



Continuing Education

ON CAMPUS
LATE AFTERNOON
and EVENING COURSES

spring 1967

THE UNIVERSITY OF ARIZONA RECORD

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Statement of Mailing Privilege

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The University of Arizona
Tucson

ON CAMPUS • LATE AFTERNOON • EVENING COURSES

CONTINUING EDUCATION DIVISION

ACADEMIC CALENDAR

SECOND SEMESTER

1966-67

JANUARY

Registration for Continuing Education Students Only 26 Th - 28 Sa, Incl.

FEBRUARY

Classes begin 6 M
Last day to register or add courses for credit 13 M
La Fiesta de los Vaqueros — no classes 23 Th

MARCH

Founders' Day — classes are held 13 M
Last day for dropping courses in College of Law 18 Sa
Records close for midterm scholarship report 21 T
Spring recess 24 F - 27 M Incl.

APRIL

Last day for dropping courses (except College of Law) 15 Sa

MAY

Juniors must file application for candidacy for degree by 1 M
Senior records complete except for second semester courses 13 Sa
Records close for all students completing requirements for degrees 23 T
Class and laboratory sessions end 23 T
Semester examinations begin 25 Th
University Faculty Meeting 27 Sa
Memorial Day — no examinations 30 T
Commencement 31 M

JUNE

Semester examinations end 3 Sa

DIVISIONS OF THE UNIVERSITY

COLLEGE OF AGRICULTURE

School of Home Economics; Departments of: Agricultural Biochemistry, Agricultural Chemistry and Soils, Agricultural Economics, Agricultural Education, Agricultural Engineering, Agronomy, Animal Pathology, Animal Science, Botany, Dairy Science, Entomology, Horticulture, Plant Breeding, Plant Pathology, Poultry Science, Watershed Management.

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 Geological Engineering, Metallurgical Engineering.

COLLEGE OF NURSING

COLLEGE OF PHARMACY

GRADUATE COLLEGE

Committees of: Agricultural Biochemistry and Nutrition, Animal Breeding, Geochronology, Hydrology.

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 LIBRARIES

OFFICERS OF ADMINISTRATION

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Herbert Dawson Rhodes, Ph.D. (1943)	Dean of the Graduate College
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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

Continuing Education

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 four 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, art, botany, education, engineering, German and Russian, public relations, office administration, romance languages, speech, systems engineering, 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 spring of 1967 include chemistry and geology.

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 STUDENT UNION ANNEX (east of the main Student Union building) at the times and dates indicated below.

Thursday, January 26	7:00 p.m. — 9:00 p.m.
Friday, January 27	7:00 p.m. — 9:00 p.m.
Saturday, January 28	9:00 a.m. — 12:00 noon

Those desiring counseling for evening courses prior to registration may visit the offices of the Division of Continuing Education Monday through Friday, 8-12 noon and 1-5 p.m. Counseling will also be available on Saturdays 8-12 noon.

A late registration fee will be charged for Continuing Education registration after 12:00 noon, Saturday, January 28.

The late registration fee is \$5.00 for registrations of less than seven units and \$10.00 for registrations of seven or more units.

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 February 2, 3, and 4, according to an alphabetical time sequence published by the Office of the Registrar. See Schedule of Hours for detailed registration instructions.

LATE REGISTRATION

Continuing Education students who fail to register by 12:00 noon, Saturday, January 28, will be unable to do so until the late registration period. Late registration will be conducted in the Office of Continuing Education at the dates and times indicated below.

Monday thru Thursday, February 6-9	8:00 a.m. - 5:00 p.m. 7:00 p.m. - 9:00 p.m.
Friday, February 10	8:00 a.m. - 5:00 p.m.
Saturday, February 11	8:00 a.m. - 12:00 noon
Monday, February 13	8:00 a.m. - 5:00 p.m. 7:00 p.m. - 9:00 p.m.

The last day of registration for credit will be Monday, February 13. 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. Fee, \$2.00.

Each **IBM Course Card** a student turns in with his Registration packet to the cashier constitutes his **official enrollment** in that course(s). 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 February 6, 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. Although these classes are given at night, the final examinations may be scheduled during the day.

FEES

Students registering for less than seven units in Continuing Education will pay a registration fee of \$16.00 per unit. If registering for seven or more units in Continuing Education the registration fee will be \$134.50 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. These courses 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 \$16.00 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 CLASSES

UNITS	RESIDENT	NONRESIDENT
1	16.00	16.00
2	32.00	32.00
3	48.00	48.00
4	64.00	64.00
5	80.00	80.00
6	96.00	96.00
7	134.50	372.50
8	134.50	406.50
9	134.50	440.50
10	134.50	474.50
11	134.50	508.50
12 or over	134.50	542.00

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:

February 6 through February 12	**100%
February 13 through February 19	80%
February 20 through February 26	60%
February 27 through March 5	40%
March 6 through March 12	20%
March 13 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 attended to mail a transcript of 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. Students who have been enrolled in the Graduate College in the preceding calendar year need not reapply. All others must apply for admission or readmission.

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 catalog, including those with numbers in the 5200, 5300, 8200, and 8300 series, offer full residence credit for the master's and other appropriate degrees. However, the Graduate College will recognize toward the master's degree no more than a total of 12 units of courses in the 8200 and 8300 series, or a total of 18 units of courses in the 5200, 5300, 8200, and 8300 combined. These maxima are further reduced by the number of transfer and/or extension credits (up to six) offered toward the degree.

KEY TO LIST OF COURSES

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

SECOND SEMESTER — 1966-67

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

- 1a Lect. 1 — Principles of Accounting (3)**
Fundamental concepts and procedures; basic financial statements; special problems in accounting for assets, liabilities, and owners' equity; basic manufacturing and cost accounting; analysis and use of data by management and other interested parties. Class meets TTh, 4:40-5:55 p.m., BPA 309.
- Lect. 7 — Class meets TTh, 7:00-8:15 p.m., BPA 305.**
- 1b Lect. 7 — Principles of Accounting (3)**
Class meets TTh, 7:00-8:15 p.m., BPA 309.
- Lect. 9 — Class meets TTh, 4:40-5:55 p.m., BPA 203.**
- 101b Lect. 3 — Intermediate Accounting (3)**
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 309.
- 221 Lect. 1 — Income Tax Procedure (3)**
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, 1b. Class meets TTh, 4:40-5:55 p.m., BPA 305.
- 270 Lect. 2 — Data Processing (3)**
(Identical with Systems Engineering 270.)

AEROSPACE AND MECHANICAL ENGINEERING

- 140 Lect. 2 — Thermodynamics (4)**
(Identical with Engineering 140.)

AGRICULTURAL EDUCATION

- 231 Community Relations in Vocational and Extension Education (2)**
Objectives, criteria and procedures for developing and evaluating effective working relationships. The communications process, methods and techniques for efficient use of individual and mass media. P. 6 units in Ag. Ed. for Ed. Class meets M, 7:00-9:00 p.m., Agric. 230.

- 399 Seminar (1-2)**
Study of selected topics and current developments in agricultural education. P, 189. Class meets T, 4:40 p.m., Agric. 230.

AGRICULTURAL ENGINEERING

- 298 Seminar (1)**
Class meets M, 4:40 p.m., Agric. 229.

ANTHROPOLOGY

- 1b Lect. 2 — Introduction to Anthropology (3)**
Survey of linguistics and cultural anthropology. 1a is not prerequisite to 1b. Class meets M, 7:00-9:00 p.m., Hum. 102.
Students must choose one discussion section:
- Disc. 24** — Class meets Th, 7:00-8:00 p.m., Anthro. 215.
 - Disc. 25** — Class meets Th, 7:00-8:00 p.m., Anthro. 216.
 - Disc. 26** — Class meets Th, 8:00-9:00 p.m., Anthro. 215.
 - Disc. 27** — Class meets Th, 8:00-9:00 p.m., Anthro. 216.
 - Disc. 28** — Class meets Th, 7:00-8:00 p.m., Anthro. 221.
- 237 Issues in Indian Education (3)**
(Identical with Education 237.)

ART

- 3 Studio 8 — Basic Design (3)**
Elements of visual perception and organization. 2R, 4S. Fee, \$2. Class meets TTh, 7:00-10:00 p.m., Studio C, Room 1.
- 6 Studio 6 — Basic Drawing (3)**
Elementary course in representational drawing and composition. 2R, 4S. Fee, \$2. Class meets MWF, 4:40-6:30 p.m., Art 103.
- Studio 7** — Fee, \$2. Class meets MW, 7:00-10:00 p.m., Art 101.
- Studio 8** — Fee, \$2. Class meets TTh, 7:00-10:00 p.m., Art 101.
- 31 Studio 3 — Three-Dimensional Design (3)**
Study of volume, mass, and space relationships through modeling, casting, carving, and construction. 2R, 4S. P, 3. Fee, \$2. Class meets MW, 7:00-10:00 p.m., Studio A, Room 106.
- Studio 4** — Fee, \$2. Class meets TTh, 7:00-10:00 p.m., Studio A, Room 106.

