

Courses of Instruction

To assist students in the proper pursuit of curricula on the Alexandria campus and to provide for effective continuity in their senior colleges on degree granting campuses, continued revision of curricula and course content is made.

Comparable course numbers on the Baton Rouge campus are placed in parentheses after the corresponding course on the Alexandria campus. Plans are in progress for renumbering courses and rearranging the level and sequences of courses on the Alexandria campus to meet prescribed curricula on the Baton Rouge campus. Associate Degree Programs are being developed, the curricula for which provide comprehensive preparation independent of curricula prescription on other campuses. Student advisors assist students to accommodate degree objectives in programs and on campuses external to the LSU System.

ACCOUNTING

61. Introductory Financial Accounting. 3 cr. An introductory course intended to familiarize the student with principles and methods of accounting primarily concerned with financial data gathering and presentation in the form of general-purpose external financial statements. Three hours of lecture and two hours of laboratory for students requiring special instruction each week. (2001)
62. Introductory Managerial Accounting. 3 cr. Prerequisite: Accounting 61. An introductory course intended to familiarize the student with principles and methods of accounting primarily concerned with data gathering and presentation for purposes of internal management, evaluation and decision making. Three hours of lecture and two hours of laboratory for students requiring special instruction each week. (2101)
83. Intermediate Accounting. 3cr. Prerequisite: Accounting 61-62. An intensive study of accounting concepts and principles underlying the preparation of financial statements. Special attention is given to their application in the measurement and reporting of selected balance sheet items and related revenue and expense recognition. (2021)
84. Intermediate Accounting. 3 cr. Prerequisite: Accounting 83. A continuation of Course 83, including the study of the preparation and analysis of comparative statements, cash-flow and funds statements, preparation of financial statements from incomplete data, and correction of statements. (3021)

AGRONOMY

21. Farm Crops. 3 cr. Fundamental principles of crop production. Two hours of lecture and two hours of laboratory each week. (1021)
51. Soils. 4 cr. Prerequisites: Chemistry 2 and 3. Fundamental principles of soil science and the properties of soils as related to plant growth. Three hours of lecture and two hours of laboratory each week. (2051)

ANIMAL SCIENCE

11. Fundamentals of Animal Husbandry. 3 cr. An introductory course dealing with beef cattle, sheep, swine, and horses and their role in American agriculture. Two hours of lecture and two hours of laboratory each week. (1011)

BIOLOGY

1. General Biology. 3 cr. An introductory course in basic principles of biology with emphasis on structure and function of animals at the system level of organization. Three hours of lecture each week. (1001)
2. General Biology. 3 cr. The classification and life histories of members of the plant kingdom with the anatomy and genetics of the vascular plants. Three hours of lecture each week. (1002)
3. General Biology Laboratory. 1 cr. A laboratory designed to give the student first hand experience at making and recording observation relative to animal structure and function. One two-hour laboratory to accompany Biology 1. (1003)
4. General Biology Laboratory. 1 cr. Classification and life histories of members of the plant kingdom with the anatomy of the vascular plants. One two-hour laboratory to accompany Biology 2. (1004)

BOOKS AND LIBRARIES

1. An Introduction to the Use of the Library. 1 cr. Lectures and recitations, with work designed to facilitate the use of the most generally used reference books, periodical indexes, and the card catalog through investigation. One hour each week. (1001)

BOTANY

1. General Botany. 4 cr. (Not open to students who have had General Biology 2 and 4) The physiology, morphology, and anatomy of plants, with special reference to vascular plants. Three hours of lecture and two hours of laboratory each week. (1001)
2. General Botany. 4 cr. (Not open to students who have had General Biology 2 and 4). May be elected by students taking botany for the first time. The classification and life histories of members of the plant kingdom with the genetics of the flowering plants. Three hours of lecture and two hours of laboratory each week. (1002)
55. Field Botany. 4 cr. A systematic and ecological approach to a general survey of the major plant groups, emphasizing laboratory preparation of field collected material. A course intended for majors and minors in field oriented biology and biology education. Two hours of lecture and four hours of laboratory each week. (2005)

BUSINESS ADMINISTRATION

1. Introduction of Business. 3 cr. A survey course designed to present an overview of the operation of the business firm and acquaint the student with phases of business organizations and operations and guide him in his occupational choice. Three hours of lecture per week. (1001)

