Continuing Education

ON CAMPUS LATE AFTERNOON AND EVENING COURSES

THE UNIVERSITY OF ARIZONA

TUCSON
STATEMENT OF MAILING PRIVILEGE

The University of Arizona Record is issued seven times a year. Published monthly during July, August, and October and semi-monthly during April and June.

Entered as second-class matter April 28, 1933, at the post office at Tucson, Arizona, under the Act of August 24, 1912.
ON CAMPUS • LATE AFTERNOON • EVENING COURSES
ACADEMIC CALENDAR

FIRST SEMESTER

1964-65
--- SEPTEMBER ---

Residence Halls open for New Students ......................  2 W
University Faculty Meeting ..................................  5 Sa
Orientation Week Program ...................................  8 T to 14 M
Registration for College of Law ..............................  8 T, 9 W
Classes begin in College of Law .............................. 10 Th
Residence Halls open for Returning Students .............. 10 Th
Registration (except for College of Law)
   Returning Students ........................................ 11 F, 12 Sa, 14 M
   New Students .............................................. 12 Sa, 14 M
Classes begin (except for College of Law) ............... 15 T
“A” Day—Classes are held ................................. 19 Sa
Last day of registration for credit ......................... 22 T

--- OCTOBER ---

Parents’ Day .................................................. 24 Sa
Last day for dropping courses in Graduate
   College and College of Law ............................ 24 Sa
Records close for midterm scholarship report ............ 27 T

--- NOVEMBER ---

Homecoming—no classes .....................................  7 Sa
Veterans’ Day—no classes ................................. 11 W
Last day for dropping courses in colleges
   other than Graduate College and College of Law .... 21 Sa
Thanksgiving recess ........................................ 26 Th—29 Su Incl.

--- DECEMBER ---

Christmas recesses .......................................... 20 Su—Jan. 3 Su Incl.

--- JANUARY ---

Class and laboratory sessions end ........................ 14 Th
Semester examinations begin ............................... 16 Sa
Semester examinations end ................................. 25 M
DIVISIONS OF THE UNIVERSITY

COLLEGE OF AGRICULTURE

COLLEGE OF ARCHITECTURE

COLLEGE OF BUSINESS AND PUBLIC ADMINISTRATION
Departments of: Accounting, Management, Economics, Finance, Insurance and Real Estate, Geography and Area Development, Marketing, Public Administration, Office Administration and Business Education.

COLLEGE OF EDUCATION

COLLEGE OF ENGINEERING
Departments of: Aerospace and Mechanical Engineering, Civil Engineering, Electrical Engineering, Nuclear Engineering, Systems Engineering.

COLLEGE OF FINE ARTS
School of Music; Departments of: Art, Drama, Speech.

COLLEGE OF LAW

COLLEGE OF LIBERAL ARTS
Departments of: Anthropology, Astronomy, Chemistry, Classics, English, German and Russian, Government, History, Journalism, Mathematics, Meteorology, Microbiology and Medical Technology, Philosophy, Physics, Psychology, Romance Languages, Sociology, Zoology, Committee on Oriental Studies.

COLLEGE OF MEDICINE

COLLEGE OF MINES
Departments of: Chemical Engineering, Geology, Mining and Metallurgical Engineering.

COLLEGE OF NURSING

COLLEGE OF PHARMACY

GRADUATE COLLEGE

GENERAL DEPARTMENTS
Department of Health, Physical Education, and Recreation.
Department of Physical Education for Women.
School of Military Science and Tactics.

CONTINUING EDUCATION AND THE SUMMER SESSION

DIVISIONS OF RESEARCH AND SPECIAL PUBLIC SERVICE
Agricultural Experiment Station, Agricultural Extension Service, Applied Research Laboratory, Arizona Bureau of Mines, Arizona Cooperative Wildlife Research Unit, Arizona State Museum, Arizona Transportation and Traffic Institute, Bureau of Audio-Visual Services, Bureau of Business and Public Research, Bureau of Correspondence Instruction, Bureau of Ethnic Research, Bureau of School Services, Engineering Experiment Station, Geochronology Laboratories, Institute of Atmospheric Physics (including Solar Energy Research Laboratory), Institute of Water Utilization, Laboratory of Tree-Ring Research, Lunar and planetary Laboratory, Numerical Analysis Laboratory, Poisoning Control Information Center, Radio-Television Bureau, Steward Observatory.

THE UNIVERSITY LIBRARY
OFFICERS OF ADMINISTRATION

Richard Anderson Harvill, Ph.D., LL.D. (1934) ......................... President of the University
Samuel C. McMillan, M.B.A. (1960) ......................... Vice President for Planning and Development
Walter Harold Delaplane, Ph.D (1962) ......................... Vice President for Academic Affairs
Marvin D. Johnson, M.S. (1952) ......................... Vice President for University Relations
David Lyall Patrick, Ph.D. (1934) ......................... Coordinator of Research
Francis Pendleton Gaines, Jr., Ph.D. (1959) ..................... Dean of Continuing Education and the Summer Session
John Daniel Lyons, J.D. (1947) ..................... Dean of the College of Law
Francis Albert Roy, Ph.D. (1934) ................ Dean of the College of Liberal Arts
Willis Ralph Brewer, Ph.D. (1949) ..................... Dean of the College of Pharmacy; Chairman, Committee on Scholarships and Awards
Harold Edwin Myers, Ph.D. (1956) ..................... Dean of Agriculture
James Donald Forrester, Ph.D. (1956) ..................... Dean of the College of Mines; Director of the Arizona Bureau of Mines
Herbert Dawson Rhodes, Ph.D. (1943) ..................... Dean of the Graduate College
Sidney Wahl Little, M.Arch. (1958) ..................... Dean of the College of Architecture
C. William Voris, Ph.D. (1963) ..................... Dean of the College of Business and Public Administration
Merlin K. DuVal, Jr., M.D. (1964) ..................... Dean of the College of Medicine
Howard S. Coleman, Ph.D. (1964) ..................... Dean of the College of Engineering
Pearl Parvin Coulter, M.S. (1957) ..................... Dean of the College of Nursing
Robert Leslie Hull, Ph.D. (1964) ..................... Dean of the College of Fine Arts
E. Robert Paulsen, Ed.D. (1964) ..................... Dean of the College of Education
Edwin M. Gaines, Ph.D. (1961) ..................... Dean of Men
Karen Louise Carlson, Ph.D. (1945-49; 1951) ..................... Dean of Women
Kenneth R. Murphy, C.P.A., B.S. (1951) ..................... Comptroller and Treasurer
David Lawrence Windsor, M.A. (1945) ..................... Registrar and Director of Admissions; Secretary of the Faculty
Robert K. Johnson, Ph.D. (1964) ..................... Librarian
Sam S. Britt, Jr., Ed.D. (1959) ..................... Assistant Dean of Continuing Education and the Summer Session
ON-CAMPUS LATE AFTERNOON AND EVENING COURSES

The University of Arizona offers a wide variety of academic courses on its campus in the late afternoon and evening. These fully accredited classes, offered through the University’s Division of Continuing Education, are designed for two principal groups: regular day students who wish to take additional or alternate courses in the late afternoon or night; and adults of the Tucson community.

These courses, approximately three hundred in number, are open to all qualified adults. These include adults working toward undergraduate or graduate degrees, as well as many citizens of the community who are seeking no specific degree but are simply interested in certain classes. These adults include teachers, business and industry employees, winter visitors, and the public at large.

The University of Arizona recognizes its special obligations to adults, particularly those of the Tucson community. Many late afternoon and evening courses on the campus are of particular interest to these adults. The classes may be taken for credit or non-credit.

These include classes in anthropology, music, speech, sociology, conversational Spanish, Russian, psychology, child care and development, education, secretarial studies, real estate, stock market, investments, business administration, humanities, and scores of other subjects.

Television courses of unusual interest are offered for regular academic credit on Channel 6, the University’s own television station. These courses for the fall of 1964 include chemistry, geology and history.

The University of Arizona conducts many other classes, not listed in this brochure, in the late afternoon or night. These classes concern special fields of interest, are of varying duration, and usually do not furnish credit.

Persons interested in the formation of such classes listed above, those merely wishing more information about such courses, and those wishing additional information and literature about the classes described in this announcement, should phone or write The Dean, Continuing Education and the Summer Session, University of Arizona, Tucson, Arizona.
REGISTRATION

Registration for those students taking evening classes only (4:40 p.m. or later) will be held in the WOMEN'S BUILDING (east of the Student Union building) at the times and dates indicated below.

Thursday, September 3  7:00 p.m. - 9:00 p.m.
Friday, September 4    7:00 p.m. - 9:00 p.m.
Saturday, September 5  9:00 a.m. - 12:00 noon

A late registration fee of $5.00 will be charged for Continuing Education registration after 12:00 noon, Saturday, September 5.

Students who plan to enroll in any classes meeting prior to 4:40 p.m. must be admitted to the regular day session and must register for their entire program during regular session registration which will be held on September 11, 12, and 14, according to an alphabetical time sequence published by the Office of the Registrar. See the Schedule of Hours for detailed registration instructions.

LATE REGISTRATION

Continuing Education students who fail to register by 12:00 noon, Saturday, September 5, will be unable to do so until the late registration period. Late registration will be conducted in the Office of Continuing Education, Room 324, Liberal Arts Building, at the dates and times indicated below.

Tuesday thru Thursday,  
September 15-17  8:00 a.m. - 12:00 noon  
                   1:00 p.m. - 5:00 p.m.  
                   7:00 p.m. - 9:00 p.m.

Friday, September 18  8:00 a.m. - 12:00 noon  
                     1:00 p.m. - 5:00 p.m.

Saturday, September 19  8:00 a.m. - 12:00 noon  
Monday and Tuesday,  
September 21, 22  8:00 a.m. - 12:00 noon  
                     1:00 p.m. - 5:00 p.m.  
                     7:00 p.m. - 9:00 p.m.