- 45 Studio 8 — Beginning Figure Drawing (3)**
Introduction to drawing the human figure with attention to anatomy. 6S. P,6. Fee, \$10. Class meets TTh, 7:00-10:00 p.m., Art. 103.
- 103 Visual Arts in Elementary Education (3)**
Emphasis on perceptual development and art learning objectives in relation to cultural values; introduction to art elements, principles, and media through studio participation. 2R, 2S. P, Ed. 151. Fee, \$1. Class meets TTh, 4:40 p.m., Arch. 103.
- 142 Lect. 2 — Ceramics (3)**
Introduction to ceramic materials: design, glazing, and firing. 1R, 6S. P, 30, 31. Fee, \$8. Class meets M, 4:40 p.m., Art 8.
Students must attend the two following studios:
Studio 7 — Class meets W, 4:40-6:30 p.m., Art 8.
Studio 8 — Class meets F, 4:40-6:30 p.m., Art 8.
- 165 Studio 2 — Intermediate Commercial Design (3)**
Problems in layout, lettering, and finished art for reproduction. 2R, 4S. P, 30, 45, 65. Fee, \$2. May be repeated for a total of 6 units. Class meets MW, 7:00-10:00 p.m., Studio B.
- 265 Studio 2 — Advanced Commercial Design (3)**
Preparation of portfolio materials. 2R, 4S. P, 6 units 165. May be repeated for credit. Class meets MW, 7:00-10:00 p.m., Studio B.
- 285 Watercolor Painting (3)**
Demonstration and critique. 2R, 4S. P, 30, 80 or Arch. 20b. May be repeated for credit. Class meets TTh, 4:40 p.m., Art 103. Four studio hours to be arranged.

BIOLOGY

- 12 Foundations of Science: Life (3)**
The basic concepts of both animals and plants; emphasis on the processes and interrelationships of living things with each other and on their surroundings. The method of presentation encourages logical thinking, problem solving, prediction, testing and experimentation, and curiosity. Experiments utilize simple equipment. 2R, 3L. P, Chem. 12, Phys. 12. One all-day field trip on a Saturday. Fee, \$10. Class meets MW, 7:00 p.m., Bio. Sci. 100.
Lab. 1 — Class meets Th, 4:40-7:30 p.m., Bio. Sci. 124.
Lab. 2 — Class meets Th, 7:40-10:30 p.m., Bio. Sci. 124.

BOTANY

- 336 Advanced Ecology (2)**
Environmental analysis, productivity, theory, population fluctuations, paleoecology and related subjects. P, 166, Zoo. 238, or graduate standing in biological science. (Identical with Geochron. 336 and Zoo. 336.) Class meets M, 7:00-9:00 p.m., Ag. Sci. 205.

399 Seminar (1)

Literature review and discussions concerning current problems in plant science. Class meets M, 4:40 p.m., Ag. Sci. 242E.

CHEMISTRY

5002b See page 39 of this catalogue for TV course.

399 Lect. 1 — Seminar (1-3)

Reports on current research and assigned topics. Required of all graduate students in the department. Class meets M, 4:40 p.m., Chem. 126.

Lect. 2 — Class meets T, 4:40 p.m., Chem. 126.

Lect. 3 — Class meets W, 4:40 p.m., Chem. 126.

Lect. 4 — Class meets W, 7:00 p.m., Chem. 122.

CIVIL ENGINEERING

290 Civil Engineering Projects (3)

Individual design study in fields of the student's major emphasis or completion of a research and a 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., Civil Engr. 105.

299m Boundary Surveys and Legal Principles (3)

Historical development of sectionalized land system; writing and interpretation of property deeds and descriptions; methods of transferring property; evidence and procedures for boundary location; rights, duties and liabilities of the land surveyor. Class meets Th, 7:00-10:00 p.m., Civil Engr. 201.

ECONOMICS

1 Lect. 10 — Development of the American Economy (3)

Origin and development of the economic institutions of the United States. Not open to students with credit in Econ. 204 or with 12 or more units of economics. Class meets MW, 7:00-8:15 p.m., BPA 107.

2a Lect. 7 — Principles of Economics (3)

Nature of economics, introduction to price theory, national income and employment, money and banking, economic growth and stabilization. P, Soph. standing. For majors in economics and business administration. Non-majors may take 2a and 3 in lieu of the former 1a-1b sequence. Class meets MW, 7:00-8:15 p.m., Econ. 105.

- 2b Lect. 12 — Principles of Economics (3)**
 Price theory for the product market models, factor prices, international economics. P, 2a. For majors in economics and business administration. Non-majors may take 2a and 3 in lieu of the former 1a-1b sequence. Class meets MW, 7:00-8:15 p.m., Econ. 102.
- 3 Lect. 2 — Economic Policies (3)**
 Economic legislation and institutions for the solution of economic problems. P, 2a. Class meets MW, 7:00-8:15 p.m., Econ. 103.
- 148 Lect. 7 — Money and Banking (3)**
 Nature of money and credit; commercial banking; Federal Reserve system; monetary theories; domestic and international monetary policies. P, 2b or 101. Class meets MW, 7:00-8:15 p.m., Econ. 104.
- Lect. 9 —** Class meets TTh, 4:40-5:55 p.m., Econ. 103.

EDUCATION

- 203 Lect. 2 — The Study of Exceptional Children (3)**
 Incidence, characteristics, and educational problems of exceptional children. Class meets MW, 7:00-8:15 p.m., Aero. 309.
- 204a Teaching Mentally Retarded Children and Youth (3)**
 Methods, organization of materials, and construction of plans for educating retarded children at the elementary and secondary school levels. Discussion and evaluation of current teaching practices and procedures. P, 203. Class meets TTh, 7:00-8:15 p.m., Aero. 305.
- 204b Teaching Mentally Retarded Children and Youth (3)**
 Class meets TTh, 7:00-8:15 p.m., Aero. 309.
- 210 Survey of the Anatomy, Physiology, and Diseases of the Eye (2)**
 Anatomy, physiology, diseases of the eye, and principles of refraction; the relation of visual defects to learning and to school experiences. Class meets M, 7:00-8:50 p.m., Educ. 214.
- 211 European and African Study Materials for Teachers (3)**
 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 TTh, 4:40-5:55 p.m., Educ. 502.
- 214 Methods of Teaching the Visually Handicapped (3)**
 Curriculum development and adaptation in various educational programs; adaptation of classroom materials and procedures for use with blind and partially-sighted children. Methods of teaching reading, writing, and mathematics are emphasized. P, 213. Class meets MW, 4:40-5:55 p.m., Aero. 305.

- 219 **The Improvement of Reading (3)****
 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, 4:40-5:55 p.m., Educ. 320.
- 225b **Lect. 4 — Teaching Reading and the Language Arts in Elementary School (2)****
 Elementary curriculum and methods; the functions, organization of materials, and methods of teaching reading; the language arts of spelling, handwriting, speaking, and written communication. CR 225b recommended with 129. Class meets MW, 4:40 p.m., Educ. 310.
- 232 **The Junior High School (3)****
 The history, purposes, curriculum, and administration of the junior high school. P, 151. Class meets M, 7:00-9:30 p.m., Educ. 318.
- 237 **Issues in Indian Education (3)****
 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. (Identical with Anthro. 237.) Class meets MW, 4:40-5:55 p.m., Anthro. 310. Register for Education 237 in Education College.
- 242 **Lect. 2 — Appraisal of the Individual (2)****
 Methods of appraising and reporting individual behavior, with emphasis on non-psychometric data. Class meets T, 7:00-8:50 p.m., Educ. 518.
- 245 **Lect. 2 — The Counseling Process (3)****
 Introduction to theories of counseling; collation and interpretation of counseling data; the counseling process; study of cases. P, 241, 242, or CR. Class meets MW, 4:40-5:55 p.m., Educ. 518.
- 246 **Group Techniques in Guidance (2)****
 Group techniques, their application in guidance, and the interrelationship of group and individual approaches in the guidance program, P, 241 and 245. Class meets M, 4:40-6:20 p.m., Educ. 402.
- 247 **Lect. 2 — Elementary School Guidance (3)****
 Principles and practices of guidance as they apply to the elementary school. P, 12 units in education, including 151. Class meets TTh, 4:40-5:55 p.m., Educ. 402.
- 254 **Lect. 2 — Statistical Methods in Education****
 Elementary methods of dealing quantitatively with school data and data resulting from experimental investigations. P, 9 units in education or psychology. Class meets MW, 4:40-5:55 p.m., Educ. 318.

- 261 Public Relations for Teachers and Administrators (3)**
 The purposes, necessary organization, agencies, and criteria of good public relations; designed to develop the knowledge and techniques necessary for an effective program of public relations. P, 6 units in education. Class meets Th, 7:00-9:30 p.m., Educ. 502.
- 270 Mental Retardation (3)**
 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, 203 or CR. Class meets TTh, 7:00-8:15 p.m., Educ. 314.
- 271 Teaching Reading to the Slow Learner (3)**
 Curriculum adjustment and procedures for developing reading skills for the pupil of below-average ability. P, 225 and 203. Class meets TTh, 4:40-5:55 p.m., Educ. 310.
- 272 The Physically Handicapped Child (3)**
 Causes, characteristics, and educational implications of the major neurological and physical defects and special health problems of school age children. Methods and materials; observation and field studies. P, 203. Class meets MW, 4:40-5:55 p.m., Aero. 315.
- 273b The Education of Children with Behavioral Disorders (3)**
 Educational programs for children who are emotionally disturbed and/or socially maladjusted with special emphasis on methodological practices in the classroom. P, 203. Class meets TTh, 4:40-5:55 p.m., Educ. ELC.
- 274 Curriculum Adaptations for Exceptional Children (3)**
 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., Aero. 305.
- 279 Kindergarten Education (3)**
 Growth and learning of four-to-six-year-old children. Programs for children of these ages in creative arts, music, science, mathematics, social studies, and the language arts. Evaluating and reporting pupil growth to parents. Two class hours, four hours participation in a kindergarten classroom. P, 151. Class meets Th, 4:40-6:20 p.m., Educ. 320. Lab to be arranged.
- 297 Lect. 1 — Educational Sociology (2)**
 The school as a social institution; social functions of the school; social processes, socialization, and stratification in education; informal and formal systems and the bureaucratic structure of the school. P, Soc. 1 or 2. (Identical with Soc. 297.) Class meets T, 4:40-6:20 p.m., Educ. 320.
- Lect. 2 —** Class meets Th, 7:00-8:50 p.m., Educ. 518.