CHEMISTRY

1. General Chemistry. 3 cr. Prerequisite: a sufficiently high score on the mathematics placement examination to indicate that the likelihood for success in this course will not be prohibited by a deficiency in mathematics. A course in the fundamentals of chemistry. Basic topics in inorganic, organic, and biochemistry. Students whose curricula require only one year of chemistry will normally take the 1-2 series. Three hours of lecture and demonstration each week. (1001)
- 1B. Inorganic Chemistry. 3 cr. Prerequisite: a sufficiently high score on the mathematics placement examination to indicate that the likelihood for success in this course will not be prohibited by a deficiency in mathematics. A course in the fundamentals of inorganic chemistry. Students who plan to pursue curricula which require more than one year of college chemistry must take 1B and 2B. Three hours of lecture and demonstration each week. (1201)

2. Inorganic Chemistry and Chemical Equilibrium. 3 cr. Prerequisite: Course 1 or 1B; continuation of Course 1. A survey of fundamentals of chemistry. Basic topics in inorganic, physical, and analytical chemistry. Three hours of lecture and demonstration each week. (1002)
- 2B. Inorganic Chemistry and Chemical Equilibrium. 3 cr. Prerequisite: Chemistry 1B or demonstrated ability in Course 1. A continuation of 1B. Problems in analytical chemistry and ionic equilibrium. The calculations of gravimetric analysis, titrimetric analysis and ionic equilibrium. Three hours of lecture each week. (1202)
3. General Chemistry Laboratory. 1 cr. Prerequisite: Credit or registration in Course 1 or 1B. Students who plan to take any chemistry beyond Chemistry 2 or 2B must show credit in Chemistry 3. Degree credit will not be allowed in this course until Course 1 or 1B has been completed satisfactorily. A laboratory course in fundamental chemical operations. Three hours of instruction and laboratory each week.
4. General Chemistry Laboratory. 1 cr. Prerequisite: Course 3 and credit or registration in Course 2 or 2B. A laboratory course designed to acquaint the student with apparatus and techniques used in synthesizing, isolating, and purifying chemical compounds. Degree credit will not be allowed in this course until course 2 or 2B have been completed satisfactorily. Three hours of instruction and laboratory each week.
12. Analytical Techniques Laboratory. 2 cr. Prerequisite: Chemistry 3 and credit or registration in Chemistry 2B. Elementary qualitative and quantitative analytical chemical techniques. Degree credit will not be allowed in this course until Chemistry 2B has been completed satisfactorily.
55. Survey of Quantitative Analysis Techniques. 3 cr. Prerequisite: Course 12. A course in the theory of the following techniques: gravimetric, titrimetric, thermal, distillation, chromatographic, ultra violet, infrared, mass spectrographic and nuclear magnetic resonance analysis. Three hours of lecture each week. (2251)
56. Quantitative Analysis Laboratory. 2 cr. Prerequisite: credit or registration in Course 55. The fundamental techniques of quantitative analysis. Six hours of instruction and laboratory each week. (2252)
61. Organic Chemistry. 2 cr. Prerequisite: Course 4 or 12. A study of representative classes of organic compounds. Three hours of lecture and demonstration each week. (2361)

62. Organic Chemistry. 3 cr. Prerequisite: Course 61. A study of representative classes of organic compounds. A continuation of Course 61. Three hours of lecture and demonstration each week. (2362)
65. Organic Chemistry. 3 cr. Prerequisite: Chemistry 4 or 12. A fundamental course intended primarily for Premedical students and majors in the biological sciences. Three hours of lecture and demonstration each week. (2261)
66. Organic Chemistry. 3 cr. Prerequisite: Chemistry 65. A continuation of Course 65. Three hours of lecture and demonstration each week. Credit will not be allowed until the corresponding laboratory work has been satisfactorily completed. (2262)
67. Organic Chemistry Laboratory. 2 cr. Prerequisite: credit or registration in Course 62 or 66. The fundamental laboratory operations of organic chemistry. Six hours of instruction and laboratory each week. (2463)
- 69A, B 1 cr. Organic Chemistry Seminar.

CIVIL ENGINEERING

61. Elementary Surveying. 2 cr. Theory, use, and application of tape, level, and transit. Two hours of lecture each week. (2061)
65. Elementary Surveying Laboratory. 1 cr. Prerequisite: Registration or credit in Course 61. Field work in plane surveying to accompany Course 61. Three hours of instruction and laboratory each week. (2065)
67. Advanced Surveying. 4 cr. Prerequisite: Course 65. Principles and field applications of route and geodetic surveying. Curves, earthwork, calculations of geodetic position, state coordinates, astronomical observations and aerial mapping. Two hours of lecture and six hours of laboratory each week.