The last day of registration for credit will be Tuesday, September 22. A student must have completed his registration including payment of fees by 9:00 p.m. on that date.
CHANGES IN SCHEDULE

The University reserves the right to make any necessary changes in class schedules or cancel any classes.

Any changes in registration made for the convenience of the student after fees are paid must be made on a Change of Study form. These forms are available in the Office of Continuing Education, Room 324, Liberal Arts Building. Fee $2.00.

You are considered officially registered in each course shown on your IBM registration card No. 3 at the time your registration packet including class cards is turned in to the cashier. Failure to attend any of the courses makes it necessary to award a grade of 5 unless official withdrawal from the class is secured.

CLASS MEETINGS

All classes will begin on or after September 15, and will be held at the time and place indicated in the class description and Schedule of Hours. No further notice concerning these classes will be forwarded to students.

FEES

Students registering for less than seven units in Continuing Education will pay a registration fee of $11.50 per unit. If registering for seven or more units in Continuing Education the registration fee will be $107.00 plus nonresident tuition if applicable. Students who wish to combine Continuing Education courses with the regular day program must do so by registering during the day registration hours. Fees for combined registrations will be on the basis of total number of units for which registered, plus laboratory and course fees if applicable. Students registering for Audit and Non-Credit courses will pay the per unit cost of such courses in addition to other fees.

Courses listed with an asterisk (*) are primarily for adults and require the payment of the special fee noted in the course description. The fees for these courses are equivalent to fees charged for other courses, namely $11.50 per unit. However, these special courses are not open to general university students except upon payment of the special additional fee.
SCHEDULE OF REGISTRATION FEES FOR
CONTINUING EDUCATION AND OR DAY COURSES

<table>
<thead>
<tr>
<th>UNITS</th>
<th>RESIDENT</th>
<th>NON-RESIDENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>11.50</td>
<td>11.50</td>
</tr>
<tr>
<td>2</td>
<td>23.00</td>
<td>23.00</td>
</tr>
<tr>
<td>3</td>
<td>34.50</td>
<td>34.50</td>
</tr>
<tr>
<td>4</td>
<td>46.00</td>
<td>46.00</td>
</tr>
<tr>
<td>5</td>
<td>57.50</td>
<td>57.50</td>
</tr>
<tr>
<td>6</td>
<td>69.00</td>
<td>69.00</td>
</tr>
<tr>
<td>7</td>
<td>107.00</td>
<td>296.00</td>
</tr>
<tr>
<td>8</td>
<td>107.00</td>
<td>323.00</td>
</tr>
<tr>
<td>9</td>
<td>107.00</td>
<td>350.00</td>
</tr>
<tr>
<td>10</td>
<td>107.00</td>
<td>377.00</td>
</tr>
<tr>
<td>11</td>
<td>107.00</td>
<td>404.00</td>
</tr>
<tr>
<td>12 or over</td>
<td>107.00</td>
<td>432.00</td>
</tr>
</tbody>
</table>

All fees are due and payable on the day of registration.

WITHDRAWALS

All Continuing Education withdrawals should be processed on a change of study list. These forms are available in the Office of Continuing Education or in the Office of the Registrar. Unless an official withdrawal is secured from the course, a grade of “5” (failure) is awarded.

Students registered for Continuing Education courses only and who withdraw from class will have a percent of tuition and fees refunded according to the following schedule of effective dates:

- September 15 through September 21 **100%**
- September 22 through September 28 **80%**
- September 29 through October 5 **60%**
- October 6 through October 12 **40%**
- October 13 through October 19 **20%**
- October 20 and after No refund

**Less $10.00 withdrawal fee, 7 or more units.**
Less than 7 units, $5.00 withdrawal fee (first week of classes). There will be no refund of the late registration fee.

To claim refund, application must be made at the Office of Continuing Education immediately following withdrawal from class. Continuing Education students must secure the signature of the instructor on the drop list.
GRADUATE CREDIT

Admission to the Graduate College. To obtain graduate credit, one must apply to and be admitted to the Graduate College. To apply for admission, (a) submit the completed application form in duplicate (one blue and one white copy) and (b) request the registrar of each institution you have attended to mail a transcript of your credits directly to the Office of the Graduate College of The University of Arizona. This admission must be accomplished promptly by every person who expects to qualify for any graduate credit at The University of Arizona. If the student has been previously admitted to the Graduate College he need not apply again.

In order to receive graduate credit for any appropriate course it is absolutely necessary to be admitted to the Graduate College by the means outlined above. No exceptions will be made.

All graduate courses (200-399) listed in this brochure, including those with numbers in the 8200 and 8300 series, offer full residence credit for the master’s and other appropriate degrees. However, the Graduate College will recognize no more than 12 units of courses in the 8200 and 8300 series toward the master’s degree.

KEY TO LIST OF COURSES

The prefix number 8 of a four digit course number indicates (1) restrictions on graduate credit (see paragraph above), (2) special no-credit courses, (3) courses having a unit value differing from the regular Biennial Catalogue, and (4) courses requiring special enrollment fee.

Courses 001-099 are primarily lower-division courses for freshmen and sophomores. Courses numbered 100-199 inclusive are upper-division courses primarily for juniors and seniors. Courses numbered 200-299 inclusive are upper-division courses primarily for juniors and seniors, but courses in this group may be carried for graduate credit; they are not open to lower-division students. Courses numbered 300-399 inclusive are graduate, but exceptionally well-qualified seniors may be admitted to certain courses in this group with the approval of the instructor and the Dean of the Graduate College.
CONTINUING EDUCATION
FIRST SEMESTER – 1964-65

Note: It is expected that all courses will be offered as indicated, but the University necessarily reserves the right to make such last-minute changes as needed.

ACCOUNTING

<table>
<thead>
<tr>
<th>Course</th>
<th>Lect.</th>
<th>Title</th>
<th>Instructor</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a</td>
<td>Lect. 12</td>
<td>Principles of Accounting (3)</td>
<td>Zimmerman</td>
<td>Fundamental concepts and procedures; basic financial statements; special problems in accounting for assets, liabilities, and owner's equity; basic manufacturing and cost accounting; analysis and use of data by management and other interested parties. Class meets MW, 7:00-8:15 p.m., BPA 303.</td>
</tr>
<tr>
<td>1b</td>
<td>Lect. 5</td>
<td>Principles of Accounting (3)</td>
<td>Smith</td>
<td>Class meets TTh, 7:00-8:15 p.m., BPA 301.</td>
</tr>
<tr>
<td>101a</td>
<td>Lect. 3</td>
<td>Intermediate Accounting (3)</td>
<td>Heins</td>
<td>Theory and special problems involved in accounting for assets, liabilities, and stockholders' equity; net income determination; analysis and interpretation of financial statements. P, 1b and 2, or CR in the latter. Class meets MW, 7:00-8:15 p.m., BPA 301.</td>
</tr>
<tr>
<td>111</td>
<td>Lect. 3</td>
<td>Cost Accounting (3)</td>
<td>Irish</td>
<td>Basic concepts and procedures involved in accounting for raw materials, direct labor, and manufacturing overhead in job order and process cost accounting systems; introduction to standard cost procedures. P, lb. Class meets TTh, 7:00-8:15 p.m., BPA 408.</td>
</tr>
<tr>
<td>221</td>
<td>Lect. 2</td>
<td>Income Tax Procedure (3)</td>
<td>Dixon</td>
<td>Interpretation of income tax laws, rules, and regulations of the United States, with particular emphasis on fundamentals of the tax laws and procedures applicable to individual returns. P, lb. Class meets TTh, 4:40-5:55 p.m., BPA 301.</td>
</tr>
<tr>
<td>270</td>
<td>Lect. 2</td>
<td>Data Processing (3)</td>
<td>Passano</td>
<td>(Identical with Systems Engineering 270).</td>
</tr>
</tbody>
</table>
AGRICULTURAL EDUCATION

101

Rural Group Leadership (2)                  Williams
Characteristics of leadership and techniques of group dynamics; planning and promoting organizations, conducting meetings, and directing programs; emphasis on rural youth organizations. 1R, 2L. Class meets M, 7:00-7:50 p.m., Agric. 230.

Lab.  Class meets M, 8:00-10:00 p.m., Agric. 230.

298

Seminar in Agricultural Education (1)       Cline-Williams
Preparation, presentation, and discussion of reports on selected subjects. Class meets T, 4:40-5:30 p.m., Agric. 230.

315

Investigations and Studies in Agriculture Education (2)  Cline
Study and analysis of research literature, methods, techniques and procedures for conducting investigations; selecting a problem and developing plans for a study. P, 9 units in agricultural education or education. Class meets M, 7:00-9:00 p.m., Agric. 220.

399

Seminar (1-2)                              Staff
Study of selected topics and current developments in agricultural education. P, 189. Class meets Th, 4:40 to 5:30 p.m., Agric. 230.

AGRICULTURAL ENGINEERING

121

Energy in Agriculture (3)                  Barnes
Sources and application of energy in agricultural production and processing. Conversion and transmission of energy in devices for crop and livestock production, processing, and storage. P, E. 16, 22, and CR E. 140. Class meets MWF, 4:40-5:30 p.m., Agric. 220.

223

Components and Systems in Agriculture (5)  Wiersma
Functional capacitive, mechanical and economic analysis of machines and equipment and combinations of machines and equipment in application to agricultural production and processing. P, 121, 122. Class meets MTWThF, 4:40-5:30 p.m., Agric. 206.

ANIMAL PATHOLOGY

399

Seminar (1)                                Staff
Offered jointly with the Departments of Animal Science, Dairy Science, and Poultry Science. Class meets M, 4:40-5:30 p.m., Agric. Sci. 242W.

ANTHROPOLOGY

1a

Lect. 2  Introduction to Anthropology (3)     McFee
Survey of physical anthropology and archaeology. Class meets TTh, 7:00-8:30 p.m., Anthro. 129.
American Indian Languages (3)  Dozier
Distribution of American Indian languages; morphology, recording; linguistic structure of an American Indian language. P, 150a-150b. Class meets M, 7:00-10:00 p.m., Anthro. 310.

