English

TREMBLAY, NAPOLEON J., PH.D.................................French
   Professor of French

TUCKER, WILLIAM J., PH.D.......................................English
   Professor of English

VOSBERG, DONALD T., PH.B.................................Physical Education for Men
   Assistant Professor of Physical Education for Men

WALKER, JOHN F., PH.D..............................................Education
   Professor of Educational Psychology

WALLRAFF, CHARLES F., PH.D.................................Philosophy and Psychology
   Assistant Professor of Philosophy and Psychology

WEBB, DONALD L., PH.D..............................................Mathematics
   Assistant Professor of Mathematics

WEDEL, OSWALD H., PH.D..............................................History
   Professor of History

WELLS, EARL W., J.D..................................................Speech
   Professor of Speech, Oregon State College; Visiting Professor of Speech

WOOD, ELWIN G., PH.D.................................Business Administration
   Professor of Business Administration

WOOD, MARY ADELE, M.S.................................Home Economics
   Assistant Professor of Home Economics

WRIGHT, GENEVIEVE B., M.A.................................Physical Education for Women
   Visiting Professor of Physical Education for Women
UNIVERSITY OF ARIZONA
SUMMER SESSION, 1948

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 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 14, for the First Term, or after Monday, July 19, for the Second Term.

The calendar follows:

June 6, Sunday, 8 A.M........................... Residence halls open
June 7, Monday.............................. Registration for First Term
June 8, Tuesday............................... Classwork begins
July 5, Monday............................... Independence Day; a holiday
July 9, Friday.............................. Examinations for the First Term begin
July 10, Saturday........................... First Term ends
July 12, Monday.............................. Registration for the Second Term
July 13, Tuesday............................. Classwork begins
Aug. 13, Friday............................. Examinations for the Second Term begin
Aug. 14, 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 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 professional courses.
The Summer-Session courses will be offered through the following departments and divisions:

<table>
<thead>
<tr>
<th>Agricultural Education</th>
<th>English</th>
<th>Music Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anthropology</td>
<td>French</td>
<td>Music Theory</td>
</tr>
<tr>
<td>Art</td>
<td>German</td>
<td>Philosophy</td>
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<tr>
<td>Bacteriology</td>
<td>Guidance</td>
<td>Physical Education</td>
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<tr>
<td>Botany</td>
<td>History</td>
<td>Piano</td>
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<tr>
<td>Business Administration</td>
<td>Home Economics</td>
<td>Political Science</td>
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<tr>
<td>Chemistry</td>
<td>Horticulture</td>
<td>Psychology</td>
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<td>Classical Literature</td>
<td>Humanities</td>
<td>Secretarial Studies</td>
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<td>Economics</td>
<td>Library Science</td>
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<tr>
<td>Education</td>
<td>Mathematics</td>
<td>Spanish</td>
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<td>Speech</td>
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<td></td>
<td></td>
<td>Voice</td>
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<td></td>
<td></td>
<td>Zoology</td>
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</tbody>
</table>

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 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 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 enclosed 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.—Cochise 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 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 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 ½-hour lessons a week for 5 weeks the fee is $20, with 1 unit of credit. For four ½-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 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

<table>
<thead>
<tr>
<th>Description</th>
<th>Fee</th>
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<tbody>
<tr>
<td>Tuition (either 5-week term, per unit)</td>
<td>$ 6.50</td>
</tr>
<tr>
<td>Tuition for auditors (either 5-week term)</td>
<td>10.00</td>
</tr>
<tr>
<td>Tuition (courses audited in addition to credit courses, see above) per unit</td>
<td>3.25</td>
</tr>
<tr>
<td>Tuition (registration for thesis only)</td>
<td>5.00</td>
</tr>
<tr>
<td>Late registration fee</td>
<td>2.00</td>
</tr>
<tr>
<td>Piano, organ, and voice (individual instruction) (see statement above)</td>
<td>2.00</td>
</tr>
<tr>
<td>Courses in physical education (except theory)</td>
<td>2.00</td>
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<tr>
<td>(1$ returnable if there are no charges)</td>
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<tr>
<td>Laboratory and materials (see course announcements)</td>
<td></td>
</tr>
<tr>
<td>Field trips (based on mileage)</td>
<td></td>
</tr>
<tr>
<td>Room in residence hall (term in advance)</td>
<td>$20.00 to $40.00</td>
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<tr>
<td>(See statement above)</td>
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</tr>
<tr>
<td>Room deposit</td>
<td>10.00</td>
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<tr>
<td>(Returnable if there are no charges)</td>
<td></td>
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<tr>
<td>Recreation</td>
<td>.50</td>
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<tr>
<td>Library fee</td>
<td>1.00</td>
</tr>
<tr>
<td>Change of program fee</td>
<td>1.00</td>
</tr>
</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 7 to June 14, inclusive, and July 12 to July 19, 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 5.