COMPUTER SCIENCE

40. Introduction to Computer Science. 3 cr. An introduction and overview. Students will program and use the computer to solve realistic problems by using the simplest programming language, FORTRAN. Three hours of lecture and an informal non-credit programming laboratory each week. (1240)

ECONOMICS

51. Economic Principles and Problems. 3 cr. (Credit will not be given for both Economics 51 and 55 or Economics 52 and

55.) An introductory study of the nature of economics, economic concepts and problems, economic system, and the role of government. Special emphasis is placed upon the accounting, analytical and policy aspects of national income and product and upon the money and banking system. Three hours of lecture each week. (2010)

52. Economic Principles and Problems (Continued). 3 cr. (Credit will not be given for both Economics 51 and 55 or Economics 52 and 55.) A study of basic economics, exploring theories of production, determination of prices in regulated and unregulated industries, functional distribution, international economics, and problems of economic development. Three hours of lecture each week. (2020)

55. Economic Principles. 3 cr. (Credit will not be given for both Economics 51 and 55 or Economics 52 and 55.) Economics 55 is a one-semester survey course designed to develop economic understanding of both micro and macro economic principles as well as an analysis of economic problems associated with monetary policy, fiscal policy, public finance, government and business, labor, international trade, economic growth, and comparative economic systems. (2030)

64. Money and Banking. 3 cr. Prerequisite: Economics 51-52 or 55. A study of monetary standards and monetary systems; the relationship of commercial banks to the Federal Reserve System and the Treasury; the relationship of money to national income, employment, and prices. Three hours of lecture each week. (3500).

EDUCATION

51. Introduction to the Study of Education. 3 cr. Lecture, reading, and discussion designed to introduce the student to the teaching profession. Three hours of lecture each week. (2000)

ENGINEERING GRAPHICS

1. Engineering Graphics. 2 cr. Fundamentals of graphical analysis as used by the engineer and scientist as an aid in conception, visualization, and communication, as they pertain to creative design concepts. Emphasis placed on effective use of conventional drawing practices, simplified drafting, and United States of America Standards Institute Standards employing freehand sketches of pictorials and reading of view drawings. Logically developing the ability to visualize three dimensional forms and other necessary relationships in the solution of engineering and scientific problems and creative design. Six hours of laboratory work. (1001)

54. Engineering Graphics. 2 cr. Prerequisite: Engineering Graphics 1. Development of effective use of spatial relationships in the application of primary and successive auxiliary views to the solution of engineering and scientific problems employing uses of points, lines, and planes. The application of creative design concepts pertaining to problems emphasizing the various engineering disciplines. (2154)

ENGINEERING SCIENCE

52. Statics. 3 cr. Prerequisites: Registration or credit in Mathematics 51 and Physics 61. A vectorial treatment of resultants and equilibrium of force systems. Virtual work, stationary potential energy, stability, and friction. Three hours of lecture each week. (2152)

ENGLISH

On the basis of a diagnostic test, previous college English (if any), and proficiency in writing, students will be required to take one, two, or three semesters of freshman composition. The required courses must be taken progressively. Every student must complete 1C, which is also prerequisite to all other English courses. Students who present ACT scores in English which place them in 1C as the initial course may receive advanced standing credit for English 1B. Students concentrating in English and continuing their degree work on the Baton Rouge campus should choose courses which satisfy their particular needs and interests while assuring a reasonably balanced program. Such a concentration consists of thirty-six hours including freshman English and English 51 and 52; at least fifteen of these hours must be in courses numbered above 100.

1A. English Composition. 3 cr. Basic course, stressing proficiency in composition and including a review of grammar, spelling, and introductory reading. Placement in this course determined by tests and diagnostic themes. (0001)

1B. English Composition. 3 cr. This course is designed to teach correct and effective use of the language through effective writing and through selected readings. Major emphasis is on the organization of multi-paragraph themes that are developed through the utilization of a variety of rhetorical devices. The selected readings are employed to illustrate effective writing and to develop critical and accurate reading. (1001)

1C. English Composition. 3 cr. A continuation of English 1B, with emphasis on the development of effectiveness of expression and individual style. Particular emphasis is placed on the use of rhetorical devices, variety of sentence struc-