- 301 Current Problems in Education (2)**
The problems found in current educational literature, research studies, and school reports. Class meets W, 7:00-8:50 p.m., Educ. 318.
- 306 Comparative Education (3)**
National systems of education and the development of underlying philosophies and practices; contemporary movements in the educational systems of western European countries; emphasis on similar movements in the United States and certain Latin-American countries. Class meets TTh, 7:00-8:15 p.m., Educ. 308.
- 309 Education in Communist Countries (2)**
The ideology of communism as it relates to education in countries throughout the world. P, 306 or equivalent. Class meets M, 4:40-6:20 p.m., Educ. 308.
- 310 Philosophy of Education (3)**
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 M, 7:00-9:30 p.m., Educ. ELC.
- 311 History of Education (3)**
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 Th, 7:00-9:30 p.m., Educ. 310.
- 314 State School Systems and School Law (3)**
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, 7:00-8:15 p.m., Aero. 315.
- 320 Science Curriculum in the Elementary School (3)**
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 W, 7:00-9:30 p.m., Educ. 308.
- 322 Supervised Case Studies and Group Work in the Improvement of Reading (1-6)**
Supervised practice in case work and group work with elementary and secondary students having varied reading problems. P, 219, 235, 225 or 276, 335. Recommended: 257 and 358. Special fee, \$1 per unit; \$3 maximum. Class meets F, 4:40-5:55 p.m., Educ. 240.
- 323 Constructing the Elementary School Curriculum (3)**
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., Educ. 402.

- 324** **Lect. 1 — Mathematics Curriculum in the Elementary School (3)**
Trends in the mathematics curriculum of the elementary school; emphasis on selection of criteria to determine grade placement of concepts, content, teaching procedures, and needed equipment. Primarily for in-service public school personnel. P, 226. Class meets M, 7:00-9:30 p.m., Educ. 402.
- Lect. 2** — Class meets T, 7:00-9:30 p.m., Educ. 310.
- 325** **Investigations in Reading (3)**
Review of the investigations in the teaching of reading and related language arts. P, 9 units in education and major in reading. Class meets Th, 7:00-9:30 p.m., Educ. 240.
- 326** **Social Studies Curriculum in the Elementary School (3)**
Trends in the social studies 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 W, 7:00-9:30 p.m., Educ. 402.
- 329** **Investigations in Elementary Education (2)**
Critical study and evaluation of the investigations and experimental evidence basic to the aims and instructional practices of the elementary school. P, 9 units in education. Class meets M, 7:00-8:50 p.m., Educ. 308.
- 335** **Diagnosis of Reading Development and Difficulties (3)**
Theory, demonstration, and practice in group and individual procedures of administration, interpretation, and use of techniques of diagnosis of reading development and difficulties. P, 219, 225, 276, or 235. Class meets MW, 7:00-8:15 p.m., Educ. 314.
- 337** **Secondary School Administration and Supervision (3)**
The internal administration of secondary schools; supervision and the improvement of instruction; emphasis on responsibilities of all staff members in secondary schools. Class meets TTh, 4:40-5:55 p.m., Educ. 316.
- 338** **Constructing the Secondary School Curriculum (3)**
The curriculum and its relationships; basic theories and techniques of curriculum construction discussed, evaluated, and applied. Class meets W, 7:00-9:30 p.m., Educ. 518.
- 339** **Investigations in Secondary Education (3)**
Critical study and evaluation of the investigations and experimental evidence underlying the aims and instructional practices of the various subject-matter fields of the secondary school. P, 9 units in education. Class meets Th, 7:00-9:30 p.m., Educ. 316.

- 342 Group Counseling (3)**
Theory and process in group counseling; applications in school, college and community settings; laboratory experience. P, 245, 341 or CR. Class meets TTh, 7:00-8:15 p.m., Educ. 214.
- 345 Theories of Counseling (3)**
Rationale, development, and research underlying major counseling theories, with emphasis on implications for vocational and personal counseling. P, 244, 245. Class meets MW, 4:40-5:55 p.m., Educ. 214.
- 348 Organization and Administration of Student Personnel Programs in Higher Education (2)**
Principles of organization and administration of college student services; comparative organizational structures as related to institutional needs. P, 346. Class meets TTh, 4:40 p.m., Educ. 214.
- 352 Psychological Theory in Educational Practice (3)**
Educational applications of major psychological systems; comparison and implications of these systems for applied problems in motivation, learning, and instructional practice. Class meets MW, 4:40-5:55 p.m., Educ. ELC.
- 353 Advanced Educational Psychology: Creativity (3)**
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., Educ. ELC.
- 354 Advanced Statistical Methods in Education (3)**
Further methods of dealing quantitatively with educational data. P, 254 or equivalent. Required of all doctoral students in education. Class meets TTh, 4:40-5:55 p.m., Educ. 308.
- 358b Lect. 2 — Individual Diagnostic Techniques in Education (3)**
Practices in diagnostic testing applied to the improvement of teaching and to the correction of learning difficulties of children. P, 151, 240, 257. Fee, \$7.50. Class meets TTh, 4:40-5:55 p.m., Educ. 109.
- 359 The Junior College (3)**
The scope, objectives, and education functions of the junior college; patterns of junior college programs. P, 3 graduate units in education or CR. Class meets M, 7:00-9:30 p.m., OM 111.
- 362 Analysis of Administrative Problems (6)**
Introduction to administrative theory; analyses of administrative problems associated with individual and group behavior in educational organizations. Case study methods and simulated materials will be utilized. P, 361. Class meets T, 7:00-9:30 p.m., Educ. 402 and S, 9:00-12:00 noon, Educ. 402.

- 372 School Business Management (3)**
 The general management of school business. Administration and accounting of school funds; administration of equipment and supplies; insurance; other business operations. P, 9 graduate units in school administration. Class meets W, 7:00-9:30 p.m., Educ. 320.
- 373 Planning and Maintenance of School Buildings (3)**
 Problems in the planning, construction, and maintenance of school buildings. Visitation and evaluation of some of the newer school buildings. P, 9 graduate units in education or CR. Class meets T, 7:00-9:30 p.m., Educ. 316.
- 376 Supervision: Its Organization and Administration (3)**
 Principles and techniques in the improvement of instruction; leadership activities of supervisors, teachers, and other school personnel. Class meets TTh, 4:40-5:55 p.m., Educ. 318.
- 390 Lect. 2 — Techniques in Educational Research (3)**
 Educational problems, research techniques in education, the interpretation of data and the reporting of results. Required for any graduate degree in Education. Class meets MW, 4:40-5:55 p.m., Educ. 316.
- Lect. 3 — Class meets M, 7:00-9:30 p.m., Educ. 316.**
- Lect. 4 — Class meets W, 7:00-9:30 p.m., Educ. 316.**
- 397k Workshop (1-3) Special Education**
 Selected topics in education. Class meets M, 7:00-9:30 p.m., Educ. 320.
- 399a Seminar (1-3) Counseling**
 Class meets M, 7:00-9:30 p.m., Educ. 502.
- 399b Seminar (1-3) Educational Psychology**
 Class meets T, 7:00-9:30 p.m., Educ. ELC.
- 399c Seminar (1-3) Elementary Education**
 Class meets TTh, 4:40-5:55 p.m., Educ. 518.
- 399d Seminar (1-3) History and Philosophy of Education**
 Class meets W, 7:00-9:30 p.m., Educ. 502.
- 399j Seminar (1-3) Secondary Education**
 Class meets T, 7:00-9:30 p.m., Educ. 502.
- 399k Seminar (1-3) Special Education**
 Class meets W, 7:00-9:30 p.m., Educ. 214.
- 399l Seminar (1-3) Supervision and Administration**
 Class meets S, 9:00-11:30 a.m., Educ. 502.
- 399m Seminar (1-3) Social Foundations of Education**
 Class meets T, 7:00-9:30 p.m., Educ. 318.

SCHOOL LIBRARY SCIENCE

- 202 Selection of Library Materials for School Use (3)**
Selection and evaluation of books and other materials for schools; emphasis on those which meet curricular needs and interests, and which represent various levels of difficulty; ways of stimulating their use. P, 201. Class meets MW, 4:40-5:55 p.m., Educ. 314.
- 281 Library Administration and Organization (3)**
The functions, activities, organization, and management of the library, particularly the school library; budgeting, weeding, equipment, and personnel; the contributions of non-library personnel to the successful operation of the library. P, 280, 282. Class meets TTh, 4:40-5:55 p.m., Educ. 314.
- 285 Literature for Adolescents (3)**
Books, periodicals, and audio-visual materials for students in junior and senior high school; emphasis on books and reading for recreation, pleasure, and developmental needs; selection aids for various types of materials. Reading guidance for average, retarded, and advanced students. Class meets MW, 7:00-8:15 p.m., Educ. 310.
- 286 Oral Presentation of Children's Literature (2)**
Principles and techniques of story-telling and of reading aloud to children; stories for different age groups, desirable and undesirable adaptations, presentation of picture stories; practice in reading and telling stories and in planning the story hour. P, 201. Class meets M, 7:00-8:50 p.m., Educ. 518.
- 287 Fundamentals of Library Science (3)**
History and development of libraries from earliest times to the present, emphasizing their major role in communication and their responsibilities to modern society. The different types of libraries. Class meets MW, 4:40-5:55 p.m., Mines 213.
- 388 Technical Processes for Non-Book Materials (3)**
Acquisition, organization, and circulation of films, filmstrips, disc and tape recordings, pictures, maps, charts, and realia. P, 282. Class meets TTh, 7:00-8:15 p.m., Educ. 320.