**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 7*. The student must complete the work before the beginning of the Summer Session of 1949. 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 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 undergraduate college.

**Admission must be arranged prior to the date of registration.** Application 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 applicant’s previous academic record is approved, the applicant will receive an official certificate of admission from the Director of Admissions. 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 requirements for graduation may register for graduate work if recommended by the head of the department and approved by the Dean of the Graduate College. For such registration a petition for graduate 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 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 1948 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 10**. 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 teachers.

Teachers now holding valid Arizona secondary or elementary cer-
tificates 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.

Library science.—As a preliminary step toward a full major in library science, three fundamental courses will be offered in 1948.

Guidance.—Similarly, as basic work toward a major in guidance two courses are offered.

For teachers of agriculture and home economics.—As usual, extensive courses for teachers of agriculture will be offered from June 7 to June 23; and for teachers of home economics, intensive courses will be offered by the State Supervisor of Homemaking Education from July 12 to July 28.

Anthropology.—After an omission of several years, campus courses will be offered in anthropology.

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 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 campsites 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.
COURSES OFFERED*  
IN THE  
1948 SUMMER SESSION  

AGRICULTURAL AND HOME ECONOMICS EDUCATION

Professor Cline (Head of the Department).  
Visiting Professor Scully.  
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 a supervising teacher for a period of 4 weeks. Readings, conferences, and written reports. Prerequisite, Ed. 109. (Hours to be arranged.)

209s. Supervised Farm Practice in Vocational Agriculture. (2) I. Cline  
Selecting and planning farming programs, including budgeting, financing, accounting, production equipment, materials and practices. Organizing and supervising on-the-farm learning activities for high-school students and young farmers. Prerequisite, 195. (June 7 to June 23, hours to be arranged.)

217s. Advanced Procedures in Teaching Farm Mechanics. (2) I. Schafer  
Shop organization, management, equipment and facilities. Course layouts, job breakdowns, demonstration and practice in shop skills and teaching procedure. Prerequisite, 195. Fee, $3. (June 7 to June 23, hours to be arranged.)

HOME ECONOMICS EDUCATION

198s. Problems in Teaching Home Economics. (2) II. G. Scully  
A study of problems encountered by teachers of home economics on the job, and procedures for solving such problems as administration, business management, student-teacher relationships, curriculum, selecting and using teaching aids, and adapting programs to various groups. Prerequisite, Education 197g. (July 12 to July 28) 10:30-12:30.

220s. Program Planning. (2) II. Scully  
Interpreting community needs in terms of the objectives of home economics education. Procedures and practices to be used in developing annual and long-time programs and criteria for evaluating programs. (July 12 to July 28) 7:00-9:00.

*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.
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.

2. Human Origins. (3) II. Kraus
Physical nature and evolution of man as illustrated by the primates, fossil types, contemporary races, and human embryology. Prerequisite, sophomore standing. 10:00-11:30.

100. European Archaeology. (3) I. Kraus
The history of civilization in Europe through the Eolithic, Paleolithic, Mesolithic, Neolithic, Bronze, and Iron ages. Prerequisite, 1a-1b. 10:00-11:30.

ART

Associate Professor Scott.
Instructor Quinn.
Visiting Instructor Richards.

3a-3b. Art Fundamentals. (2-2) I-II. Quinn
Fundamental principles underlying all art. Practical training in water color. Laboratory fee, $1 each term. 8:10-11:10.

7as-7bs. The 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 term. 9:20-12:20.

102s. Still Life and Landscape Painting. (2) I. Scott
Painting from still life and landscape with special reference to techniques and composition. Prerequisites, 4, 12a-12b, 15. Fee, $1 each term. 9:20-12:20.

117. History of Modern Art. (3) I. Scott
Analytical study of the modern schools of art in Europe and America, their origins and influences. 7:00-8:30.

176s. 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.