- ture, and diction. Extensive and varied readings furnish models and source materials for analysis and interpretation of various forms of literature. Writing assignments are longer and more complex than those of 1B, and include a research paper. (1002)
51. A Survey of English Literature from the Beginning to the Present. 3 cr. This course surveys the beginning of the language and the literature and traces literary development through the eighteenth century. Works of such literary masters as Chaucer, Spenser, Shakespeare, Milton, Pope, and Dryden are included. Three hours of lecture. (2020)
 52. Continuation of Survey of English Literature from the Beginning to the Present. 3 cr. This course traces the main currents of English poetry and prose from 1800 to the present. Individual works are analyzed in their relationship to the Romantic, Victorian, and Modern Ages. Authors studied include the major figures and some of the minor figures from each period. Three hours of lecture. (2022)
 55. Introduction to Fiction. 3 cr. An introduction to selected masterpieces of short fiction, the novella, and the novel, including English, American, and European literature (in translation), with emphasis upon understanding, analysis, and evaluation of narrative art. Three hours of lecture. (2025)
 56. An Introduction to Poetry and Drama. 3 cr. Selections range from the classical to the modern and include a survey of major British and American poets as well as British, American, and European drama in translation. Emphasis is placed upon interpretation, form and technique. Three hours of lecture. (2027)
 62. Exposition. 3 cr. A course in expository writing designed for the student in science, engineering, or agriculture; the various kinds of exposition with special emphasis on the preparation of reports, technical papers, and memoranda. Three hours of lecture. (2002)
 64. English Grammar. 3 cr. A course designed to give students a clear conception of the English sentence and its parts, and an awareness of the bases of English usage. A study of advanced grammar, the course draws upon recent research in language, while utilizing the most valuable elements of more traditional approaches. The subject of usage is presented as a complex and relative matter, as something more than a list of errors to be corrected. Not a remedial course. Three hours of lecture. (2010)
 66. Advanced English Composition. 3 cr. The theory and practice of exposition, description and narration. Three hours of lecture. (2001)
 68. Introduction to Creative Writing. 3 cr. Prerequisite: Permission of instructor. Introduction to forms of creative writing. Practice in writing poetry, short stories, plays, movies, imaginative non-fiction. (2005)
 90. American Literature. 3 cr. Major authors of the United States from the colonial beginning to the present time. Three hours of lecture. (2070)
 95. Shakespeare. 3 cr. A study of fifteen of the more popular plays. The arrangement is basically chronological. Examples of histories, comedies, and tragedies are included. Three hours of lecture.
 - 99A, 99B, 99C. Individual Study. 1 cr. each. Investigation of topic for purpose of scholarly paper.

FINE ARTS

1. Introduction to Fine Arts. 3 cr. An introduction to the fundamental problems and concepts of art in the fields of design, sculpture, graphics, painting, and ceramics as they relate to the home, community, religion, commerce, and industry. Discussions, lectures, outside readings. Three hours of lecture a week. (1001)
11. Art Structure. 3 cr. The primary study of the disciplines in art with practice in the various media. (1011)
40. Historical Survey of the Arts. 3 cr. Prehistoric, Near-Eastern, Greek, Roman, and Medieval art. Three hours of lecture per week. (1440)
47. Drawing and Composition. 2 cr. Prerequisite: Fine Arts 11, Architecture 3, or at least sophomore standing in architecture. Basic principles of observation, with emphasis on the graphic analysis and delineation of spacial structure. Six hours of studio work per week. (1847)
48. Drawing and Composition. 2 cr. Prerequisite: Fine Arts 47 or sophomore standing in Architecture. Study of visual image with respect to graphic representation of surface and light. Six hours of studio work per week. (1848)
49. Introduction to Painting. 3 cr. Study of the image and the phenomenon of visual contact. Six hours of studio work per week. (1849)
51. Design. 3 cr. Development of design as a basic, problem-solving, creative activity. Two- and three-dimensional project work. individual criticism, class discussions, and outside research. (2551)
55. Metal Crafts. 3 cr. Study and practice in design and construction of jewelry and other functional objects; semi-precious metals used. (2655)

- 61A. Basic Sculpture. 3 cr. Prerequisite: Fine Arts 1, 11, 47. A development of three-dimensional structures; exercises and experiments relative to theories and techniques; actual projects using appropriate materials and processes; discussions, lectures, slide talks, and outside reading. Five hours of studio work per week. (1761)
- 65A. Ceramics. 6 cr. Study and laboratory practice in ceramic design. Study and application of total studio process from production to glazing and firing ceramic ware. Emphasis on ceramic techniques and creative design. Introductory lectures on clays and glazes; demonstrations and critiques. Six hours of laboratory per week. (2665)
- 71-72. Art Education for Elementary Schools. 3 cr. each. Course 71 prerequisite to Course 72. A critical analysis and evaluation of past and present concepts of art education with a view toward developing a functional art program for the elementary schools of Louisiana. Art materials, techniques, and art activities recommended for use in the elementary school grades. Readings, discussions, and studio activities. One hour of lecture and four hours of studio work each week. (2271-2272)
81. 3 cr. Prerequisite: Fine Arts 47 and 48. Studio problems in still-life directed toward conceptual attitudes; analysis of structure and color in composition; individual criticism, class discussion. (2881)
- 85-86. Sketch Class. 1 cr. each. Open to all students. Three hours of sketching in various media. (2885-2886)

FRENCH

Natives of countries where French, German, or Spanish is the current and official language may not take for credit Courses 1, 51, 52, or 55 in that language.