ART

3a  Lect.  Basic Design (2)  Rush
Elements of visual perception and organization in two- and three-dimensional media. 1R, 4S. Fee $2. Class meets T, 4:40-5:30 p.m., Hum. 102.

Studio 12  Class meets MW, 4:40-6:30 p.m., Art 101

Studio 13  Class meets MW, 7:00-9:00 p.m., Art 101

3b  Basic Design (2)  Adams
Fee $2. Class meets TTh, 7:00-10:00 p.m., Art 101.

6a  Studio 10  Basic Drawing (2)  Staff
Elementary course in representational drawing and expressive pictorial design. 6S. Fee $2. Class meets MWF, 4:40-6:30 p.m., Art 201.

Studio 11  Class meets MW, 7:00-10:00 p.m., Std. B.

Studio 12  Class meets MW, 7:00-10:00 p.m., Art 201.

Studio 13  Class meets TTh, 7:00-10:00 p.m., Std. B.

6b  Studio 2  Basic Drawing (2)  Denniston
Elementary course in representational drawing and expressive pictorial design. 6S. Fee $2. Class meets TTh, 7:00-10:00 p.m., Art 201.

31  Studio 3  Three-Dimensional Design (2)  Barker
Inquiry into the use of volume and mass relationships as they exist in actual space. Experimentation in the use of various materials; emphasis upon the establishment of visually meaningful relationships. 6S. P, 3b, 6b. F $2. Class meets TTh, 7:00-10:00 p.m., PAA Bsnnt.

65a  Studio 2  Beginning Commercial Design (2)  Heldt
Introductory study of principles, tools and techniques of advertising layout stressing the use of letters as design elements. 6S. P, 3b, 6b. Fee $1. Class meets TTh, 7:00-10:00 p.m., Art 103.

80  Studio 3  Beginning Painting (2)  Romotsky
Elementary course in pictorial organization and methods and techniques of oil painting. 6S. P, 3, 6b. Fee $1. Class meets MW, 7:00-10:00 p.m., Art 203.

Studio 4  Class meets TTh, 7:00-10:00 p.m., Art 203.

Sanger
103 Visual Arts in Elementary Education (3) Anderson
The elementary school art program with emphasis on perceptual and creative development and art learning objectives in relation to cultural values. An introduction to art elements, principles, and media via studio participation. 2R, 1S. P, Ed. 151. Class meets TTh, 4:40-5:30 p.m., BPA 110.

Studio 6 Class meets T, 7:00-10:00 p.m., Mus. 101
Studio 7 Class meets Th, 7:00-10:00 p.m., Mus. 101

142a Lect. 2 Ceramics (2) Grossman
An introduction to ceramic materials, construction, design, glazing, and firing. Laboratory experience in building pottery by hand and potter's wheel. 6S. P, 3b, 6b. Fee $8. Class meets W, 4:40-5:30 p.m., Art 2.
Labs for Lecture 2:
Studio 7 Class meets M, 4:40-6:30 p.m., Art 2.
Studio 8 Class meets F, 4:40-6:30 p.m., Art 2.

210 19th Century Painting (3) Reich
Development of painting in Europe from the French Revolution through the end of the 19th Century. P, 6 units of history or art history. Class meets MWF, 4:40-5:30 p.m., Hum. 215.

240a Crafts (2) Barker
A practical acquaintance with the technical and aesthetic aspects of textile design. 6S. P, 6b, 30 or 31. Fee $8. Class meets MW, 7:00-10:00 p.m., Art 4.

363 Issues and Recent Research in Art Education (3) Anderson
The identification of problems in art education at various curricular levels; examination of related research with possible implications for practice. P, Ed. 139 (in art), or teaching experience. Class meets M, 7:00-9:30 p.m., Mus. 113.

BOTANY

212 Algae (3) Hoshaw
The algae including systematics, structure, physiology, life histories, and economic significance; methods of collection, isolation, culture, and experimental study of fresh-water species. 2R, 3L. P, 12 units of biological science. Fee $5. Class meets TTh, 4:40-5:30 p.m., Agric. Sci. 242E.
Lab. 2 Class meets Th, 7:00-10:00 p.m., Agric. Sci. 338.

399 Seminar (1) Van Asdall
Literature review and discussions concerning current problems in plant science. Class meets M, 4:40-5:30 p.m., Agric. Sci. 205.
CHEMISTRY

399a  Seminar: (Physical and Biochemistry) (1-3)  Chapin  
Class meets M, 4:40-5:30 p.m., CP 126.

399b  Seminar: (Analytic and Inorganic) (1-3)  Fernando  
Class meets T, 4:40-5:30 p.m., CP 126.

399c  Seminar: (Organic and Biochemistry) (1-3)  Kelley  
Class meets W, 4:40-5:30 p.m., CP 126.

399d  Seminar: (Biochemistry) (1-3)  Rupley  
Class meets W, 7:30-8:20 p.m., CP 122.

CIVIL ENGINEERING

224  Open Channel Flow (3)  Laursen  
Classification of types of flow, hydraulic jump analysis, similitude, energy dissipation, super-critical velocity flow, transitions, scour and transportation of sediment; current developments in theory and design. P, E. 130. Class meets MWF, 4:40-5:30 p.m., Engr. 304.

254  Photogrammetry (3)  Newlin  

Lab.  Staff  
Class meets Th, 7:00-10:00 p.m., Engr. 318.

290  Sp. Ec.  Civil Engineering Projects (3)  Ross  
Individual design study in a field of the student’s choice in sanitary, structural, highway, hydraulic, or other engineering, or completion of a research and development project under direct staff supervision. P, Sr. standing or consent of department. Field trip fee not to exceed $35 collected when trip is arranged. Class meets T, 4:40 p.m., Engr. 323.

310  Theory of Elasticity (3)  Bickford  

DAIRY SCIENCE

399  Seminar (1)  Staff  
Offered jointly with the departments of Animal Pathology, Animal Science, and Poultry Science. Class meets M, 4:40-5:30 p.m., Agric. Sci. 242 W.
ECONOMICS

Lect. 11 Introduction to Economics (3) Becker
Economic principles. Class meets MW, 7:00-8:15 p.m., BPA 104.

Lect. 12 Introduction to Economics (3) Willard
Class meets TTh, 7:00-8:15 p.m., BPA 105.

Lect. 9 Principles of Economics (3) Curtis
Nature of economic analysis, diminishing returns, population, money, national income, public finance; foreign trade. P, Soph. standing. Not open to those with credit in 1a-1b. Class meets MW, 7:00-8:15 p.m., BPA 102.

Lect. 7 Development of the American Economy (3) Waldman
Origin and development of the economic institutions of the United States. Not open to students with credit in Econ. 204. Class meets MW, 7:00-8:15 p.m., BPA 105.

Lect. 7 Money and Banking (3) Bergland
A comparison of various standards of value; the nature of money and credit; essential functions of commercial banks and the Federal Reserve systems; foreign exchange; the Monetary Fund; International Bank. P, 1b or 2b. Class meets TTh, 7:00-8:15 p.m., BPA 109.

EDUCATION

Teaching the Mentally Retarded (3) Brasell
Organization of instructional materials and actual construction of plans for teaching mentally-limited children; discussion, evaluation, and application of basic theories and techniques of teaching the retarded child. P, 151, 203. Class meets TTh, 4:40-5:55 p.m., Ed. 402.

European and African Study Materials for Teachers (3) Kelly
Presentation and use of teaching materials related to western European and African countries, particularly adapted to the needs of those teaching at the upper elementary level. Class meets M, 7:00-9:30 p.m., Ed. 316.

Lect. 2 Visual and Auditory Aids in Teaching (3) Klein

Lect. 3 The Improvement of Reading (2) Strang
A basic course in reading, including the nature of the reading process; sequential development of reading from kindergarten to college; the whole-school reading program; methods of teaching reading in every subject, in special groups, and individual cases. Class meets MW, 4:40-5:50 p.m., Ed. 240.
226 LECT. 1 Teaching Arithmetic (3) Brown
Elementary curriculum and methods; the functions, organization of materials, and methods of teaching arithmetic. P, 151 or CR. Class meets MW, 4:40-5:55 p.m., Ed. 310.

227 LECT. 3 Teaching Social Studies (3) Rannie
Elementary curriculum and methods; functions, organization of materials, and methods of teaching social studies. P, 151 or CR. Class meets TTh, 4:40-5:55 p.m., Ed. 308.

235 Developing Reading Skills in Secondary School (3) Strang
Teaching techniques and materials to improve reading in every subject with students of different abilities and backgrounds. Class meets TTh, 4:40-5:55 p.m., Ed. 240.

237 Issues in Indian Education (3) Chilcott
An interdisciplinary approach to give school administrators, teachers, students, and laymen insight into the governmental, anthropological, public school, and Indian points of view relating to Indian education. Class meets Th, 7:00-9:30 p.m., Ed. 318.

243 Measurement for Guidance (2) Danielson
Evaluation and selection of psychological tests for guidance; use of psychometric data in counseling. P, 257 and 254 or CR. Class meets M, 7:00-8:50 p.m., Ed. 314.

244 Information and Materials for Career Planning (3) Fishburn
Theories of vocational development; types, sources, and use of occupational and educational information in career planning; dissemination of information in the guidance program. P, 240 or CR. Class meets MW, 4:40-5:55 p.m., Ed. 402.

250 Mental Hygiene (3) Staff
The principles of mental hygiene and their application to personal and social needs. P, 151. Class meets TTh, 7:00-8:15 p.m., Ed. 518.

254 LECT. 2 Statistical Methods in Education (3) Merritt
Elementary methods of dealing quantitatively with school data and data resulting from experimental investigations. P, 9 units in education or psychology. Class meets TTh, 4:40-5:55 p.m., Ed. 320.