ELECTRICAL ENGINEERING

- 359 Analysis and Design of Electron Devices (3)**
Development of mathematical analysis of semiconductor devices; junction diodes; junction transistors; field-effect transistors. Compromises in device design; fabrication processes and techniques, limitations which they impose on device design. P, 356. Class meets MWF, 4:40 p.m., Engr. 203.

ENGINEERING

- 14** **Lect. 2 — Engineering Mechanics (4)**
Vector algebra and calculus. Equivalent force systems. Equilibrium. First and Second moments of areas, kinematics. Momentum and Energy methods for particles, systems of particles, and rigid bodies. P, Phys. 10, Math 49b. Class meets MWThF, 4:40 p.m., Civil Engr. 203.
- 17** **Lect. 2 — Mechanics of Materials (3)**
Material behavior; relationship between external forces acting on elastic forces acting on elastic and inelastic bodies and the resulting behavior; relationship between external forces acting on elastic and inelastic bodies and the resulting stress and strain; combined stresses. P, 14. Class meets MWF, 4:40 p.m., Civil Engr. 103.
- 130** **Lect. 3 — Fluid Mechanics (3)**
Fundamentals of the mechanics of fluids, including fluid statics, basic fluid dynamics, viscous fluid flow, elementary compressible flow and introductory potential theory. P, 14, E. 170 or CR, Phys. 21. Class meets MWF, 4:40 p.m., Civil Engr. 201.
- 140** **Lect. 2 — Thermodynamics (4)**
Basic laws and example engineering applications of macroscopic thermodynamics; introduction to microscopic viewpoint through kinetic theory and statistical mechanics. P, Phys. 16, 21, E. 170. (Identical with A.M.E. 140.) Class meets MWThF, 4:40 p.m., Aero. 204.

ENGLISH

Note: Students who fail to pass the placement examination given at the beginning of each regular and summer session will be required to register for and to complete satisfactorily a course in sub-collegiate English (English X), 3 hours per week without credit, before they may be admitted to English 1. Satisfaction of the Freshman Composition requirement is prerequisite to all other courses in English.

- X** **Lect. 8 — Subcollegiate English (0)**
Review of the fundamentals of English. Required of all students who fail the English placement test. Class meets MWF, 4:40 p.m., Hum. 209.
- Lect. 10** — Class meets MW, 7:00-8:15 p.m., Econ. 109.
- 1** **Lect. 23 — Freshman Composition (3)**
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 p.m., LA 407.
- Lect. 25** — Class meets MWF, 4:40 p.m., Econ. 104.
- Lect. 26** — Class meets MWF, 4:40 p.m., PMM 212.
- Lect. 27** — Class meets MW, 7:00-8:15 p.m., Econ. 303.

- Lect. 28** — Class meets MW, 7:00-8:15 p.m., LA 312.
- Lect. 29** — Class meets MW, 7:00-8:15 p.m., LA 407.
- Lect. 30** — Class meets TTh, 7:00-8:15 p.m., Econ. 303.
- Lect. 31** — Class meets TTh, 7:00-8:15 p.m., LA 307.
- Lect. 32** — Class meets TTh, 7:00-8:15 p.m., LA 308.

3 **Lect. 66 — 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 p.m., LA 332.

- Lect. 67** — Class meets MWF, 4:40 p.m., Psych. 101.
- Lect. 68** — Class meets MWF, 4:40 p.m., Psych. 103.
- Lect. 69** — Class meets MWF, 4:40 p.m., H. Ec. 114.
- Lect. 70** — Class meets MWF, 4:40 p.m., Agric. 206.
- Lect. 71** — Class meets MWF, 4:40 p.m., Chem. 122.
- Lect. 72** — Class meets MWF, 4:40 p.m., LAA 211.
- Lect. 73** — Class meets MWF, 4:40 p.m., H. Ec. 225.
- Lect. 76** — Class meets MW, 7:00-8:15 p.m., LA 408.
- Lect. 78** — Class meets MW, 7:00-8:15 p.m., Agric. 206.
- Lect. 79** — Class meets MW, 7:00-8:15 p.m., Bio. Sci. 313.
- Lect. 80** — Class meets TTh, 7:00-8:15 p.m., LA 118.
- Lect. 81** — Class meets TTh, 7:00-8:15 p.m., LA 312.
- Lect. 82** — Class meets TTh, 7:00-8:15 p.m., LA 408.
- Lect. 83** — Class meets TTh, 7:00-8:15 p.m., H. Ec. 301.
- Lect. 84** — Class meets TTh, 7:00-8:15 p.m., Bio. Sci. 313.

4 **Lect. 21 — Types of Modern Literature (3)**
 Readings in modern novel, drama, short story, and poetry. Term paper required. For freshmen completing English 2 with a grade of 2 or better. Open to advanced-placement students or sophomores with the freshman requirement met. Class meets MWF, 4:40 p.m., LA 312.

- Lect. 22** — Class meets MWF, 4:40 p.m., LA 308.
- Lect. 23** — Class meets MW, 7:00-8:15 p.m., LA 332.
- Lect. 24** — Class meets TTh, 7:00-8:15 p.m., LA 332.
- Lect. 25** — Class meets TTh, 7:00-8:15 p.m., LA 416.

- 5a English Composition for Foreign Students (3)**
 Writing and English fundamentals; designed to meet the particular needs of foreign students. P, CR in Speech 1 or 2. Class meets MWF, 4:40 p.m., LA 214.
- 5b Lect. 2 — English Composition for Foreign Students (3)**
 Class meets MWF, 4:40 p.m., LA 111.
- 206 Lect. 3 — Modern Grammar and Usage (3)**
 The grammar of Modern English, a synthesis of effective principles from traditional, structural, and transformational sources, taught by methods apposite to the secondary school. Class meets MWF, 4:40 p.m., LA 307.

FINANCE, INSURANCE, AND REAL ESTATE

- 140 Consumer Finance (3)** **O'Neill**
 History, scope, operations of the several types of financial institutions providing financing for consumers, including credit issuance; emphasis on managerial and competitive problems. Class meets W, 7:00-9:30 p.m., Econ. 302.
- 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 TTh, 7:00-8:15 p.m., Econ. 111.
- 151 Lect. 3 — Insurance (3)**
 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 W, 7:00-9:30 p.m., Econ. 301.
- 181 Lect. 2 — Real Estate Practice (3)** **Sirota**
 Survey of the business aspects of real estate. Class meets T, 7:00-9:30 p.m., Econ. 301.
- 241 Lect. 6 — Corporation Finance (3)**
 Financial problems involved in the organization and conduct of business enterprise. P, Acct. 1b, Econ. 2b. Class meets MWF, 4:40 p.m., Econ. 302.
- 357 Survey of Finance (3)**
 Analysis of security instruments; the middleman; the issuers and problems of corporate financial management. P, 241. Class meets TTh, 4:40-5:55 p.m., Econ. 303.

GENETICS

399 Seminar (1)

Class meets W, 7:00-8:00 p.m., Ag. Sci. 245.

GEOCHRONOLOGY

336 Advanced Ecology (2)

Environmental analysis, productivity, theory, population fluctuations, paleoecology and related subjects. P, Bot. 166, or Zoo. 238, or graduate standing in biological science. (Identical with Bot. 336 and Zoo. 336.)
Class meets M, 7:00-9:00 p.m., Ag. Sci. 205.

GEOLOGY

5001b See page 39 of this catalogue for TV course.

***6 Identification of Rocks (3)**

Laughon

An introduction to the study of rock classification and the procedure for field identification. Class meets Th, 7:00-10:00 p.m., Geol. 10.
Enrollment fee, \$48.

GERMAN

1b Lect. 10 — Elementary German (4)

(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 407.

3b Lect. 5 — Intermediate German (4)

Class meets TTh, 7:00-9:00 p.m., Chem. 126.

RUSSIAN

(See page 40 for non-credit conversation course.)

1b Lect. 3 — Elementary Russian (4)

(The elementary course may not be used in a minor for the bachelor's degree.) Fee, \$1. Class meets MTWTh, 4:40 p.m., LA 420.

GOVERNMENT

2 American National Government (3)

General survey of the constitutional bases, organization and functioning of the American national government; recent and current trends.
Class meets MW, 4:40 p.m., LAA 214.

Disc. 40 — Class meets F, 4:40 p.m., LAA 214.

- 2 American National Government (3)**
Class meets M, 7:00-8:40 p.m., LAA 211.
Disc. 45 — Class meets M, 8:40-9:30 p.m., LAA 211.
- 2 American National Government (3)**
Class meets T, 7:00-8:40 p.m., LAA 206.
Disc. 50 — Class meets T, 8:40-9:30 p.m., LAA 206.
- 2 American National Government (3)**
Class meets W, 7:00-8:40 p.m., LAA 311.
Disc. 55 — Class meets W, 8:40-9:30 p.m., LAA 311.
- 2 American National Government (3)**
Class meets Th, 7:00-8:40 p.m., LAA 211.
Disc. 60 — Class meets Th, 8:40-9:30 p.m., LAA 211.
- 2 American National Government (3)**
Class meets TTh, 4:40-5:30 p.m., LAA 311.
Disc. 70 — Class meets TTh, 5:30-5:55 p.m., LAA 311.
- 3 Lect. 3 — American State and Local Government (2)**
General survey of state and local government; recent and current trends. Class meets TTh, 4:40 p.m., LAA 214.
Lect. 4 — Class meets T, 7:00-8:40 p.m., LA 222.
Lect. 5 — Class meets Th, 7:00-8:40 p.m., LA 222.
- †100 Lect. 3 — National and State Constitutions (3)**
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 MWF, 4:40 p.m., Econ. 301.
Lect. 4 — Class meets M, 7:00-9:30 p.m., Psych. 101.
Lect. 5 — Class meets T, 7:00-9:30 p.m., LA 206.
Lect. 6 — Class meets W, 7:00-9:30 p.m., LA 206.
Lect. 7 — Class meets Th, 7:00-9:30 p.m., LA 206.
†This state requirement for a teacher's certificate may also be met by special examination.
- 214 Arizona Government and Administration (2)**
History, structure, organization, powers and procedures of Arizona state and local government and administration. Persons desiring state teacher's certificates who have credit for American national government may complete national and state constitutions requirement with this course. Class meets T, 7:00-8:30 p.m., Econ. 102.