BACTERIOLOGY

Assistant Professor Evenson.
107. General Bacteriology. (4) I. Evenson
Fundamental facts of bacteriology. Characteristics of important groups of micro-organisms studied in the laboratory. Prerequisite, Chemistry 1b or 2b; recommended, Zoology 4 and Botany 1. Laboratory fee, $10. Enrollment limited to 25. 8:10-9:10. (Lab. 9:20-12:30.)

Instructor Parker.

BOTANY

2. Survey of Plant Kingdom. (4) I. Parker
A study of plant groups with emphasis upon life history and relationships. Laboratory fee, $3. 8:10-9:10. (Lab. 9:20-12:20.)

3. Plants of the Tucson Area. (2) I. Parker
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.)

Individual Studies. I. Staff
The department makes available to undergraduate students appointments to work individually through Special Problems (2-4), fee, $1 per unit; and to graduate students through Research (2-8), fee, $1 per unit.

BUSINESS ADMINISTRATION

Professors Howard (Head of the Department), Wood. Assistant Professors Bogart, Gill, Hudson. Instructors Hutchins, 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. 7:00-8:30.

31a-31b. Principles of Accounting. (3-3) I-II. Howard-Bogart-Myers
A beginning course in basic principles of accounting, including sole proprietorships, partnerships and corporations at retail, wholesale and manufacturing levels. 8:10-9:10. (Lab. to be arranged.)

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; installment sales; insurance and other special accounting problems; analysis and interpretation of financial statements. Prerequisite, 31b. 10:00-11:30.

151. Insurance Theory and Practice. (2) I. G. Gill
Phases of most general application: life, fire, automobile. 7:00-8:00.

161. Marketing Principles and Problems. (3) I. 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. 7:00-8:30.

164. Principles of Advertising. (2) I. G. Wood

Consideration determining the choice, location, and form of business; policy formation; principles underlying sound organizations and management. Prerequisites, 31b and Economics 1b or 2b. 10:00-11:30.
CHEMISTRY

Professors Roberts, Sands.
Associate Professor Rhodes.
Assistant Professors Castro, Horan.

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, $5; breakage deposit, $2.50. 8:10-9:40. (Lab. 1:40-4:30 T. Th.; 8:50-12:40 W.)

2a-2b. General Chemistry. (4-4) I-II. Roberts-Horan
Fundamental principles of chemistry. Properties of elements and compounds. For students who have had credit in high-school chemistry. Laboratory fee, $5; breakage deposit, $2.50. 8:10-9:40. (Lab. 1:40-4:30 M.W.F.)

3. Qualitative Analysis. (4) II. Sands
Laws of equilibrium and solutions. Separation and identification of common cations and anions. Prerequisite, 1b or 2b. Fee $6. 7:00-8:00 (Lab. 8:10-11:10 daily; 1:30-4:30 T. Th.)

103a-103b. General Organic Chemistry. (4-4) I-II. G. Castro
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. 1:30-4:30 M.W.F.)

CLASSICS—HUMANITIES

Professor Percy (Head of the Department).
Associate Professor Schmitz.
Instructor Palmer.

47. The Iliad and the Odyssey in English. (2) I. Palmer
An introduction to Homer and the Homeric Age. Myths and legends of the Trojan Cycle; narrative techniques and literary influences of the poems; archaeological investigations of Homeric sites. Selected passages studied in English translation. 8:10-9:10.

Introduction to Humanities. (4-4) I-II. Palmer-Percy-Schmitz
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. Sections limited to 30 students. Section A: 8:10-9:10 and 10:30-11:30. Section B: 9:20-10:20 and 11:40-12:40. Each section meets twice daily. Section A only during the second term.

ECONOMICS

Professors Gray (Head of the Department), Schmidt.
Assistant Professors Gill, Hudson.
Instructors Hutchins, Bogard.

1a-1b. Introduction to Economics. (3-3) I-II. Staff
The first term is devoted to methods of logical economic analysis and the derivation of fundamental economic principles. The second term is devoted to application of methods of reasoning and principles to the actual problems of economic life. Section A: 7:00-8:30. Section B: 10:00-11:30.

105. Labor Problems and Trade Unionism. (3) I. G. Gray
Employment, wages, hours, risks of industry, sub-standard workers, types of unions, history of unionism, union policies and practices. Prerequisite, Economics 1b or 2b and junior standing. 8:10-9:40.
106. Labor Relations. (2) I. G. Gray
Some general aspects of human relations in industry. A study of collective bargaining methods, legal aspects of labor contracts, and some of the problems arising out of these contracts. Prerequisites, Economics 1b or 2b and junior standing. 10:30-11:30.