256 The Education of Gifted Children (3) Hughes
The relationship of the problem presented by the gifted child to the total program of the classroom and of the school; discussion, evaluation, and application of basic theories and techniques of teaching the gifted child. Class meets TTh, 4:40-5:55 p.m., Ed. 502.

257 LECT. 2 Educational Tests and Measurements (3) Allen
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. P, 151, Fee $1.50. Class meets T, 7:00-9:30 p.m., Ed. 318.
Growth and Development of the Child (3)  Staff
The interrelatedness of all phases of growth as it affects the elementary school child in the home, school, and society. Class meets MW, 4:40-5:55 p.m., Ed. 314.

Mental Retardation (3)  Staff
History and philosophy of educational programs for the mentally retarded; etiology, classification, and characteristics of the retarded with consideration to their educational, social, and interpersonal problems. P, 9 units in education or psychology. Class meets M, 7:00-9:30 p.m., Ed. 402.

The Emotionally Disturbed Child (3)  Brasell
The causes and consequences of emotional disturbance in children and implications for educational planning. P, 9 units in education or psychology. Class meets TTh, 7:00-8:15 p.m., Ed. 502.

Curriculum Adaptations for Exceptional Children (3)  Staff
Study of outstanding curriculum guides designed to meet specific types of educational problems stemming from various handicapping conditions sustained by the student. Participants study in their own field of specialization and design guides, special forms, and enrichment materials. P, 203 plus either 204, 272 , or 273. Class meets TTh, 4:40-5:55 p.m., Ed. 314.

Current Problems in Education (2)  Goslin
The problems found in current educational literature, research studies, and school reports. Class meets T, 7:00-8:50 p.m., Ed. 320.

Current Problems in Education (2)  Jansen
Class meets W, 7:00-8:50 p.m., Ed. 320.

Comparative Education (3)  Kelley
National systems of education and the development of underlying philosophies and practices; contemporary movements in the education systems of western European countries; emphasis on similar movements in the United States and certain Latin-American countries. Class meets W, 7:00-9:30 p.m., Ed. 316.

Philosophy of Education (3)  Saunders
Analysis of values and conflicts in American culture as these direct educational policy; critical examination of contending philosophies in the light of democratic ideals. Class meets W, 7:00-9:30 p.m., Ed. 314.

History of Education (3)  Kelley
The development of education and its relation to related culture; effects of social, economic, and political forces upon the development of educational systems. Class meets TTh, 4:40-5:55 p.m., Ed. 316.

State School Systems and School Law (3)  Larson
Organization of state school systems with emphasis on Arizona; legal provisions of concern to teachers, administrators, and other school personnel. P, 9 graduate units in education or CR. Class meets MW, 4:40-5:55 p.m., Ed. 316.
<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Instructor</th>
<th>Description</th>
<th>Day and Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>320</td>
<td>Science Curriculum in the Elementary School (3)</td>
<td>Blech</td>
<td>Trends in the science curriculum of the elementary school; emphasis on selection of content, grade placement of concepts and activities, methods of teaching, needed equipment, and community resources. Primarily for in-service public school personnel. Class meets T, 7:00-9:30 p.m.</td>
<td>Ed. 308</td>
<td></td>
</tr>
<tr>
<td>321</td>
<td>New Concepts of Teaching (2)</td>
<td>Hughes</td>
<td>Concepts drawn from studies of human interaction, creativity, and cognitive structures. Class meets W, 7:00-8:50 p.m., Ed. 318.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>323</td>
<td>Constructing the Elementary School Curriculum (3)</td>
<td>Wilson</td>
<td>The elementary school curriculum and its relationships; basic theories and techniques of curriculum construction discussed, evaluated, and applied. Class meets Th, 7:00-9:30 p.m., Ed. 320.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>327</td>
<td>Elementary School Administration and Supervision (3)</td>
<td>Bessent</td>
<td>The administrative and supervisory problems of the principal of an elementary school; special emphasis upon teacher participation in planning and administering the educational program. Class meets T, 7:00-9:30 p.m., Ed. 316.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>335</td>
<td>Diagnosis of Reading Difficulties (3)</td>
<td>Strang</td>
<td>Theory, demonstration, and practice in group and individual procedures of administration, interpretation, and use of techniques of diagnosis of reading difficulties. P, 219, 225, 276, or 235. Class meets M, 7:00-9:30 p.m., Ed. 240.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>337</td>
<td>Secondary School Administration and Supervision (3)</td>
<td>Garretson</td>
<td>The internal administration of secondary schools; supervision and the improvement of instruction; emphasis on responsibilities of all staff members in secondary schools. Class meets MW, 4:40-5:55 p.m., Ed. 318.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>338</td>
<td>Constructing the Secondary School Curriculum (3)</td>
<td>Reece</td>
<td>The curriculum and its relationship; basic theories and techniques of curriculum construction discussed, evaluated, and applied. Class meets M, 7:00-9:30 p.m., Ed. 320.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>346</td>
<td>Student Personnel Work in Higher Education (3)</td>
<td>Harshman</td>
<td>Comprehensive survey of the various aspects of student personnel work in higher education, including admissions, counseling, housing, student activities. Class meets Th, 7:00-9:30 p.m., Ed. 402.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Psychological Theory in Educational Practice (3)  Rhodes
Educational applications of major psychological systems; comparison and implications of these systems for applied problems in motivation, learning, and instructional practice. Class meets MTh, 7:00-8:15 p.m., Ed. 308.

Advanced Educational Psychology: Creativity (3)  Rhodes
The concept of creativity from a variety of approaches; criteria for recognizing the process of creativity; teaching to stimulate creativity. Class meets W, 7:00-9:30 p.m., Ed. 502.

The Junior College (3)  Staff
The scope, objectives, and education functions of the junior college; patterns of junior college program. P, 3 graduate units in education or CR. Class meets W, 7:00-9:30 p.m., Ed. 310.

Medical Aspects of Disability (2)  Christiansen
Etiology, therapy, and prognosis of the major disabilities; assessment of physical capacities and limitations; typical restorative techniques. Class meets TTh, 4:40-5:30 p.m., Ed. 214.

Lect. 1  Techniques in Educational Research (3)  Greer
Educational problems, research techniques in education, the interpretation of data and the reporting of results. Required for any graduate degree in Education. Class meets M, 7:00-9:30 p.m., Ed. 318.

Lect. 2  Techniques in Educational Research (3)  Bessent
Class meets TTh, 4:40-5:55 p.m., Ed. 318.

Lect. 3  Techniques in Educational Research (3)  Merritt
Class meets Th, 7:00-9:30 p.m., Ed. 316.

Cultural Deprivation and Education (3)  Wilson
Current studies relating to the effects of cultural deprivation; alleviation of this condition through school-community cooperation. Class meets T, 7:00-9:30 p.m., Ed. 240.

Seminar (1-3) Educational Psychology  Hughes
Class meets M, 7:00-9:30 p.m., Ed. 502.

Seminar (1-3) Elementary Education  Johnston
Class meets MW, 4:40-5:55 p.m., Ed. 502.

Seminar (1-3) History and Philosophy of Education  Saunders
Class meets T, 7:00-9:30 p.m., Ed. 402.

Seminar (1-3) Special Education  Staff
Class meets W, 7:00-9:30 p.m., Ed. 402.

Seminar (1-3) Supervision and Administration  Goslin
Class meets M, 7:00-8:50 p.m., Ed. 518.
SCHOOL LIBRARY SCIENCE

280 Reference Service in the School Library (3) Bentz
Survey of periodical indexes, bibliographies, encyclopedias, and other reference aids most used in elementary-and secondary-school libraries. Class meets TTh, 4:40-5:55 p.m., Ed. 518.

282 Organization, Cataloguing, and Classification of Materials (3) Saltus
Purpose and principles of cataloguing and classification; the card catalogue, shelf list, filing, vertical files; organization and maintenance of materials for use. Class meets TTh, 7:00-8:15 p.m., Ed. 310.

ENGINEERING

15 Lect. 11 Engineering Mechanics I (3) Staff
Vector algebra, vector calculus; equivalent force systems; equilibrium centroids and second moments of plane areas; introduction to kinematics. P, one entrance unit in physics, E. 10, CR Math. 79b. Class meets MWF, 4:40-5:30 p.m., Engr. 308.

17 Lect. 3 Mechanics of Materials (3) Staff
Material behavior; relationship between external forces acting on elastic and inelastic bodies and the resulting stress and strain; combined stresses. P, 15. Class meets MWF, 4:40-5:30 p.m., Engr. 311.

Lect. 4 Mechanics of Materials (3) Krieh
Class meets MWF, 4:40-5:30 p.m., Engr. 301.

ENGLISH

X Lect. 16 Subcollegiate English (0) Suplicki
Review of the fundamentals of English. Required of all students who fail the English placement test. Class meets MWF, 4:40-5:30 p.m., BPA 103.

Lect. 17 Class meets MWF, 4:40-5:30 p.m., LA 222. Schrage
Lect. 18 Class meets MW, 7:00-8:15 p.m., BPA 305. Williams
Lect. 19 Class meets MW, 7:00-8:15 p.m., Geol. 320. Straight
Lect. 20 Class meets MW, 7:00-8:15 p.m., BPA 302. Lawrence
Lect. 21 Class meets TTh, 7:00-8:15 p.m., BPA 306. Camoin
Lect. 22 Class meets TTh, 7:00-8:15 p.m., Hum. 202. Fischer

1 Lect. 61 Freshman Composition (3) Boyle
The study and practice of good writing, with emphasis upon exposition; review of English fundamentals; regular theme writing; collateral reading. Class meets MWF, 4:40-5:30 p.m., LA 206.