- 266 Problems of Municipal Management (3)**
The significance, organization, and processes of management on the municipal level. P, 2 and 3. Class meets T, 7:00-9:30 p.m., LAA 211.
- 299b Methods of Teaching Government (1)**
Class meets F, 7:00-9:00 p.m., Off Campus.
- 390 Methods of Political Inquiry (3)**
Systematic examination of problems of scope and methods of inquiry in the discipline of political science, intended to acquaint students with the discipline and to prepare them for scholarly research in the field. Class meets W, 7:00-9:30 p.m., LAA 109.
- 398b Special Topics (3)**
Systematic examination of the basic literature of the following fields, with emphasis on critical evaluation: American Government. Class meets Th, 7:00-9:30 p.m., LAA 109.
- 398d Special Topics (3)**
Systematic examination of the basic literature of the following fields, with emphasis on critical evaluation: International Relations. Class meets M, 7:00-9:30 p.m., LAA 109.
- 399c Research Seminar: Comparative Government (3)**
Class meets T, 7:00-9:30 p.m., LAA 109.

HEALTH, PHYSICAL EDUCATION AND RECREATION

- 11 Lab. 9 — Weight Training (1)**
Fee, \$3.50. Class meets MWF, 4:40 p.m., Men's Gym.
- 300 Critique of Research and Literature in Health, Physical Education and Recreation (2)**
Survey and critical analysis of selected research and literature in health, physical education, and recreation. Opportunity for readings according to individual interest. P, Ed. 390. Class meets T, 7:00-8:50 p.m., PE for Women 207.

HISTORY

- 5a History of England (3)**
History of the English people; the influence of the church and continental relations; development of social and political institutions to the end of the Tudor period. Class meets MW, 7:00-8:15 p.m., LA 114.
- 203 Revolutionary Era in U. S. History, 1763-1800 (3)**
Causes, conduct, and results of the War of the American Revolution; the problems of the "Critical Period," the making of the Constitution, and the struggle of parties and personalities in the infant years of the Federal Union. Class meets MWF, 4:40 p.m., LA 420.

- 207b The Civil War and Reconstruction (2)**
The causes, military operations, and results of the Civil War. Class meets TTh, 4:40 p.m., Psych. 101.
- 276 Communist China (3)**
(Identical with Oriental Studies 276.)
- 399a Lect. 2 — Seminar (3)**
United States History. Class meets M, 4:40-7:10 p.m., Main Lib. 202.

HOME ECONOMICS

- 10 Education for Marriage (2)**
A practical study of factors involved in courtship, selection, marital adjustments, parenthood. P, Soph. standing. Class meets M, 6:00-8:00 p.m., Chem. 134.
- 47 Creative Activities in the Preschool (2)**
Basic knowledge of and supervised experience in creative activities for teachers of pre-school children; emphasis on development implications. Fee, \$2. (Not open to majors in child development or home economics education.) Class meets W, 4:40-6:30 p.m., Nursery 20.
- 89 Lect. 2 — The Home Economics Profession (3)**
The development of home economics as a field of study and service; purposes, issues, problems, ethics and organizations. 2R. Class meets MWF, 4:40 p.m., H. Ec. 217.
- 209 Teaching Out-Of-School Groups (2)**
Purposes and methods of teaching out-of-school groups, emphasis on and experience in teaching adults. 2R, 3L. P, 189 or teaching experience. Class meets T, 4:40-6:30 p.m., H. Ec. 217.
- 257 Child Rearing Practices and Their Cultural Determinants (3)**
The influence of various national subcultures upon child rearing practices; regional, ethnic, religious, and socio-economic influences; peer groups, ascribed status, and family composition. P, 27, or Soc. 1 or Psych. 1a. Class meets MW, 4:40-5:55 p.m., TBA.
- 318 Evaluation in Home Economics Education (2) Manning**
Application of theory to the selection and construction of evaluation instruments, their use and interpretation in home economics programs. Class meets S, 9:40-11:30 a.m., H. Ec. 217.

HUMANITIES

- 50b *Disc. 45 — Introduction to Humanities (4)**
The cultural life of the Western World as it developed in literature, art and philosophy from the Greeks to the present. 1L, 3R. P, Freshman Composition. Fee, \$1. Required of sophomores in Business Administration and Liberal Arts, and of juniors in the College of Nursing. Class meets MW, 7:00-8:40 p.m., LA 412.

***Disc. 46 — Fee, \$1. Class meets TTh, 7:00-8:40 p.m., LA 412.**

*These sections are open to continuing education students only.

MANAGEMENT

- 7 Lect. 2 — Survey of American Business (3)**
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., Econ. 104.
- 155a Lect. 9 — Statistical Methods in Economics and Business (3)**
Statistical analysis and statistical inference applied to data in economics and business. P, for 155a, Math 11 or 20 or equivalent. 155a is prerequisite to 155b. Class meets MW, 7:00-8:15 p.m., Econ. 307.
- Lect. 10 — Class meets TTh, 7:00-8:15 p.m., Econ. 307.**
- 155b Lect. 10 — Statistical Methods in Economics and Business (3)**
155a is prerequisite to 155b. Class meets MWF, 4:40 p.m., BPA 207.
- Lect. 11 — Class meets TTh, 7:00-8:15 p.m., Econ. 105.**
- 201 Lect. 4 — Personnel Management (3)**
Policies and current practices in management of employees, at all levels, in business firms. P, Econ. 2b. Class meets TTh, 7:00-8:15 p.m., BPA 107.
- 220a Lect. 4 — Business Law (3)**
Nature and sources of business law, the judicial system, contracts, property rights, bailments, and sales. Not open to students who have completed 6 or more units in a college of law. Class meets MW, 4:40-5:55 p.m., Econ. 316.
- 220b Lect. 6 — Business Law (3)**
Negotiable instruments, agency, partnership, corporations and security transactions. Not open to students who have completed 6 or more units in a college of law. Class meets MWF, 4:40 p.m., Econ. 307.
- Lect. 7 — Class meets TTh, 4:40-5:55 p.m., Econ. 307.**
- Lect. 8 — Class meets TTh, 7:00-8:15 p.m., BPA 207.**
- 270 Lect. 2 — Data Processing (3)**
(Identical with Systems Engineering 270.)
- 272 Lect. 7 — Principles of Management (3)**
Analysis, plus case studies, of management in business enterprises. Class meets MWF, 4:40 p.m., BPA 203.
- 355 Research Methods in Business (3)**
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 TTh, 4:40-5:55 p.m., Econ. 209.
- 370 Systems Analysis for Data Processing (3)**
(Identical with Systems Engineering 370.)

MARKETING

- 161 Lect. 10 — Marketing Principles (3)**
Nature of marketing; analysis of customer behavior; development of marketing institutions, policies, and programs. P, Econ. 2a, Acct. 1a. Class meets TTh, 4:40-5:55 p.m., Econ. 316.
- Lect. 11 —** Class meets M, 7:00-9:30 p.m., Econ. 316.
- 165b Lect. 1 — Advertising Layout and Design (3)** **Lamont**
Workshop in present-day creative advertising; practices in all current media; actual practice, criticism, and field trips. Class meets W, 4:40-7:00 p.m., BPA 403.
- Lect. 2 —** Class meets W, 7:00-9:30 p.m., BPA 403. **Lamont**

MATHEMATICS

- 11 Lect. 15 — Intermediate Algebra (3)**
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., H. Ec. 225.
- Lect. 16 —** Class meets TTh, 7:00-8:15 p.m., Chem. 209.
- Lect. 17 —** Class meets TTh, 7:00-8:15 p.m., PMM 206.
- Lect. 18 —** Class meets MW, 7:00-8:15 p.m., PMM 204.
- Lect. 19 —** Class meets MW, 7:00-8:15 p.m., H. Ec. 301.
- Lect. 20 —** Class meets MW, 7:00-8:15 p.m., Engr. 301.
- **20 Lect. 15 — College Algebra (3)**
P, 1½ entrance units in algebra or 11. Class meets TTh, 7:00-8:15 p.m., Ag. Sci. 242E.
- Lect. 16 —** Class meets TTh, 7:00-8:15 p.m., Agric. 206.
- Lect. 17 —** Class meets TTh, 7:00-8:15 p.m., PMM 202.
- Lect. 18 —** Class meets MW, 7:00-8:15 p.m., Agric. B.
- **24 Lect. 9 — Plane Trigonometry (2)**
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., Chem. 126.
- Lect. 10 —** Class meets W, 7:00-8:40 p.m., PMM 210.
- 49a Lect. 8 — Analytic Geometry and Calculus (5)**
Accelerated version of 79a-79b and 80 for students in Engineering and Mines Colleges only. P, 44. Class meets TTh, 7:00-9:05 p.m., PMM 212.