107. Comparative Economic Systems. (2) II. G. Schmidt
An examination of the criteria for evaluating economic systems. An analysis of the structure and workings of economic systems under liberalism, socialism, communism, Nazism, Fascism. Prerequisites, Economics 1b or 2b and junior standing. 7:00-8:00.

191. Advanced Economic Theory. (3) II. G. Schmidt
A survey of economic theory with special emphasis on value and distribution. Required of all graduating seniors in Economics and Business Administration. Prerequisite, Economics 1b or 2b and senior standing. 8:10-9:40.

192a-192b. Economic Investigations. (2-2) I-II. G. Staff
Methods of investigation; sources of material; collection and arrangement and analysis of data; preparation of scientific papers. Prerequisite, senior standing. (Conference hours to be arranged.)

EDUCATION

Professors Clarson (Head of the Department), Garretson, Kelley, Larson, Walker.
Visiting Professor Madigan.
Assistant Professor Nelson.
Visiting Lecturers Hibner, Jerome, Petersen, Taylor.
Visiting Instructors Foster, Ghertner, Henderson, Merritt.

103s. The Exceptional Child in the Regular Classroom.
(2) I. G. Ghertner
The fundamentals of special education for the classroom teacher. How to discover the exceptional child. The causes, prevention, and treatment of mental and physical handicaps in children. Handling the mentally gifted children and those who are behavior problems. 9:20-10:20.

105s. Principles and Techniques of Guidance. (2) I. G. Jerome
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.

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.

112s. History of Education in the United States.
(2) II. G. Nelson
The development of our educational system from colonial foundations to the present. The aim will be to bring about increased understanding and appreciation of the national system through authentic information as to its origin and development and the principles involved. 10:30-11:30.

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, 121a or 134. 8:10-9:10.
121s. New Trends in Elementary Education. (2) I. G. Petersen
Changes in elementary education brought about by changes in living.
Trends in: promotion practices, adjustments for deviate pupils, expanding and changing curriculum, varied learning aids, additional services for children, closer school and community relationships, new type buildings, classrooms, equipment. This course meets the certification requirement in the elementary curriculum. Prerequisite, 3 units in education. 9:20-10:20.

124as. Materials and Procedures in a Reading Program
for Children from 6 to 14. (2) I. G. Petersen
(Pt. I.)
Reading accepted as a phase of the language arts; initial reading competency stressed to insure less remedial work; means for understanding of the learner; aids in specific difficulty areas; teacher skill in use of available reading materials; evaluation of readers and workbooks; study of tests of reading and of reading readiness; administration of diagnostic reading tests. Prerequisite, 151. 10:30-11:30.

124bs. Problems in the Teaching of Elementary
Social Studies. (2) II. G. Kelley
(Pt. II.)
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. 9:20-10:20.

131s. The High School as an Institution. (2) II. 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. 7:00-8:00.

134s. General High-School Methods. (2) I. G. Garretson
The actual problems of teaching with special reference to the adaptation of the principles of educational psychology. Prerequisite, 151; recommended, 131. 7:00-8:00.

150s. Mental Hygiene. (2) I. G. Walker
The principles of mental hygiene and their application to personal and social needs. Prerequisite, 151. 8:10-9:10.

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. 11:30-12:40.

157s. Educational Tests and Measurements.
(2-2) I, II. Merritt-Madigan
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. First Term: 10:30-11:30. Second Term: 11:40-12:40.

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) I. Foster
Simplified classification and cataloging; organization of books and materials for school library use; the shelf list; filing of catalogue cards; inventory; approved tools for these purposes. 10:30-11:30.

203. Problems in Educational and Vocational
Guidance. (2) II. Garretson
An analysis and evaluation of the administrative organization for guidance and of the techniques for counseling of pupils. Open to
ANNOUNCEMENT FOR THE SUMMER SESSION

Seniors and graduates. Prerequisites for seniors, 6 units in education. 8:10-9:10.

210s. Philosophy of Education. (2) II. 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. 9:20-10:20.

(2) I. 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. 11:40-12:40.

227s. Elementary-School Administration and Supervision. (2) II. Hibner
The administrative and supervisory problems of the principal of a ward school or of a small school system. For seniors and graduates. Prerequisites, 121a-121b or teaching experience. 8:10-9:10.