Lect. 62 Class meets MWF, 4:40-5:30 p.m., LA 308. Grindell
Lect. 63  Class meets MWF, 4:40-5:30 p.m., LA 312.  
Lect. 64  Class meets MWF, 4:40-5:30 p.m., Ag. B.  
Lect. 65  Class meets MWF, 4:40-5:30 p.m., LAA 211.  
Lect. 66  Class meets MWF, 4:40-5:30 p.m., LA 307.  
Lect. 67  Class meets MWF, 4:40-5:30 p.m., H Ec. 301.  
Lect. 68  Class meets MWF, 4:40-5:30 p.m., H Ec. 114.  
Lect. 69  Class meets MWF, 4:40-5:30 p.m., LAA 314.  
Lect. 70  Class meets MW, 7:00-8:15 p.m., LAA 211.  
Lect. 71  Class meets MW, 7:00-8:15 p.m., LA 118.  
Lect. 72  Class meets MW, 7:00-8:15 p.m., LA 214.  
Lect. 73  Class meets MW, 7:00-8:15 p.m., LAA 314.  
Lect. 74  Class meets MW, 7:00-8:15 p.m., LAA 206.  
Lect. 75  Class meets TTh, 7:00-8:15 p.m., LA 118.  
Lect. 76  Class meets TTh, 7:00-8:15 p.m., LA 214.  
Lect. 77  Class meets TTh, 7:00-8:15 p.m., LA 307.  
Lect. 78  Class meets TTh, 7:00-8:15 p.m., LA 312.  
Lect. 79  Class meets TTh, 7:00-8:15 p.m., LA 332.  
Lect. 80  Class meets TTh, 7:00-8:15 p.m., H Ec. 206.  

2  
Lect. 14  **Freshman Composition (3)**  
The equivalent of English 1 for students whose proficiency in English grammar and usage permits advanced placement; theme writing; library paper; collateral reading. Students who make a grade of 2 or better will be permitted to take English 4. Class meets MWF, 4:40-5:30 p.m., LA 216.  

Lect. 15  Class meets MW, 7:00-8:15 p.m., LA 332.  
Lect. 16  Class meets TTh, 7:00-8:15 p.m., Engr. 203.  

3  
Lect. 19  **Freshman Composition (3)**  
Continued practice in composition with emphasis upon objective writing; library paper; readings in fiction and non-fiction. P. 1 or 2 or advanced standing. Class meets MWF, 4:40-5:30 p.m., Engr. 203.  

Lect. 20  Class meets MWF, 4:40-5:30 p.m., Ag. Sci. 242E.  
Lect. 21  Class meets MW, 7:00-8:15 p.m., LA 307.  

21
Lect. 22  Class meets MW, 7:00-8:15 p.m., LA 308.  
Lect. 23  Class meets MW, 7:00-8:15 p.m., Ag. Sci. 242E.  
Lect. 24  Class meets TTh, 7:00-8:15 p.m., Ag. Sci. 242E.  
Lect. 25  Class meets TTh, 7:00-8:15 p.m., LA 120.  

5a  Lect. 4  Writing and Speech for Foreign Students (5)  
    Writing, speech and English fundamentals; designed to meet the particular needs of foreign students. Instruction jointly by departments of English and Speech. Class meets MTWThF, 4:40-5:30 p.m., CP 119.  

*8222  Satire (2)  
    A study of literary satire and its manifestations—burlesque, invective, irony, parody, wit, caricature, and paradox as seen in selected English and American works of the 18th, 19th and 20th centuries. Class meets W, 7:00-8:40 p.m., LA 111. Enrollment fee $23.  

272  Prose Fiction of the Twentieth Century (3)  
    American, British, and Continental fiction studied intensively with particular attention to the development of characteristically modern techniques. Class meets MW, 4:40-5:55 p.m., LA 332.  

399c  Seminar (3) Age of Milton  
    Class meets W, 7:00-9:30 p.m., LA 311.  

*8294  Contemporary American Writers (3)  
    Readings into the principal writings of Ernest Hemingway and William Faulkner; the approach in this course will concentrate on their contribution to the art of the modern novel and their meaning for our time. Class meets MW, 7:00-8:15 p.m., LA 312. Fee, $34.50.  

ENTOMOLOGY  

399  Seminar (1)  
    Special topics and current developments in entomology. Class meets M, 4:40-5:30 p.m., Ag. 412.  

FINANCE, INSURANCE AND REAL ESTATE  

80  Lect. 3  Home Ownership (2)  
    Basic principles of buying, selling, or renting a home; current problems of financing, taxing, zoning, and transfer. Class meets M, 7:00-8:40 p.m., BPA 307.  

142  The Securities Markets (3)  
    Analysis of the markets for securities of both public and private issuers; brokers, dealers, investment bankers, organized and over-the-counter markets, the mechanics of trading, and the investment risks and merits of all classes of securities. Class meets Th, 7:00-10:00 p.m., BPA 110.
151  Lect. 4  **Insurance (3)**  Collier  
Principles and practices of insurance, including analyses of contracts and forms purchased by an average individual. Intended for those seeking a general knowledge of insurance. Class meets T, 7:00-9:30 p.m., BPA 304.

181  Lect. 2  **Real Estate Practice (3)**  Staff  
Survey of real estate principles. Class meets W, 7:00-9:30 p.m., BPA 307.

241  Lect. 7  **Business Finance (3)**  Kirk  
Financial problems involved in the organization and conduct of business enterprise. P. Acct. 1b, Econ. 1b or 2b. Class meets TTh, 7:00-8:15 p.m., Geol. 202.

243  **Corporation Finance (3)**  Bleck  

399a  **Seminar: Corporation Finance (3)**  Kirk  
Class meets TTh, 4:40-5:55 p.m., BPA 209.

399c  **Seminar: Real Estate (3)**  McGough  
Class meets MW, 4:40-5:55 p.m., BPA 209.

299b  **Inds. Special Problems: Appraising (3)**  McGough  
Class meets W, 7:00-9:30 p.m., BPA 308.

---

**GEOLOGY**

*8003  **Identification of Minerals (3)**  McCullough  
Identification of the important metallic and non-metallic minerals from their physical properties. Blow pipe identification will be introduced to those interested. P, none. Class meets Th, 7:00-10:00 p.m., Geol. 10. Enrollment fee, $34.50.

---

**GERMAN**

1a  Lect. 12  **Elementary German (4)**  Greene  
(The first year of work offered in a foreign language shall not be counted toward a minor.) Fee $1. Class meets TTh, 7:00-9:00 p.m., LA 408.

3a  Lect. 6  **Intermediate German (4)**  Kleinman  
Class meets TTh, 7:00-9:00 p.m., LA 407.
**RUSSIAN**

1a Lect. 4 **Elementary Russian (4)**  
Kliachko  
Stress on reading, writing and grammar; simple conversation. Fee $1. The elementary course may not be used in a minor for the bachelor's degree. Class meets TTh, 7:00-9:00 p.m., LA 216.

**GOVERNMENT**

2 Lect. **American National Government (3)**  
Staff  
General survey of the constitutional bases, organization, and functioning of the American national government; recent and current trends. Class meets MW, 4:40-5:30 p.m., LA 120.

Rec. 21 Class meets MW, 4:40-5:30 p.m., LA 120.

2 Lect. **American National Government (3)**  
Staff  
Class meets M, 7:00-8:40 p.m., LA 206.

Rec. 22 Class meets M, 8:40-9:30 p.m., LA 120.

2 Lect. **American National Government (3)**  
Staff  
Class meets T, 7:00-8:40 p.m., LA 308.

Rec. 23 Class meets T, 8:40-9:30 p.m., LA 308.

2 Lect. **American National Government (3)**  
Staff  
Class meets W, 7:00-8:40 p.m., LA 206.

Rec. 30 Class meets W, 8:40-9:30 p.m., LA 206.

2 Lect. **American National Government (3)**  
Staff  
Class meets Th, 7:00-8:40 p.m., LA 222.

Rec. 31 Class meets Th, 8:40-9:30 p.m., LA 222.

3 Lect. 2 **American State and Local Government (2)**  
Downey  
General survey of state and local government; recent and current trends. Class meets TTh, 4:40-5:30 p.m., LA 222.

Lect. 3 **American State and Local Government (2)**  
Downey  
Class meets T, 7:00-8:50 p.m., LA 206.

Lect. 4 **American State and Local Government (2)**  
Downey  
Class meets Th, 7:00-8:50 p.m., LA 206.

90 Lect. 3 **Research Methods in Government (1)**  
Putlerman  
Designed to introduce the major in government to the tools, techniques, methods, and materials available for productive research in the major areas of political science. P, Soph. standing. Class meets Th, 4:40-5:30 p.m., H. Ec. 206.

100 Lect. 2 **National and State Constitutions (3)**  
Staff  
Meets the state requirement for a teacher's certificate. For seniors intending to teach. Not open to students with credit in 2 or 3. Class meets W, 7:00-9:30 p.m., LA 222.
Lect. 3  National and State Constitutions (3)  Staff
Class meets T, 7:00-9:30 p.m., LA 222.

337  Fiscal and Budgetary Administration of Public Agencies (2)  Urie
(Identical with Public Administration 337). Class meets T, 7:00-9:00 p.m., BPA 305.

399a  Seminar: Political Theory (3)  Staff
Class meets M, 7:00-9:30 p.m., LAA 109.

HEALTH, PHYSICAL EDUCATION AND RECREATION

11  Lab. 10  Weight Training (1)  Staff
Class meets MWF, 4:40-5:30 p.m., Gym. Fee $3.50.

71  Lect. 3  School and Community Health (3)  Rees
Emphasis upon health science information pertaining to school health programs, community health problems, and individual hygiene. P, Soph. standing. Class meets Th, 7:00-10:00 p.m., BPA 303.

75  Lect. 5  Elementary School Health Education (2)  Little
Health instruction; school and community health services; environmental health. For students preparing to teach elementary schools. Credit will not be given for both 71 and 75. Class meets MW, 4:40-5:30 p.m., Bio. Sci. 311.

Lect. 11  Class meets TTh, 4:40-5:30 p.m., BPA 302.  Rees
Lect. 12  Class meets W, 7:00-8:40 p.m., BPA 306.  Little

264  Critical Analysis of Health Education Programs (3)  Rees
Emphasis on analysis and evaluation of in-service programs; consideration given to professional trends and issues as reflected in current periodicals, textbooks, and research publications in the area of health science. P, 71. Class meets MW, 4:40-5:55 p.m., BPA 305.