- 49b Lect. 7 — Analytic Geometry and Calculus (5)**
Class meets TTh, 7:00-9:05 p.m., PMM 204.
- **79a Lect. 9 — Analytic Geometry and Calculus (5)**
P, 20 and 24, or 44. Class meets MW, 7:00-9:05 p.m., PMM 202.
- Lect. 10 —** Class meets TTh, 7:00-9:05 p.m., Agric. B.
- **79b Lect. 7 — Analytic Geometry and Calculus (5)**
Class meets TTh, 7:00-9:05 p.m., PMM 210.
- **Any student who earned grades of 1 or 2, or equivalent, in Math. 20 (College Algebra) and Math. 24 (Trigonometry) in high school may enter Math. 79a. No further examinations are necessary.**
- 80 Lect. 5 — Calculus (2)**
Concludes the standard calculus work. Infinite series, partial differentiation, and multiple integration. P, 79b. Class meets W, 7:00-8:40 p.m., PMM 208.
- 181 Lect. 7 — Intermediate Analysis and Differential Equations (3)**
P, 49b or CR in 80. Class meets TTh, 7:00-8:15 p.m., PMM 208.

MUSIC

- 10c Lect. 1 — Choral Society (1)**
Open to all students. No previous musical experience necessary. A varied repertory. Fee, \$1. Class meets T, 7:00-9:00 p.m., Music 110.
- 24 Lect. 3 — Stringed Instrument Class (1)**
Fundamental playing and teaching techniques on violin, viola, cello, and bass. Class meets W, 7:00-10:00 p.m., Music 120.
- 25a Lect. 2 — Piano Class (1)**
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. 3 — Piano Class (1)**
Class meets T, 8:00-9:00 p.m., Music 102.
- 59b Music Memorization (1)**
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.

- 155a Opera Workshop Performance and Production (1)**
 Training in basic acting techniques for the lyric theater and operatic stage. Production and performance of opera. Performance. May be repeated for credit. Class meets T, 7:00-10:00 p.m., Music 130.
- 312 The Music of Beethoven (3)**
 Class meets W, 7:00-10:00 p.m., Music 204.

OFFICE ADMINISTRATION AND BUSINESS EDUCATION

- *4b Secretarial Procedures (2)**
 Modern business writing for secretaries. Class meets T, 7:00-9:00 p.m., BPA 203. Enrollment fee, \$32.
- 270 Lect. 2 — Data Processing (3)**
 (Identical with Systems Engineering 270.)

ORIENTAL STUDIES

- 55b Introduction to Oriental Humanities (2)**
 Discussion of the languages, arts, music, literatures and ideas of Eastern and Southern Asia, especially those of China, Japan and India. Class meets T, 7:00-9:00 p.m., LA 114.
- 276 Communist China (3)**
 The origin and development of the Communist regime in China; analysis of its political, economic, and social organization and of its ideology and policies. (Identical with Hist. 276.) Class meets MWF, 4:40 p.m., LA 118.

PHARMACY

- 299b Medical Use of Radio Isotopes (2)**
 Class meets M, 7:00-9:00 p.m., Ph.M. 102.

PHILOSOPHY

- 12 Lect. 5 — Introduction to Logic (3)**
 Principles of valid thinking; the nature of inductive and deductive inference and its applications. Class meets TTh, 4:40-5:55 p.m., LA 114.
- Lect. 6 —** Class meets W, 7:00-10:00 p.m., LA 222.

PHYSICS

- 3bX Introductory Physics with Calculus Recitation (1 hr. per week—no credit)**
 Recitation section in Introductory Physics for students who have not taken high school physics. P, CR in 3a-3b. Class meets W, 8:30-9:30 p.m., PMM 212.

PLANT PATHOLOGY

399 Seminar (1)

Discussion of selected topics. Class meets T, 4:40 p.m., Agric. 206.

PSYCHOLOGY

Note: Unless otherwise noted, Psych. 1a-1b, or an equivalent course in psychology, is prerequisite to all other courses in psychology.

1a Elementary Psychology (3)

Growth and change of the individual, learning and conditioning principles; description of aptitudes and abilities. 1a is prerequisite to 1b. Class meets MW, 7:00-7:50 p.m., PMM 201.

Disc. 45 — Class meets M, 4:40 p.m., PMM 204.

Disc. 46 — Class meets M, 4:40 p.m., PMM 206.

Disc. 47 — Class meets M, 6:00-6:50 p.m., PMM 202.

Disc. 48 — Class meets M, 6:00-6:50 p.m., PMM 204.

Disc. 49 — Class meets M, 6:00-6:50 p.m., PMM 206.

Disc. 50 — Class meets W, 6:00-6:50 p.m., PMM 206.

Disc. 51 — Class meets W, 6:00-6:50 p.m., PMM 202.

Disc. 52 — Class meets M, 8:00-8:50 p.m., PMM 206.

Disc. 53 — Class meets M, 8:00-8:50 p.m., PMM 208.

Disc. 54 — Class meets W, 8:00-8:50 p.m., PMM 206.

Disc. 55 — Class meets W, 8:00-8:50 p.m., H. Ec. 114.

1b Elementary Psychology (3)

Introduction to perception, emotions, and personality organization. 1a is prerequisite to 1b. Class meets TTh, 7:00-7:50 p.m., PMM 201.

Disc. 48 — Class meets T, 6:00-6:50 p.m., PMM 202.

Disc. 49 — Class meets T, 6:00-6:50 p.m., PMM 206.

Disc. 50 — Class meets T, 6:00-6:50 p.m., PMM 204.

Disc. 51 — Class meets Th, 6:00-6:50 p.m., PMM 204.

Disc. 52 — Class meets Th, 6:00-6:50 p.m., PMM 206.

Disc. 53 — Class meets Th, 6:00-6:50 p.m., PMM 202.

Disc. 54 — Class meets T, 8:00-8:50 p.m., Psych. 101.

Disc. 55 — Class meets T, 8:00-8:50 p.m., Psych. 103.

Disc. 56 — Class meets T, 8:00-8:50 p.m., H. Ec. 114.

Disc. 57 — Class meets Th, 8:00-8:50 p.m., Psych. 101.

Disc. 58 — Class meets Th, 8:00-8:50 p.m., Psych. 103.

Disc. 59 — Class meets Th, 8:00-8:50 p.m., H. Ec. 114.

13 Lect. 1 — Child Psychology (3)

The principal changes in human beings from birth to adolescence. Class meets MW, 7:00-8:15 p.m., Chem. 111.

PUBLIC ADMINISTRATION

1 Lect. 2 — Social Administration (3)

Over-all view of the principles of administration in the fields of public welfare, social welfare, corrections, health services, law enforcement, and public recreation. Class meets MT, 7:00-8:15 p.m., Econ. 110.

2 Social Welfare Problems (3)

Selected problems from the field of social welfare. Class meets Th, 7:00-9:30 p.m., BPA 107.

138 Lect. 2 — Fields of Social Work (3)

Backgrounds, philosophy, fields, and methods of social work. P, 1. Class meets M, 7:00-9:30 p.m., BPA 105.

230 Social Casework (3)

Theory and principles of social casework. Class meets TTh, 4:40-5:55 p.m., BPA 107.

245b Lect. 2 — Correctional Counseling (2)

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 105.

284 Administration of Health Agencies (3)

Principles of administration as applied to various health settings under private or public auspices. P, 1. Class meets MW, 4:40-5:55 p.m., BPA 105.

ROMANCE LANGUAGES

(Those interested in taking language courses that do not grant academic credit should refer to offerings at the end of the listings for credit courses.)

FRENCH

(See page 40 for non-credit conversational courses.)

One laboratory hour per week is required of all students in 1a, 1b, 3a and 3b. Register for this extra hour during regular registration.

- 1a Lect. 5 — Elementary French (4)**
 (The first year of work offered in a foreign language shall not be counted toward a minor.) Fee, \$1. Class meets MTWTh, 4:40 p.m., Bio. Sci. 313.
- Lect. 6 —** Fee, \$1. Class meets MTWTh, 4:40 p.m., Hum. 201.
- *1a-1 Elementary French I (2)**
 Introduction to the spoken and written language. Basic grammar. P, none. Class meets M, 7:00-9:00 p.m., LA 120. Enrollment fee, \$32.
- *1a-2 Elementary French II (2)**
 Continuation of 1a-1. Class meets W, 7:00-9:00 p.m., LA 214. Enrollment fee, \$32.
- 1b Lect. 12 — Elementary French (4)**
 (The first year of work offered in a foreign language shall not be counted toward a minor.) Fee, \$1. Class meets MTWTh, 4:40 p.m., LA 408.
- Lect. 13 —** Fee, \$1. Class meets MTWTh, 4:40 p.m., Ag. Sci. 247.
- *1b-1 Elementary French III (2)**
 Class meets T, 7:00-9:00 p.m., LA 216. Enrollment fee, \$32.
- *1b-2 Elementary French IV (2)**
 Class meets Th, 7:00-9:00 p.m., LA 114. Enrollment fee, \$32.
- 2g Lect. 2 — Training in Reading French for Graduates (0)**
 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 p.m., Bio. Sci. 307.
- Lect. 3 —** Class meets TTh, 7:00-8:30 p.m., Econ. 103.
- 3a Lect. 4 — Intermediate French (4)**
 P, 1b or 2 years of high school French. Fee, \$1. Class meets MTWTh, 4:40 p.m., Hum. 100.
- Lect. 5 —** Fee, \$1. Class meets MTWTh, 4:40 p.m., Bio. Sci. 311.
- 3b Lect. 8 — Intermediate French (4)**
 P, 1b or 2 years of high school French. Fee, \$1. Class meets MTWTh, 4:40 p.m., Mines 221.
- Lect. 9 —** Fee, \$1. Class meets MTWTh, 4:40 p.m., Hum. 205.
- 399a Seminar (3)**
 Romance Philology. Class meets M, 6:30-9:00 p.m., LA 400.
- 399e Seminar (3)**
 17th Century. Class meets TTh, 4:40-6:00 p.m., LA 418.
- 399h Seminar (3)**
 20th Century. Class meets MW, 4:40-6:00 p.m., LA 418.