236s. High-School Administration and Supervision. (2) I. Taylor
The problems of organization, administration, and supervision of the modern high school. For seniors and graduates. Prerequisite, 131. 8:10-9:10.

238s. The Curriculum and Its Relationships. (2) I. Taylor
Basic theories and techniques of curriculum construction discussed, evaluated, and applied. Prerequisite, 124a or 124b or 131. 9:20-10:20.

254as. 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. 8:10-10:20.

254bs. Advanced Statistical Methods. (2) I. Walker
The application of the common procedures of statistics, including multiple and partial correlation, to specific school and research problems. For seniors and graduates. Prerequisite, 254a or a course in elementary statistics. 9:20-10:20.

260s. General School Administration. (2) II. Hibner
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.

299. Seminar in Education. (2) I. 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. 7:00-8:00. (Hours and credit to be arranged.)

ENGLISH

Professors Thrift, Tucker.
Assistant Professors Gegenheimer, Morgan, Stuart.
Instructors Breyer, Bruner, Huggins, Leddy, Ramsey, Wiley.

1a, 1b. Freshman Composition. (3) I, II.
The study and practice of good writing, with emphasis upon exposition, short and long themes, collateral reading, conferences. Re-
required of all freshmen. Both la and lb will be given each term. la, Section A: 8:10-9:40; Section B: 10:00-11:30. lb, Section A: 8:10-9:40; Section B: 10:00-11:30.

24a-24b. American Literature. (3-3) I. II. Stuart-Morgan
24a: From the beginnings to the Civil War.
24b: From the Civil War to the present.
Wide reading of both prose and poetry. 24a is not prerequisite to 24b. Not open to freshmen or, without special permission, to seniors. 8:10-9:40.

124s. Literature of the Southwest. (3) II. G. Huggins
The last frontier in fact and fiction; the accounts of early travelers, the stock western, the true regional novel, poetry. Useful bibliography. 8:10-9:40.

130b. The English Novel. (2) II. G. Tucker
The twentieth-century novel. 130a is not prerequisite to 130b. 8:10-9:10.

131b. Shakespeare. (3) II. G. Tucker
A careful study of three plays. Prerequisite, 131a or 132a, or equivalent. 10:00-11:30.

139. Milton. (3) I. G. Thrift
Paradise Lost, selected poems and prose. 10:00-11:30.

144. American Drama. (3) I. G. Gegenheimer
The development of drama in the United States from the Colonial period to the present. Prerequisite, 6 units in American literature or in drama. 10:00-11:30.

150a. The Literature of the Bible. (2) I. G. Thrift
The Old Testament as literature. 8:10-9:10.

160. History of the English Language. (3) I. Gegenheimer
Required of all candidates for the master's degree in English. 8:10-9:40.

215as-215bs. Literary Criticism. (2-2) I. II. Stuart-Morgan
The theory of criticism from classical antiquity to the present. 10:30-11:30.

250. Bibliography. (2) II. Huggins
Required of all candidates for the master's degree in English. 11:40-12:40.

FRENCH

Professor Tremblay.
Associate Professor Roy.
Instructor Fioroni.

1b. Elementary French. (4) I. Roy
Grammar, pronunciation, class and collateral reading. Class meets 2 hours daily. 8:10-9:10 and 10:30-11:30.

3a-3b. Advanced French. (4-4) I-II. Tremblay-Fioroni
Review grammar, composition, conversation, reading. Prerequisite, la-1b or 2 years of high-school French. The class meets 2 hours daily. 7:00-8:00 and 9:20-10:20.

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).
Associate Professor Schmitz.
Instructor Smitham.

1as-1bs. Elementary German. (4-4) I-II. Schmitz-Smitham

3as. Intermediate German. (4) I. 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.

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

HISTORY AND POLITICAL SCIENCE

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

1a. History of the United States to the Civil War. (3) II. Flaccus
An introductory course covering the period indicated and intended especially for freshmen, sophomores, and high-school teachers. Open to upper-division students. 8:10-9:40.

12s. History of England after 1603. (2) I. Hubbard
The development of party government; the rise of the great middle class; and England's international struggles. 7:00-8:00.

17bs. General European History. (2) I. Wedel
From 1648 into the twentieth century. 9:20-10:20.

105bs. Nineteenth Century Europe. (3) I.G. Hubbard
The Congress of Vienna; conservative reaction after the Napoleonic Wars; the rise of liberalism; international conflicts. 8:10-9:40.