267  International Health Problems (2)  King
Recognized major health problems of the world; the role of the World Health Organization and its affiliate divisions; analysis of international health education programs. Class meets M, 7:00-8:50 p.m., Bio. Sci. 307.

294  Foundations of Physical Fitness (2)  Roby
Physiological effect of motor activity on body structure and function; factors limiting maximal human performance in athletic competition. P, Zoo. 57, 12 units in HPER. Open to men and women. Class meets T, 7:00-8:50 p.m., BPA 305.
### HISTORY

<table>
<thead>
<tr>
<th>Section</th>
<th>Time</th>
<th>Instructor</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a2</td>
<td>Lect.</td>
<td>Beatson</td>
<td>History of the United States (3)</td>
<td>Survey of political and social developments from the founding of Jamestown; the Westward Movement; development of Western democracy; social and political changes following the Civil War; settlement of the Far West; international affairs. Class meets MW, 7:00-7:50 p.m., Psych. 101.</td>
</tr>
<tr>
<td>Rec. 30</td>
<td></td>
<td></td>
<td></td>
<td>Class meets MW, 7:50-8:15 p.m., Psych. 101.</td>
</tr>
<tr>
<td>207a</td>
<td></td>
<td>Dumond</td>
<td>The Civil War and Reconstruction (2)</td>
<td>The causes, military operations, and results of the Civil War. Class meets TTh, 4:40-5:30 p.m., Psych. 101.</td>
</tr>
<tr>
<td>221</td>
<td></td>
<td>Culver</td>
<td>History of Spain and Portugal (3)</td>
<td>Historical development of the Iberian peoples from the age of the Celtiberians to the present time. Class meets MWF, 4:40-5:30 p.m., LA 114.</td>
</tr>
<tr>
<td>241a</td>
<td></td>
<td>Parker</td>
<td>Medieval Europe (3)</td>
<td>Political, social, and religious institutions, and the intellectual and cultural achievements of the Middle Ages. Class meets MWF, 4:40-5:30 p.m., LA 118.</td>
</tr>
<tr>
<td>399c</td>
<td>Lect. 2</td>
<td>Oswald</td>
<td>Seminar: European History (3)</td>
<td>Class meets T, 7:00-9:30 p.m., LA 218.</td>
</tr>
<tr>
<td>399i</td>
<td></td>
<td>Carroll</td>
<td>Seminar: Arizona (3)</td>
<td>Class meets T, 7:00-9:30 p.m., TBA.</td>
</tr>
</tbody>
</table>

### HOME ECONOMICS

<table>
<thead>
<tr>
<th>Section</th>
<th>Time</th>
<th>Instructor</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>27</td>
<td>Lect. 3</td>
<td>Johnson</td>
<td>Child Development (3)</td>
<td>Study of the growth, development, and acculturation of the child, particularly within the family setting; directed observation in the preschool laboratory. P, Psych. 1a and Soph. standing. Class meets TTh, 4:40-5:55 p.m., H. Ec. 301.</td>
</tr>
</tbody>
</table>
HUMANITIES

Sections 44 and 46 open only to Continuing Education Students.

Disc. 44 Introduction to Humanities (4) Funston
The cultural life of the Western World as it developed in literature, art and philosophy from the Greeks to the present. IL, 3R, P, Freshman Composition. Fee $1. Required of sophomores in the colleges of Business and Public Administration, Engineering and Liberal Arts. Class meets MW, 7:00-8:40 p.m., LA 412.

Disc. 46 Introduction to Humanities (4) Dye
Fee $1. Class meets TTh, 7:00-8:40 p.m., LA 412.

MANAGEMENT

Lect. 4 Survey of American Business (3) Gray
Fundamental characteristics and functions of modern business enterprise. Primarily for students not in the College of Business and Public Administration. Class meets TTh, 7:00-8:15 p.m., BPA 102.

Lect. 8 Statistical Methods in Economics and Business (3) Strube
Statistical analysis and statistical inference applied to data in economics and business. P, for 155a, Math. 11 or 20 or equivalent. Class meets MW, 7:00-8:15 p.m., BPA 103.

155a Lect. 8 Statistical Methods in Economics and Business (3) Strube
Statistical analysis and statistical inference applied to data in economics and business. P, for 155a, Math. 11 or 20 or equivalent. Class meets MW, 7:00-8:15 p.m., BPA 103.

155b Lect. 7 Statistical Methods in Economics and Business (3) Billings
P, 155a. Class meets MWF, 4:40-5:30 p.m., BPA 105.

Lect. 8 Statistical Methods in Economics and Business (3) Staff
P, 155a. Class meets TTh, 7:00-8:15 p.m., BPA 103.

201 Lect. 4 Personnel Management (3) Switzer
Policies and current practices in management of employees, at all levels, in business firms. P, Econ. 1b or 2b. Class meets TTh, 7:00-8:15 p.m., BPA 104.

220a Lect. 7 Business Law (3) McBratney
Contracts, property rights, agency. Not open to students who have completed 6 or more units of law. Class meets MWF, 4:40-5:30 p.m., BPA 102.

Lect. 8 Business Law (3) Tindall
Class meets MW, 7:00-8:15 p.m., BPA 106.

Lect. 9 Business Law (3) Jones
Class meets TTh, 7:00-8:15 p.m., BPA 106.

270 Lect. 2 Data Processing (3) Passano
(Identical with Systems Engineering 270). Fee $5. Class meets TTh, 4:40-5:30 p.m., BPA 106.
Choose one of the following labs:

**Lab. 3**  Class meets T, 7:00-10:00 p.m., Engr. 158.

**Lab. 4**  Class meets Th, 7:00-10:00 p.m., Engr. 158.

**Lab. 5**  Class meets M, 7:00-10:00 p.m., Engr. 158.

**355 Research Methods in Business (3)**  Hoag
Objectives and methods of business research; study of contemporary research projects in business; the organization of industrial research in a business enterprise.  P, 155b.  Class meets MW, 7:00-8:15 p.m., Engr. 308.

**371 Lect. 2 Business Policies (3)**  Shaffer
Case method approach to problems and policies facing top management.  P, 272.  Class meets TTh, 7:00-8:15 p.m., BPA 209.

**MARKETING**

**161 Lect. 5 Marketing Principles (3)**  Loveday
Business activities involved in transferring commodities from producers and manufacturers to various final consumers.  Class meets TTh, 4:40-5:55 p.m., BPA 316.

**Lect. 6 Marketing Principles (3)**  Loveday
Class meets M, 7:00-9:40 p.m., BPA 316.

**165a Lect. 1 Advertising Layout and Design (3)**  Cabat
Workshop in present-day creative advertising; practices in all current media; actual practice, criticism, and field trips.  Class meets W, 4:40-7:15 p.m., Hum. 213.

**Lect. 2**  Class meets W, 7:30-10:00 p.m., Hum. 213.  Cabat

**MATHEMATICS**

**11 Lect. 17 Intermediate Algebra (3)**  Staff
Students offering more than 1 entrance unit in Algebra do not receive credit for this course.  P, 1 entrance unit in algebra.  Class meets TTh, 7:00-8:15 p.m., Hum. 101.

**Lect. 18**  Class meets TTh, 7:00-8:15 p.m., Hum. 203.  Staff

**Lect. 19**  Class meets TTh, 7:00-8:15 p.m., Hum. 211.  Staff

**Lect. 20**  Class meets MW, 7:00-8:15 p.m., Engr. 301.  Staff

**Lect. 21**  Class meets MW, 7:00-8:15 p.m., Engr. 304.  Staff

**Lect. 22**  Class meets MW, 7:00-8:15 p.m., Engr. 307.  Staff
Lect. 14 College Algebra (3)  Staff
P, 1½ entrance units in algebra or 11. Class meets TTh, 7:00-8:15 p.m., CP 126.

Lect. 15 Class meets TTh, 7:00-8:15 p.m., Anthro. 127.  Staff

Lect 16 Class meets TTh, 7:00-8:15 p.m., Agric. 206.  Staff

Lect. 17 Class meets TTh, 7:00-8:15 p.m., Agric. B.  Staff

Lect. 18 Class meets MW, 7:00-8:15 p.m., Hum. 100.  Staff

Lect. 19 Class meets MW, 7:00-8:15 p.m., Hum. 101.  Staff

24 Lect. 11 Plane Trigonometry (2)  Staff
Optional slide rule work permitted. P, 1 entrance unit in geometry, and either 1½ entrance units in algebra or 11. Class meets W, 7:00-8:40 p.m., PMM 212.

44 Lect. 11 College Algebra and Trigonometry (5)  Staff
Combination of 20 and 24. P, same as for 24. Class meets TTh, 7:00-9:05 p.m., PMM 212.

Lect. 12 Class meets MW, 7:00-9:05 p.m., PMM 204.  Staff

79a Lect. 16 Analytic Geometry and Calculus (5)  Staff
P, 20 and 24, or 44. Class meets TTh, 7:00-9:05 p.m., Hum. 100.

Lect. 17 Class meets TTh, 7:00-9:05 p.m., Hum. 200.  Staff

Lect. 18 Class meets MW, 7:00-9:05 p.m., Hum. 200.  Staff

Lect. 19 Class meets MW, 7:00-9:05 p.m., Hum. 201.  Staff

79b Lect. 11 Analytic Geometry and Calculus (5)  Staff
P, 79a. Class meets TTh, 7:00-9:05 p.m., PMM 206.

Lect. 12 Class meets MW, 7:00-9:05 p.m., PMM 206.  Staff

180 Lect. 9 Calculus and Differential Equations (5)  Staff
Partial differentiation, multiple integration, infinite series, together with ordinary differential equations. P, 79b. Class meets TTh, 7:00-9:05 p.m., Hum. 201.