ITALIAN

(See page 40 for non-credit conversational courses.)

1a Lect. 3 — Elementary Italian (4)

(The first year of work in a foreign language shall not be counted toward a minor.) Fee, \$1. Class meets MTWTh, 4:40 p.m., Hum. 101.

PORTUGUESE

399i Seminar (2)

Brazilian Literature: 20th Century. Class meets M, 4:40-6:30 p.m., LA 400.

SPANISH

(Those interested in non-credit, conversational courses should refer to page 40 for offerings.)

1a Lect. 11 — Elementary Spanish (4)

(The first year of work offered in a foreign language shall not be counted toward a minor.) Fee, \$1. Class meets MTWTh, 4:40 p.m., Engr. 307.

Lect. 12 — Fee, \$1. Class meets MTWTh, 4:40 p.m., Econ. 102.

Lect. 13 — Fee, \$1. Class meets MTWTh, 4:40 p.m., PMM 202.

*1a-1 Elementary Spanish I (2)

Beginning Spanish grammar, reading and conversation. Class meets W, 7:00-8:40 p.m., LA 416. Enrollment fee, \$32.

*1a-2 Elementary Spanish II (2)

Continuation of Spanish 1a-1. Class meets T, 7:00-8:40 p.m., LA 411. Enrollment fee, \$32.

1b Lect. 18 — Elementary Spanish (4)

(The first year of work offered in a foreign language shall not be counted toward a minor.) Fee, \$1. Class meets MTWTh, 4:40 p.m., Chem. 209.

Lect. 19 — Fee, \$1. Class meets MTWTh, 4:40 p.m., Agric. B.

Lect. 20 — Fee, \$1. Class meets MTWTh, 4:40 p.m., Chem. 227.

Lect. 21 — Fee, \$1. Class meets MTWTh, 4:40 p.m., Chem. 121.

Lect. 22 — Fee, \$1. Class meets MTWTh, 4:40 p.m., Hum. 203.

Lect. 23 — Fee, \$1. Class meets MTWTh, 4:40 p.m., Engr. 304.

- 3a Lect. 9 — Intermediate Spanish (4)**
 P, 1b or 2 years of high school Spanish. Fee, \$1. Class meets MTWTh, 4:40 p.m., LA 411.
- Lect. 10 — Fee, \$1. Class meets MTWTh, 4:40 p.m., LAA 113.**
- Lect. 11 — Fee, \$1. Class meets MTWTh, 4:40 p.m., Hum. 104.**
- *3a-2 Intermediate Spanish II (2)**
 Class meets M, 7:00-8:40 p.m., LA 416. Enrollment fee, \$32.
- 3b Lect. 15 — Intermediate Spanish (4)**
 P, 1b or 2 years of high school Spanish. Fee, \$1. Class meets MTWTh, 4:40 p.m., LA 412.
- Lect. 16 — Fee, \$1. Class meets MTWTh, 4:40 p.m., H. Ec. 301.**
- Lect. 17 — Fee, \$1. Class meets MTWTh, 4:40 p.m., H. Ec. 206.**
- Lect. 18 — Fee, \$1. Class meets MTWTh, 4:40 p.m., Hum. 211.**
- Lect. 19 — Fee, \$1. Class meets MTWTh, 4:40 p.m., Hum. 208.**
- 75a Lect. 4 — Intermediate Composition and Conversation (2)**
 Two hours conversation, 1 hour composition. P, 3b or 4 years of high school Spanish. Class meets MWF, 4:40 p.m., PMM 208.
- 75b Lect. 7 — Intermediate Composition and Conversation (2)**
 Class meets MW, 7:00-8:15 p.m., LA 308.
- 235a Cervantes and His Works (3)**
 Don Quixote. 235a is not prerequisite to 235b. Class meets M, 7:00-9:30 p.m., LA 418.
- 270 Lect. 2 — Advanced Grammar (2)**
 Class meets TTh, 4:40 p.m., LA 332.
- 301b Bibliography and Paleography (2)**
 Reading of Spanish manuscripts of different types. Required of all doctoral candidates. Class meets M, 4:40-6:30 p.m., Agric. 220.
- 399e Seminar (2)**
 Literatura Espanola del Siglo XVII. Class meets W, 7:00-9:00 p.m., LA 120.
- 399g Seminar (2)**
 Literatura Espanola del Siglo XIX. Class meets Th, 4:40-6:30 p.m., LA 111.
- 399h Seminar (2)**
 Literatura Espanola del Siglo XX. Class meets W, 4:40-6:30 p.m., LA 120.
- 399j Seminar (2)**
 Literatura Moderna de Hispanoamerica. Class meets T, 7:00-9:00 p.m., Agric. 229.

SOCIOLOGY

- 1a Lect. 5 — Introduction to Sociology (3)**
Basic principles of human society. 1a is prerequisite to 1b, and all other courses in the department. 1a may be taken without 1b. Class meets TTh, 7:00-8:15 p.m., Hum. 100.
- Lect. 6 —** Class meets TTh, 4:40-5:55 p.m., Econ. 301.
- 83 Social Change (3)**
Innovation and inertia in society; case studies of the impact of new technology, behavior and ideas; the problem of social progress, P, 1a. Class meets TTh, 4:40-5:55 p.m., Econ. 205.
- 85 Lect. 5 — American Social Problems (3)**
Principles of social disorganization and deviant behavior as applied to American social problems. P, 1a. Class meets TTh, 7:00-8:15 p.m., Econ. 106.
- 161 Introductory Social Statistics (3)**
Techniques of statistical description and elementary statistical inference as applied to social data. 2R, 2L. P, Math. 11 or equivalent. Class meets T, 4:40-6:30 p.m., Econ. 303.
- Lab:** Class meets Th, 4:40-6:30 p.m., Econ. 406.
- 297 Lect. 1 — Educational Sociology (2)**
(Identical with Education 297.)
- Lect. 2 —** (Identical with Education 297.)

SPEECH

- 2 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 p.m., LAA 311.
- Lect. 27 —** Fee, \$1.50. Class meets MWF, 4:40 p.m., Hum. 210.
- Lect. 28 —** Fee, \$1.50. Class meets M, 7:00-9:30 p.m., LAA 311.
- Lect. 29 —** Fee, \$1.50. Class meets T, 7:00-9:30 p.m., LAA 214.
- Lect. 30 —** Fee, \$1.50. Class meets W, 7:00-9:30 p.m., LAA 214.
- 399 Seminar (3)**
Class meets M, 7:00-9:30 p.m., LAA 206.

SYSTEMS ENGINEERING

- 270 Lect. 2 — Data Processing (3)**
Potentialities of electronic digital computers for business data processing; principles and techniques of machine language programming, symbolic programming and compilers; AUTOCODER FORTRAN COBOL; applications to typical business data processing problems. 2R, 3L. Fee, \$7.50. (Identical with Mgt. 270, Acct. 270, and Off. Ad. 270.) Class meets TTh, 4:40 p.m., Econ. 106.
- Lab. 3** — Class meets T, 7:00-8:00 p.m., Hum. 204; T, 8:00-10:00 p.m., Engr. 158.
- Lab. 4** — Class meets F, 7:00-8:00 p.m., Hum. 204; F, 8:00-10:00 p.m., Engr. 158.
- 272 Lect. 2 — Programming Digital Computers (3)**
Characteristics of electronic digital computers from the programmer's viewpoint; principles and techniques of FORTRAN, symbolic and machine language programming; applications to typical scientific and engineering problems. 2R, 3L. P, 78 or E. 170. Fee, \$7.50. Class meets MW, 4:40 p.m., Engr. 301.
- Lab. 2** — Class meets W, 7:00-8:00 p.m., Hum. 204; W, 8:00-10:00 p.m., Engr. 158.
- 275 Non-Numerical Applications of Digital Computers II (3)**
Continuation of 274. P, 274. Class meets TTh, 7:00-8:15 p.m., Engr. 202.
- 370 Systems Analysis for Data Processing (3)**
Systems analysis, feasibility studies; applicable techniques of operations research; survey of small intermediate, and large scale computers; integrated systems for the collection, transmission, processing, and recording of information; case studies of business data processing problems. P, 270 or 272. (Identical with Mgt. 370.) Class meets MW, 4:40-5:55 p.m., Engr. 308.

ZOOLOGY

- 336 Advanced Ecology (2)**
Environmental analysis, productivity, theory, population fluctuations, paleoecology and related subjects. P, Bot. 166, or Zoo. 238, or graduate standing in biological science. (Identical with Bot. 336 and Geochron. 336.) Class meets M, 7:00-9:00 p.m., Ag. Sci. 205.
- 399 Seminar (0)**
Class meets W, 4:40 p.m., Bio. Sci. 100.

COURSES BY TELEVISION

KUAT — CHANNEL 6

Registration for television courses will be held at the same time and place as the registration for regular continuing education classes.

CHEMISTRY

5002b Fundamentals of Chemistry (4)

Instruction in lecture and laboratory providing preparation for further work in the Chemistry Department. P, for 2a, Math. 11 or its equivalent. 4R, 3L. 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 MWF, 7:40-8:30 a.m.

Sec. 2 MWF, 10:40-11:30 a.m.

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

GEOLOGY

5001b Elementary Geology (4)

Introduction to the principles of geology. 1a is not prerequisite to 1b. 3R, 3L, including field trips. Fee, \$4. Deposit fee, \$5.

Sec. 1 MWF, 9:40-10:30 a.m.