115b. The Twentieth Century. (2) I.G. Wedel
International relations before 1941; the cause and results of the wars of the century; the Russian Revolution; the new Europe. 10:30-11:30.

128s. The Southwest under Spain and Mexico. (2) II. G. Flaccus
Exploration, conquest, and institutional development from 1531 to 1848. Emphasis will be upon the mission, the presidio, and international rivalry. 10:30-11:30.

100s. National and State Constitutions.
(2,2) I, II. Houghton-Kelso
Devised to meet the requirements for a teacher's certificate. 8:10-9:10.

125bs. Current Public Problems and Trends. (2) I.G. Houghton
Survey of public problems which challenge our people and our government; tendencies and trends in dealing with them. 9:30-10:20.

154s. American Parties and Party Methods. (2) II. G. Kelso
Origin, development, and functioning of our political parties. 7:00-8:00.
HOME ECONOMICS

Professor Johnson (Head of the Department).
Assistant Professors Jensen, Wood.
Instructor Fees.

2. Introduction to Nutrition. (2) II. Fees
The nutritional requirements of the college student for actual health and how they can be met through dietary planning. 10:30-11:30. Open to men and women.

13s. Camp Cookery. (1) II. Wood
The selection and preparation of foods for camps. Practical work in the laboratory and out-of-doors. One lecture and two laboratory periods a week. Fee, $5. Registration limited to 20. 10:30-11:30. (Lab. 4:30-7:30). Open to men and women.

45s. Costume Selection. (2) I. Jensen
Type and kinds of cosmetics, make-up problems, principles of design and color as they relate to dress and personal appearance, planning wardrobes and clothing budgets. 8:10-9:10.

94. Textiles. (2) I. Jensen
The study of textile fibers and their manufacture into fabrics. 10:30-11:30.

101s. School Lunch Management. (2) II. Wood
Problems involved in the organization of the school lunch, in menu making, food purchasing, preparation, and service, and in record keeping. Especially designed for rural and elementary school programs. No prerequisites. 9:20-10:20.

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

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

221s. Survey of Recent Trends in Foods. (2) II. Fees
Recent developments in the processing of foods, formulation of food standards, and experimental work in cookery procedure, as reported in current literature. (July 29 to August 14, 7:00 to 9:00.)

HOME ECONOMICS EDUCATION
(See Agricultural and Home Economics Education.)

HORTICULTURE

Professor Pultz (Head of the Department).

200s. Advanced Problems in Horticulture. (2) I. Staff
Recent development in various fields of horticulture, including problems in vegetable and fruit production, home gardening, ornamental plantings, and plant protection. Prerequisite, 12 units in horticulture or closely related fields, subject to approval of the head of the department. (June 7 to June 23. Hours to be arranged.)

LIBRARY COURSES
(See Education.)
ANNOUNCEMENT FOR THE SUMMER SESSION

MATHEMATICS

Professor Graesser (Head of the Department).
Assistant Professor Webb.
Instructor J. F. Foster.
Assistants Fish, Hillman, Neely.

10. Solid Geometry. (3) I. Hillman
   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. Neely
   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 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. Hillman-Fish
   Prescribed for all engineering courses. Prerequisite, 1 1/2 entrance credits in algebra. 10:30-12:00.

24. Plane Trigonometry. (2) I, II. Neely-Fish
   Prescribed for all engineering courses. Prerequisite, 1 1/2 entrance credits in algebra and 1 entrance credit in geometry. 7:00-8:10.

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

81. Slide Rule. (1) II. Fish
   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 M.W.F.

95a-95b. Calculus. (4-4) I-II. Foster-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.

MUSIC

Assistant Professors Buchhauser, Kalis.
Instructor Hollenbeck.
Visiting Instructor Rickel.

1a, 1b. Music Appreciation. (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. Both 1a and 1b will be given each term. 1a. 8:10-9:10; 1b. 10:30-11:30.

2b-2a. Fundamentals of Music. (2-2) I-II. Buchhauser
   Rudiments of theory and rhythm taught in relation to the piano keyboard. Open for credit only to nonmusic majors. Prerequisite for 2b is the ability to read music. No prerequisite for 2a. 11:40-12:40.

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 ma-
terials for class instruction. No prerequisite. Fee of $10 covers the use of instruments. Class meets daily. (Time to be arranged.)