Lect. 10 Class meets MW, 7:00-9:05 p.m., Hum. 202.  Staff

MINING ENGINEERING

399 Seminar (3)  Dotson
Study of reports on mining literature. Class meets MF, 4:40-5:30 p.m., Mines 225.
MUSIC

1d Vocal Solo and Chamber Music (2) Fruchtman
Class meets T, 7:00-9:00 p.m., Music 35.

10-B Band (1-2) Lee
Performance of all types of band music. The band plays for home and out-of-town football games and other campus functions, presents concerts, and makes a concert tour of Arizona high schools. Open to all qualified students. Class meets MTWThF, 4:40-5:30 p.m., Music 110.

10-C Lect. 1 Choral Society (1) Staff
Open to all students. No previous musical experience necessary. A varied repertory. Fee, $1. Class meets T, 7:00-9:00 p.m., Music 106.

25a Lect. 4 Piano Class (1) Staff
Beginning instruction; adult beginner text with supplementary materials; transposition, accompaniment patterns, original compositions, improvisation, sight reading, scale forms. Class meets T, 7:00-8:00 p.m., Music 102.

25b Lect. 2 Piano Class (1) Staff
Class meets T, 8:00-9:00 p.m., Music 102.

59a Music Memorization (1) Altman
A system of study by analysis and orderly practice procedures for the teacher and performer. Training aural, visual, and motomemory starting with third-grade material and leading to harmonic and form analysis of advanced piano literature. P, 32b and 13P (2 units). Class meets T, 7:00-9:00 p.m., Music 204.

200 Music in the Middle Ages (2) Anthony
Development of music from classical antiquity through the Ars Nova. Religious and secular monody; the birth of polyphony. P, Jr. standing in Music. Class meets W ,7:00-9:00 p.m., Music 204.

255a Opera Workshop Performance and Production (1) Conley
Training in basic acting technique for the lyric theater and operatic stage. Production and performance of opera. May be repeated for credit. Class meets T, 7:00-10:00 p.m., Music 130.

310 Introduction to Musicology (3) Fruchtman
The definition and history of academic study in music; survey of related fields (acoustics, physiology, psychology, and aesthetics); bibliography and research procedures. Class meets MWF, 4:40-5:30 p.m., Music 113.

NURSING

*142 Ward Management (2) Armstrong
The functions of a head nurse, the principles of managing a hospital unit and the application of these principles to facilitate comprehensive nursing care of the patient. 2R. P, registered nurse and consent of instructor. Fee $2. Enrollment fee $23.00. Class meets T, 2:40-4:30 m., H. Ec. 114.
OFFICE ADMINISTRATION AND BUSINESS EDUCATION

77 Lect. 5 Calculating Machines (2) Zimmer
The theory and operation of adding and calculating machines common to the business office. Fee $3. Class meets TTh, 7:00-8:00 p.m., BPA 406.

8004a *Secretarial Procedures (2) Maynard
Usage, grammar, and punctuation for secretaries. Class meets T, 7:00-9:00 p.m., BPA 205. Enrollment fee $23.

PHILOSOPHY

12a Lect. 7 Logic (3) Jensen
Principles of valid thinking; the nature of inference and its applications. Class meets MWF, 4:40-5:30 p.m., LA 214.
Lect. 8 Class meets M, 7:00-10:00 p.m., LA 411. Jensen

20a World Religions (3) Bretall

PHYSICAL EDUCATION FOR WOMEN

266 Scientific Foundations of Physical Education (3) Miller

PLANT PATHOLOGY

399 Seminar (1) Zaitlin
Discussion of selected topics. Open to qualified seniors and graduate students. Class meets T, 4:40-5:30 p.m., Agric. B.

POULTRY SCIENCE

399 Seminar (1) Staff
Offered jointly with the Departments of Animal Pathology, Animal Science and Dairy Science. Class meets M, 4:40-5:30 p.m., Agric. Sci. 242W.
PSYCHOLOGY

1a Lect. 3 Elementary Psychology (3) Pool
Growth and change of the individual, learning and conditioning principles; description of aptitudes and abilities. Class meets MW, 7:00-7:50 p.m., Hum. 103.

Choose one of the following sections:

Quiz 82 Class meets M, 6:00-6:50 p.m., Hum. 104. Staff
Quiz 83 Class meets M, 6:00-6:50 p.m., Hum. 105. Staff
Quiz 84 Class meets W, 6:00-6:50 p.m., Hum. 104. Staff
Quiz 85 Class meets W, 6:00-6:50 p.m., Hum. 105. Staff
Quiz 86 Class meets M, 8:00-8:50 p.m., Hum. 104. Staff
Quiz 87 Class meets M, 8:00-8:50 p.m., Hum. 105. Staff
Quiz 88 Class meets W, 8:00-8:50 p.m., Hum. 104. Staff
Quiz 89 Class meets W, 8:00-8:50 p.m., Hum. 105. Staff

1b Lect. 2 Elementary Psychology (3) Lansing
Introduction to perception, emotions and personality organization. 1a is prerequisite to 1b. Class meets TTh, 7:00-7:50 p.m., Bio. Sci. 100.

Choose one of the following sections:

Quiz 20 Class meets T, 6:00-6:50 p.m., Bio. Sci. 307. Staff
Quiz 21 Class meets T, 6:00-6:50 p.m., Bio. Sci. 311. Staff
Quiz 22 Class meets Th, 6:00-6:50 p.m., Bio. Sci. 307. Staff
Quiz 23 Class meets Th, 6:00-6:50 p.m., Bio. Sci. 311. Staff
Quiz 24 Class meets T, 8:00-8:50 p.m., Bio. Sci. 311 Staff
Quiz 25 Class meets T, 8:00-8:50 p.m., Bio. Sci. 307. Staff
Quiz 26 Class meets Th, 8:00-8:50 p.m., Bio. Sci. 307. Staff

205 Lect. 2 Advanced Statistical Methods in Psychology (3) Capehart
Rationale and methods of statistical inference; sampling distributions, power, functions, analysis of variance, statistical models; introduction to multiple comparisons, nonparametric techniques, correlation and regression. P, Math. 91 or equivalent. Class meets TTh, 7:00-8:15, p.m., Psych. 103.

218 Lect. 3 Abnormal Psychology (3) Simley
The nature and etiology of the various forms of behavior disorder, mental deficiency, and other deviations. Critical evaluation of current theories. Fee $3. Class meets TTh, 7:00-8:15 p.m., Psych. 101.

32
Ideologies and Behavioral Science (2)  
MacKinnon
The relations between human value-systems and behavioral principles; the prospects for a common ideology. P, 6 units of Philosophy or Psych. 1a-1b. Class meets MW, 7:00-7:50 p.m., LA 120.

Psychology Colloquium (1)  
Staff
Discussions of research problems by staff, graduate students and, on occasion, by visiting scholars. Required of students registered for 400, 410, and 420. P, 24 upper-division units. May be repeated for credit once. Class meets W, 4:40-6:00 p.m., Psych. 103.

PUBLIC ADMINISTRATION

Lect. 5 Social Administration (3)  
Rombach
Over-all view of the principles of administration in the fields of public welfare, social welfare, corrections, social security, law enforcement, and public recreation. Class meets TTh, 7:00-8:15 p.m., BPA 308.

Lect. 3 Fields of Social Work (3)  
Martin
Backgrounds, philosophy, fields, and methods of social work. P, 1. Class meets M, 7:00-9:30 p.m., BPA 308.

Public Welfare Administration (3)  
Fuller
Development of public welfare services; problems of administration and organization; programs for public assistance. P, 1. Class meets TTh, 4:40-5:55 p.m., BPA 306.

Correctional Counseling (2)  
Hoffman
Basic concepts and principles of counseling, interviewing, and case work as carried on in correctional settings. Class meets W, 7:00-8:40 p.m., BPA 304.

Police and Law Enforcement Administration (3)  
Shoults
Theory and practice of police organization and administration at the national, state, and local levels. P, 101. Class meets MWF, 4:40-5:30 p.m., BPA 203.

Fiscal and Budgetary Administration of Public Agencies (2)  
Urie
Internal fiscal operation and the budgetary cycle of public and non-profit agencies. (Identical with Government 337). Class meets T, 7:00-9:00 p.m., BPA 302.
ROMANCE LANGUAGES

FRENCH

1a* Lect. 14 Elementary French (4) Rosenberg-Staff
(The first year of work offered in a foreign language shall not be
counted toward a minor.) Fee $1. Class meets MTWTh, 4:40-5:30
p.m., Bio Sci. 313.

3b* Lect. 3 Intermediate French (4) Greenberg
P. 1b or 2 years of high school French. Fee $1. Class meets MTWTh,
4:40-5:30 p.m., LA 407.

* Students in French 1a and 3b will be assigned one lab hour in addi-
tion to the regular class sometime during the first week of class.

1g Lect. 2 Training in Reading French for Graduates (0) Tatham
A summary of basic grammar essential to a reading knowledge of the
language, accompanied by readings of increasing difficulty both in the
general literature and the chosen field of specialization. Class meets
MWF, 4:40-5:30 p.m., LA 416.

*8001a-1 Elementary French (2) Staff
Class meets W, 7:00-9:00 p.m., LA 407.
Enrollment fee $23.

*8001X Elementary French Conversation (0) Staff
Class meets M, 7:00-9:00 p.m., LA 407.
Enrollment fee $23.

ITALIAN

*8001a-1 Elementary Italian I (2) Murolo
Class meets T, 7:00-8:40 p.m., LA 418.
Enrollment fee $23.

*8001b-1 Elementary Italian III (2) Murolo
Class meets W, 7:00-8:40 p.m., LA 418.
Enrollment fee $23.

*8002a-1 Intermediate Italian I (2) Murolo
Class meets Th, 7:00-8:40 p.m., LA 418.
Enrollment fee $23.

PORTUGUESE

399 Seminar (2) Brown
Class meets T, 4:40-6:30 p.m., LA 400.
SPANISH

1a* Lect. 19 Elementary Spanish (4) Guerrero-Staff
(The first year of work offered in a foreign language shall not be counted toward a minor.) Fee $1. Class meets MTWTh, 4:40-5:30 p.m., CP 121.