Sec. 2 MWF, 11:40-12:30 p.m.

Sec. 3 MWF, 6:10-7:00 p.m.

Viewing rooms: Geol. 202, LA 222, Chem. 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.

EVENING NON-CREDIT COURSES

Certain classes meet for the full fifteen weeks of the semester, but do not offer academic credit. These courses are listed below, and consist mostly of foreign-language conversation which does not require formal examinations. Enrollment for these non-credit courses will be accomplished at regular registration or at the first class meeting in the classrooms shown below. Individuals enrolling in these courses will not be required to complete regular registration packets. Further information regarding the non-credit programs may be obtained from the Office of the Dean, Division of Continuing Education.

ROMANCE LANGUAGES

FRENCH

- 1X Elementary French Conversation I (0)** Bunge
Class meets M, 7:00-9:00 p.m., LA 214. Enrollment fee, \$26.
- 2X Elementary French Conversation II (0)**
A continuation of French 1X. Class meets T, 7:00-9:00 p.m., LA 418.
Enrollment fee, \$26.

ITALIAN

- 1X Italian Conversation I (0)** Del Villar
Class meets T, 7:00-9:00 p.m., LA 214. Enrollment fee, \$26.

SPANISH

- 1X Lect. 1 — Spanish Conversation for Beginners I (0)**
A workshop course in Spanish covering conversation at the beginning level. Class meets W, 7:00-9:00 p.m., LA 411. Enrollment fee, \$26.
- Lect. 2 —** Class meets M, 7:00-9:00 p.m., LA 216. Enrollment fee, \$26.
- 2X Lect. 1 — Spanish Conversation for Beginners II (0)**
A continuation of 1X. For those with previous practice in elementary conversation. Direct method. Class meets M, 7:00-9:00 p.m., Agric. 229. Enrollment fee, \$26.
- Lect. 2 —** Class meets W, 7:00-9:00 p.m., LA 111. Enrollment fee, \$26.
- 3X Intermediate Spanish Conversation I (0)**
A continuation of 1X and 2X. Class meets W, 7:00-9:00 p.m., LA 418.
Enrollment fee, \$26.
- 4X Intermediate Spanish Conversation II (0)**
A continuation of 3X. Class meets Th, 7:00-9:00 p.m., LA 120. Enrollment fee, \$26.
- 6X Advanced Spanish Conversation (0)**
A continuation of 5X. Class meets Th, 7:00-9:00 p.m., LA 418. Enrollment fee, \$26.

RUSSIAN

- 1X Beginning Russian Conversation (0)** Kliachko
A workshop course in Russian conversation at the beginning level.
Class meets Th, 7:00-9:00 p.m., LA 216. Enrollment fee, \$26.

ADULT EVENING SHORT COURSES

In addition to the credit courses listed in this catalogue, the Division of Continuing Education offers for the Spring of 1967 a wide variety of short courses. These classes are designed for interested adults who wish the knowledge, but who are not seeking college credit. Registration for the short courses (no academic credit) may be accomplished by mail or in the offices of the Division of Continuing Education, M-F, 8:00 a.m.-12:00 noon, 1:00-5:00 p.m.; Sat., 8:00 a.m.-12:00 noon **prior** to starting date of class.

Current Political Issues

Joyner

Major news stories of the week will be discussed and reviewed. M, 7:00-9:00 p.m., H. Ec. 206, Mar. 13-May 1. Fee, \$15.

Application of Computers in Minerals Industry

Hewlett

Review of computer applications to exploration, development, operations, milling, and smelting. M, 7:00-9:00 p.m., Mines 221, Feb. 27-May 1. Fee, \$20.

Creative Writing

Moynihan

Elementary study of theory of story writing and analysis of typical stories. M, 7:00-9:00 p.m., Econ. 308, Mar. 13-May 1. Fee, \$15.

Fiction Writing

Bronson

Lectures on various aspects of writing modern fiction and reading of stories written by class members. For those who have completed Creative Writing. M, 7:00-9:00 p.m., Econ. 316, Mar. 13-May 1. Fee, \$15.

Beginning Interior Design (Sec. 1)

Harvey

A study of the basic principles of color and interior design for the home. M, 7:00-9:00 p.m., New BPA 409, Mar. 6-May 8. Fee, \$20.

Fundamentals of Investing

Baker

A basic course in securities to acquaint the investor with facts needed to make an investment decision. T, 7:00-9:00 p.m., New BPA 107, Mar. 7-May 9. Fee, \$20, or \$30 for husband and wife.

Advanced Stock Market Investing

Guy

An advanced course for investors and speculators on stock analysis. T, 7:00-9:00 p.m., Econ. 304, Mar. 7-May 9. Fee, \$20, or \$30 for husband and wife.

Rehabilitation in Penal Institutions for Youth

Robinson

A review of problems encountered when a youth is identified, arrested, convicted, confined and released to return to the community. T, 7:00-9:00 p.m., LA 120, Mar. 7-May 9. Fee, \$20, or \$30 for husband and wife.

Group Discussion

Davis

Theory and methods of group discussion, with practice in organizing and conducting committees and informal meetings. T, 7:00-9:00 p.m., Anthro. 219, Feb. 28-May 2. Fee, \$20, or \$30 for husband and wife.

Introduction to Self Defense**Kienow**

A basic course in jujitsu to introduce men and women to the martial arts of the Orient. T, 7:00-9:00 p.m., Wrestling Room on east side of Bear Down Gym, Mar. 7-May 9. Fee, \$20, or \$30 for husband and wife. Limit of 20.

International Communism in Latin America**Oswald**

Lectures and discussion of background and present development of Russian and Chinese influence in Mexico, Central and South America. W, 7:00-9:00 p.m., LA 216, Mar. 1-May 3. Fee, \$20, or \$30 for husband and wife.

Introduction to Computer Science**Perry**

An introduction to the application of computers to many day-to-day situations, taking account of the capabilities and limitations in processing numerical data. W, 7:00-9:00 p.m., Aero. 207, Mar. 1-May 3. Fee, \$20.

Law for the Layman**Staff**

An introduction to law, basic constitutional rights, torts, land use regulations, rights of creditors, labor law, wills and estates. W, 7:00-9:00 p.m., Anthro. 221, Mar. 8-Apr. 28. Fee, \$15.

An Introduction to Modern Math for Parents**Hammond**

Concepts that are new to the modern elementary classroom, including systems of numeration, sets and geometry for parents. W, 7:00-9:00 p.m., H. Ec. 202, Mar. 15-Apr. 12. Fee, \$10.

Manual Communication with the Deaf**Starkovich**

The communication of ideas and words through dactylology (finger spelling) and signs to aid families and friends of the deaf. W, 7:00-9:00 p.m., Science Room, ASDB, Mar. 8-May 11. Fee, \$20, or \$30 for husband and wife.

School for the Farrier**Peterson**

A beginning course in the art of shoeing the horse, and the correct usage of tools and equipment. W, 7:00-10:00 p.m. and S, 2:30-5:30 p.m. Dairy Barn, Pima County Fairgrounds, Feb. 25-Apr. 5. Fee, \$60.

Human Anatomy for Lawyers**Joy**

A course designed especially for lawyers, to familiarize them with physiology, medical and anatomical terminology needed for the court room situation. W, 7:30-9:30 p.m., Bio. Sci. 2, Mar. 1-May 17. Fee, \$25.

Arizona: Yesterday, Today and Tomorrow**Brinegar**

A survey of the historical development of Arizona as a state, to include growth of politics, public attitudes, newspapers, ethnic elements, education, mining, and influence of climate on growth. Th, 7:00-9:00 p.m., New BPA 105, Mar. 2-May 4. Fee, \$20, or \$30 for husband and wife.

Beginning Interior Design (Sec. 2)**Salzman-Gullickson**

A study of the basic principles of color and interior design for the home. Th, 7:00-9:00 p.m., LA 311, Mar. 9-May 11. Fee, \$20

Interior Design and Decoration — Part II

Harvey

Designed to follow beginning course, includes drawing and drafting procedures, perspective, psychology of color, freehand sketching and design problems. Th, 7:00-9:00 p.m., New BPA 409, Mar. 2-May 4. Fee, \$20.

Advanced Workshop in Genealogy

Macko

Demonstration of usages for previously acquired research data, preparation of pedigrees, family history publications for reviewers and printers. Th, 7:00-9:00 p.m., New BPA 203, Mar. 9-May 11. Fee, \$30.

Painting for Faculty Wives

Ross

Supervision and instruction in beginning and intermediate watercolor and oil painting. Th, 7:00-10:00 p.m., FA Annex, Studio A-105, Jan. 12-Mar. 23. Fee, TBA.

Beginning Russian Conversation

Kliachko

A workshop course for those who have no previous knowledge of the Russian language. Th, 7:00-9:00 p.m., LA 216, Feb. 9-May 18. Fee, \$26.

Reading Improvement

Wright

For the adult who desires to increase his reading ability and to sharpen his comprehension skills. Sa, 10:00-12:00 a.m., Anthro. 221, Feb. 25-May 13. Fee, \$30. Limit of 20.

How to Study in College

Ingram

The proper techniques for doing effective work in college and university courses. Sa, 9:40-11:30 a.m., Psych. 101, Mar. 4-Apr. 15. Fee, \$15.

Retirement Planning

Pekarcik

A discussion of such topics as use of leisure time, housing, health and medical care, social security, legal affairs, travel and gerontology. Sa, 10:00-12:00 a.m., new BPA 207, Mar. 4-May 6. Fee, \$20, or \$30 for husband and wife.

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CONTINUING EDUCATION DIVISION

THE UNIVERSITY OF ARIZONA

TUCSON, ARIZONA 85721

TELEPHONE: 884-2474