176s. Fundamental Music Education. (2) I. Kalis
Song singing, rhythmic sense development, listening lessons, music reading, and projects for grades 1 to 6. Prerequisites, 1a-1b, 2, and junior standing. Not for credit toward the Master of Music degree. 9:20-10:20.

Cello. Individual Instruction. I. II. Kalis
(Hours and credit to be arranged.)

Organ. Individual Instruction. I. II. Buchhauser
(Hours and credit to be arranged.)

Piano. Individual Instruction. (1 to 4) I, II. Kalis-Rickel
(Hours and credit to be arranged.)

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

PHILOSOPHY AND PSYCHOLOGY

Professor Simley.
Visiting Professor Field.
Assistant Professor Wallraff.

1a-1b. Elementary Psychology. (3-3) I-II. Field
Fundamental principles of human behavior. Applications of principles are stressed. 10:00-11:30.

15. Social Psychology. (3) I. Wallraff
Foundations of social behavior. Personality and its social basis. Crowds, suggestion, propaganda, motivation, imitation, war. Prerequisites, 1a and 1b or Education 151. 8:10-9:40.

22s. Applications of Psychology. (2) I. Field
Application of psychological principles to the following fields: vocational guidance and selection, personnel administration, industrial efficiency, advertising, salesmanship, education, law, medicine. Prerequisite, 1a-1b. 11:40-12:40.

116s. Personality. (2) II. G. Field
Analysis and measurement of personal traits. Conditions affecting personal development. Problems of adjustment. Prerequisites, 1a and 1b or Education 150 or 151. 11:40-12:40.

118s. Abnormal Psychology. (2) II. 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. 8:10-9:10.

150. Mental Tests and Measurements. (3) II. G. Simley
Principles of mental measurements and the construction of tests. Prerequisite, 1a-1b. Laboratory fee, $2. 10:30-11:30. (Lab to be arranged.)

12a. Logic. (3) I. Wallraff
Principles of valid thinking. Types of fallacies and ways of detecting them. 10:00-11:30.

PHYSICAL AND HEALTH EDUCATION FOR WOMEN

Professor Chesney.
Visiting Professor Wright.
8s. Basic Modern Dance. (2) I. Wright
Fundamentals of bodily movement; study of posture and correction of foot defects through proper body mechanics; simple dance patterns and rhythmic progressions; relation of dancing to other school subjects. Open to men and women. Locker fee, $2. 11:40-12:40.

9s. Folk Dancing. (2) I. Wright
Study and practice of traditional folk dances of various countries; study and discussion of folk history, costumes, programs, and festivals. Special attention given to programs for pageants, mixers, and other school and social purposes. Open to men and women. Locker fee, $2. 8:10-9:10.

82s. Play and Playgrounds. (2) I. Chesney
Theories of play; methods of organization, administration and management of playgrounds; discussion of equipment; study of methods of producing games or play leaders. Open to women only. 9:20-10:20.

85. Recreational Games. (2) II. Wright
Practice and theory of coaching minor sports and modified activities such as croquet, volleyball, badminton, deck tennis, table tennis, shuffleboard and bowling. Locker fee, $2. 7:00-8:00.

87s. Dance Theory and Composition. (2) II. Wright
Development of simple dances by progression from basic rhythms to more complex combinations and patterns of movement; attention to group design and floor plans in use of large groups, dance themes and ideas, stage movement; technical details of program planning and production. This course is of value to teachers having no special training in dance who are often called upon to assist in producing and directing school programs and recitals. Open to men and women. Locker fee, $2. 9:20-10:20.

110s. Swimming and Lifesaving. (2, 2) I, II. Wright
Elementary and advanced swimming. Coaching and lifesaving practices. Students registered for this course must also be registered in some other University course. Physician’s certificate required. Locker fee, $2. 10:30-11:30 M.T.W.Th. 2:00-3:00 W.

155bs. Coaching of Individual Sports. (2) I. Chesney
Practice and theory of coaching tennis and badminton. Discussion of game values, techniques, equipment and rules. Theory and practice in duties of officials. Open to men and women. Locker fee, $2. 7:00-8:00.

PHYSICAL EDUCATION FOR MEN

Associate Professor Enke.
Assistant Professors Sancet, Vosberg.
Instructor Ott.
Visiting Instructor Henderson.

60abs. Game Supervision and Officiating. (2) II. Sancet
Deals with the supervisory details of various athletic contests. Emphasis is placed upon the mechanics of officiating and a thorough knowledge of rules. 11:40-12:40.