20 Fee $1. Class meets MTWTh, 4:40-5:30 p.m., CP 227. Staff
21 Fee $1. Class meets MTWTh, 4:40-5:30 p.m., Geol. 320. Staff
22 Fee $1. Class meets MTWTh, 4:40-5:30 p.m., Engr. 214. Staff

1b* Lect. 8 Elementary Spanish (4) Guerrero-Staff
Fee $1. Class meets MTWTh, 4:40-5:30 p.m., Engr. 215.

3a* Lect. 14 Intermediate Spanish (4) Barrow-Staff
P, 1b or 2 years of high school Spanish. Fee $1. Class meets MTWTh, 4:40-5:30 p.m., Anthro. 127.

15 Fee $1. Class meets MTWTh, 4:40-5:30 p.m., LA 408. Staff
16 Fee $1. Class meets MTWTh, 4:40-5:30 p.m., LA 412. Staff
17 Fee $1. Class meets MTWTh, 4:40-5:30 p.m., LAA 206. Staff

3b* Lect. 7 Intermediate Spanish (4) Barrow-Staff
Fee $1. Class meets MTWTh, 4:40-5:30 p.m., LA 411.
*Students in Spanish 1a, 1b, 3a and 3b will be assigned one lab hour in addition to the regular class sometime during the first week of class.

75a Lect. 8 Intermediate Composition and Conversation (2) Anderson-Staff
Two hours conversation, 1 hour composition. P, 3b or 4 years of high school Spanish. Class meets MW, 7:00-8:15 p.m., LA 416.

235a Cervantes and His Works (3) Kennedy
Don Quixote. Class meets W, 7:00-9:30 p.m., LA 216.

301a Bibliography and Paleography (2) Brooks
Bibliographical methods and principal bibliographies. Class meets M, 4:40-6:30 p.m., LA 400.

399b Seminar (2) Rey
El Español Antiguo. Class meets W, 4:40-6:30 p.m., LA 400.

399e Seminar (2) Kennedy
Literatura Espanola del Siglo XVII. Class meets M, 7:00-9:00 p.m., LA 400.
**Seminar (2)**
Literatura Moderna de Hispanoamerica. Class meets M, 4:40-6:30 p.m., LA 400.

*8001a-1**
**Elementary Spanish I (2)**
Class meets T, 7:00-8:40 p.m., LA 416.
Enrollment fee $23.

*8001b-1**
**Elementary Spanish III (2)**
Class meets M, 7:00-8:40 p.m., LA 408.
Enrollment fee $23.

*8002a-1**
**Intermediate Spanish I (2)**
Class meets Th, 7:00-8:40 p.m., LA 411.
Enrollment fee $23.

*8002b-1**
**Intermediate Spanish III (2)**
Class meets W, 7:00-8:40 p.m., LA 408.
Enrollment fee $23.

*8001X**
**Spanish Conversation for Beginners (0)**
Class meets T, 7:00-9:00 p.m., LA 411.
Enrollment fee $23.

*8002X**
**Spanish Conversation for Beginners (0)**
Class meets W, 7:00-9:00 p.m., LA 411.
Enrollment fee $23.

*8003X**
**Intermediate Spanish Conversation (0)**
Class meets M, 7:00-9:00 p.m., LA 418.
Enrollment fee $23.

*8005X**
**Advanced Spanish Conversation (0)**
Class meets Th, 7:00-9:00 p.m., LA 416.
Enrollment fee $23.

**SOCIOMETRY**

1 Lect. 14 **Introduction to Sociology (3)**
Rivera
The basic concepts and principles of sociology; analysis of group behavior, social institutions, processes, and change. Class meets TTh, 4:40-5:55 p.m., BPA 105.

Lect. 15 Class meets MW, 7:00-8:15 p.m., BPA 109.
Frickey

2 Lect. 3 **Social Problems (3)**
Pobrislo
Principal American social problems: crime, race, divorce, poverty, etc., causes and methods of treatment. Class meets MW, 7:00-8:15 p.m., BPA 110.
Lect. 4  Class meets TTh, 7:00-8:15 p.m., BPA 307.  

Societal Change (3)  
Factors and processes of societal change. Technological and institutional change; social mobility and stratification; social movements; symbolic communication and its changes.  P, 1. Class meets MW, 4:40-5:55 p.m., BPA 308.

286  Sociology of Industry (3)  
Social roles and relationships within the occupational structure; formal and informal groups and organizations in industry; the relation of industrial organization to the community and the larger society.  P, 1. Class meets TTh, 4:40-5:55 p.m., BPA 109.

SPEECH

Lect. 26  Principles of Speech (3)  
An introduction to the field of speech. Designed to develop confidence, poise, and clarity in the use of the body, voice, language, and thought through guided practice in speaking. Fee $1.50. Class meets MWF, 4:40-5:30 p.m., LAA 311.

Lect. 27  Class meets M, 7:00-9:30 p.m., LAA 311.  

Lect. 28  Class meets W, 7:00-9:30 p.m., LAA 311.  

SYSTEMS ENGINEERING

Lect. 2  Data Processing (3)  
Basic principles of information handling and automatic computation; use of punched card equipment; business applications and implications, flow charts and block diagrams. The role of the computer in scientific management. 2R, 3L. Fee $5. (Identical with BA 270, Acct. 270.) Class meets TTh, 4:40-5:30 p.m., BPA 106.

Choose one lab:

Lab. 3  Class meets T, 7:00-10:00 p.m., Engr. 158.  

Lab. 4  Class meets Th, 7:00-10:00 p.m., Engr. 158.  

Lab. 5  Class meets M, 7:00-10:00 p.m., Engr. 158.  

Lect. 2  Programming Digital Computers (3)  
Characteristics of electronic digital computers from the programmer’s viewpoint; programming principles and techniques necessary to program typical scientific and engineering problems. Preparation of programs in problem-oriented compiler languages and testing of them on computers in the Numerical Analysis Laboratory. 2R, 3L.  P, Math. 79a. Fee $5. Class meets MW, 4:40-5:30 p.m., Engr. 104.

Lab. 3  Class meets W, 7:00-10:00 p.m., Hum. 203.  

37
375a  Advanced Numerical Analysis (3)  Titil

377a  Advanced Applications of Digital Computers (3)  Perry
Applications of modern, large-scale computers; emphasis on formulation of objectives and applications of computer languages; language translations, artificial intelligence and pattern recognition, mechanical medical diagnosis, music composition, various simulation techniques. 2R, 3L. P, 278. Class meets TTh, 7:00-9:20 p.m., Engr. 104.

378  Information Retrieval and Correlation (3)  Perry
Methods and systems for information retrieval and correlation presented so as to relate the defining of purposes and requirements with the specifying of operations performed by machines and people and with the design of methods, systems, and equipment to attain optimum benefits under various operational circumstances, particular principles and mathematical formulations. P, 278. Class meets MW, 7:00-8:15 p.m., Engr. 104.

ZOÖLOGY

399  Seminar (0)  Staff
Class meets W, 4:40-5:30 p.m., Bio. Sci. 100.
COURSES BY TELEVISION

KUAT—Channel 6

CHEMISTRY

Fundamentals of Chemistry (4)  
Gustavson

Instruction in lecture and laboratory providing preparation for further work in the Chemistry Department. P, for 2a, Math. 11 or its equivalent. Fee $10. Deposit fee $8. Recitation: one hour per week on the campus. Laboratory sessions are held three hours per week on the campus and an examination will be given once a month on the campus.

Sec. 1  Lecture: MW, 7:40-8:30 a.m.
Sec. 2  Lecture: MW, 10:40-11:30 a.m.

Also one additional hour of lecture must be attended on campus in Room 111 CP.

Viewing rooms: Geol. 202, 206, LA 222, CP 111, HH.  
See SCHEDULE OF HOURS for lecture, recitation and lab periods.

GEOLOGY

Elementary Geology (4)  
McCullough

Fundamentals of physical geology. Fee $4. 3R, 3L, which include two field trips.

Sec. 1  Lecture: MWF, 9:40-10:30 a.m.
Sec. 2  Lecture: MWF, 11:40 a.m.-12:30 p.m.
Sec. 3  Lecture: MWF, 6:10-7:00 p.m.

Viewing rooms: Geol. 202, 206, LA 222, CP 111, and HH.  
Laboratory once a week on campus, and a test approximately once a month on campus. See SCHEDULE OF HOURS for lab periods.

HISTORY

History of Arizona (3)  
Faulk

The history of Arizona from the entrance of the Spaniards in 1539 to its emergence as a modern state in the Southwest. Lectures: TTh, 5:45-7:00 p.m.

REGISTRATION

Registration for television courses will be held at the same time and place as the regular registration for continuing education classes.
DIVISION OF CONTINUING EDUCATION
AND THE SUMMER SESSION

Francis Pendleton Gaines, Jr., Ph.D. (1959) ......................... Dean of Continuing Education and the Summer Session

Sam S. Britt, Jr., Ed.D. (1959) ........................................... Assistant Dean of Continuing Education and the Summer Session

James F. McKinley, B.S. (1962) ........................................... Conference Coordinator

John S. Huff, M.A. (1964) .................................................. Coordinator of Field Services

Edward H. Wilkie, Jr., B.S. (1959) ...................................... Coordinator of Civil Defense Training

Walter A. Shaw (1964) ...................................................... Instructor, Civil Defense Training

Lyman L. Darcy, M.A. (1964) .............................................. Instructor, Civil Defense Training

James R. Shaw, M.D., D.Sc. (1962) .................................... Director, University of Arizona Peace Corps Programs

Herbert K. Waltke (1963) ................................................... Administrative Assistant, University of Arizona Peace Corps Programs

FOR ADDITIONAL INFORMATION
WRITE
CONTINUING EDUCATION DIVISION
THE UNIVERSITY OF ARIZONA
TUCSON, ARIZONA
TELEPHONE: 624-8181
EXTENSION 721

40