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. Physician’s certificate required. 8:10-9:10 M.T.W.Th.

70. First Aid. (2) II. Ott
The course covers the emergency treatment administered for excessive bleeding, fracture, burns, asphyxiation, poisoning, shock, and the transporation 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. Henderson
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. 9:20-10:20.

190. 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. 7:00-8:00 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.

195. 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.

196s. Athletic Coaching—Baseball. (2) II. Sancet

198. Athletic Coaching—Track and Field Athletics. (2) II. Vosberg

(Ed. 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. Education 134 and 12 semester hours of physical education. 7:00-8:00.

SECRETARIAL STUDIES

Assistant Professor Langen.

7. Personal Typing. (1) I. Langen
Instruction and practice in the mastery of the typewriter keyboard and development of typing speed. Special instruction given in personal typing problems. Fee, $3. 7:00-8:00.

176. Secretarial Science. (2) I. G. Langen
Designed to give the prospective secretary an understanding of office organization, desirable attitudes to be developed, and a knowledge of mailing, filing, voice writing, and duplicating techniques. Prerequisite, 74b or one of the advanced courses. Class limited to 20. Fee, $3. 9:20-10:20.

177. Principles of Office Practice. (2) I. G. Langen
The theory and application of adding and calculating machine techniques. Prerequisite, Business Administration 31a-31b. Class limited to 20. 10:30-11:30.
ANNOUNCEMENT FOR THE SUMMER SESSION

SOCIOLGY

Associate Professor Klaiss.
Assistant Professor Lebeaux.

81. Introduction to Sociology. (3) I, II. Lebeaux-Klaiss
   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.

84. Social Problems. (3) I. Lebeaux
   A survey of major social problems such as poverty, crime, health,
   housing, population, immigration, race, etc. A consideration of social
   factors and changes producing contemporary problems. 8:10-9:40.

100. Education for Marriage. (3) II. Klaiss
   A study of marital problems and relations as they are affected by
   biological, psychological and social factors. A review of behavior dif-
   ferences between men and women, preliminaries to marriage, choice
   of mate, personality adjustment in marriage, the problem of divorce,
   etc. 8:10-9:40.

SPANISH

Professor Brooks (Head of the Department).
Assistant Professor Bork.
Instructors Castro, Taylor.

1a-1b. Elementary Spanish. (4-4) I-II. Brooks
   A beginning course that includes grammar essentials and transla-
   tion; 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-Taylor-Castro
   Introduction to systematic syntax accompanied by reading of mod-
   ern 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. Taylor-Castro
   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 de-
   velop proficiency in the practical use of the language. Translation
   into Spanish, review of grammar, and elements of commercial corre-
   spondence. Prerequisite, 3b or 4 years of high-school Spanish. 9:20-
   10:20.

SPEECH

Associate Professors Lynn, Mattingly.
Visiting Professor Wells.
Instructor Little.

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 the body, voice, language, and thought
   in oral communication. Practice in the skills of spoken language.
   Recording fee, $1.50 each term.
   First Term, Section A: 7:00-8:00. Section B: 8:10-9:10.
   Second Term, Section A: 7:00-8:00. Section B: 8:10-9:10.
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. Section B: 8:10-9:10.

12s. Parliamentary Procedure and Discussion. (2) II. Wells

115s. Extemporaneous and Impromptu Speaking. (2) II. Little
Regular practice and training in both types of speaking. 10:30-11:30.

136. The Oral Interpretation of Literature. (2) I. 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). 10:30-11:30.

172s. The Application of Phonetics to Bilingual Speech. (2) I. 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. Prerequisites, 2a, 5, and 7 units in the field of speech, language, and or education. 10:30-11:30.

182as.-182bs. Advanced Problems in Speech. (2-2) I-II. Staff
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 Micklewright.

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.)

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 20. 7:00-8:30. (Lab. 8:40-11:40 M.W.F.)

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. Brown
The department makes available to undergraduate students opportunity to work individually through Independent Study, and Special Problems (2-4); and to graduate students through Research (2-4). (Hours and credit to be arranged.)
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UNIVERSITY OF ARIZONA PRESS
Committee: R. L. Nugent, Chairman; P. S. Burgess; T. G. Chapman;
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   School of Military Science and Tactics
   Department of Physical Education for Men
   Department of Physical Education for Women

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   Agricultural Extension Service
   Arizona Bureau of Mines
   Arizona State Museum
   Laboratory of Tree-Ring Research
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