If a student selects for study at the University a foreign language in which he has some high school credit, he will take a placement test in that language and will be registered in the course level appropriate to his score on the test (regardless of amount of credits earned in high school). Upon successful completion of the course in which he is thus registered, he will receive credit for that course and will be eligible for advanced standing credit for all lower courses to a maximum of 13 semester hours. Advanced standing credit for any course must be established by credit examination.

A student who places above the terminal course required in his curriculum must take a validation course. For example, a student in a B.S. curriculum whose test score places him in a course higher than 52 must take 55 or a higher course.

It is recommended that students with foreign language credits earned at another college take the placement tests for guidance in scheduling. In the absence of test scores, such students should be guided by the following table, with appropriate adjustment to be made in case the transfer credits are above beginning level:

Sem. Transfer	Hrs. of Cr.	Enter course	Take	Courses
	1, 2	1	16 hrs.	1, 51, 52, 55
	3-7	51	11	51, 52, 55
	8-11	52	6	52, 55
	12-14	55	3	55

1. Elementary French. 5 cr. An oral approach to the language, with a minimum of formal grammar and special emphasis on conversation, supplemented by oral-aural drill in the language laboratory. Five hours each week. (1001)
51. Intermediate French. 5 cr. The oral approach to the language is continued, supplemented by aural-oral drill in the language laboratory. Reading material of moderate difficulty is introduced. Five hours each week. (2051)
52. Intermediate French. 3 cr. Continued reading and oral work, vocabulary building, and review of the basic principles of grammar. Three hours each week. (2053)
55. Readings in French Literature. 3 cr. Readings in contemporary French prose. Special emphasis on comprehension as well as oral and written expression in the language. Three hours each week. (2055)

GEOGRAPHY

- 1-2. Human Geography. 3 cr. each. The earth's surface from the standpoint of its physical and cultural regions; emphasis on the distribution of peoples and on the origin and development of civilization. Three hours of lecture each week. (1001-1003)

GERMAN

See note on foreign language placement and credit policy above the listings of French courses.

1. Elementary German. 5 cr. Intensive drill in German speech habits. Conversation, aural comprehension, dictation, functional grammar. Five hours each week. (1001)

51. Intermediate German. 5 cr. Continuation of Oral-Aural practice, systematic grammar review. Readings in modern German prose. Five hours each week. (2051)
52. Intermediate German. 3 cr. Extensive and rapid reading of German prose, continued oral work, vocabulary building, and review of grammar. Three hours each week. (2053)

HEALTH, PHYSICAL AND RECREATION EDUCATION

Basic activity courses in sports, gymnastics, aquatics, and dance. 1 cr. each. (Open to men and women)

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|-------------------------|-------------------------------|
| 10A (1123) Archery | 10J (1131) Ballet |
| 10B (1124) Tennis | 10P (1136) Swimming |
| 10C (1125) Golf | 10Q (1137) Sr. Life Saving |
| 10D (1126) Gymnastics | 10R (1138) Wtr. Safety Instr. |
| 10E (1127) Modern Dance | 10V Recreational Sports |
| 10G (1129) Badminton | 10Z (1146) Weightlifting |
| 10H (1130) Bowling | 20Y (1221) Fencing |

PROFESSIONAL COURSES

- 6-7. Introduction to Health and Physical Education for Women. 1 cr. each. Designed to orient the prospective student who is majoring or minoring in health and physical education to the field. (1400-1401)
- 16-17. Second-Year Courses for Women Majors and Minors in Health and Physical Education. 1 cr. each. Practice in techniques of individual sports. (2400-2401)
40. Introduction to Physical Education. 1 cr. Skills and techniques of fencing and movements for men who plan to major or minor in physical education. Three hours of laboratory each week. (1402)
41. Personal and Community Health. 3 cr. A survey of current problems affecting the overall health of the individual and society in our modern environment. Three hours of lecture each week. (1600)
42. Swimming and Gymnastics for Men. 1 cr. Skill and techniques of swimming, gymnastics and trampoline designed for the prospective major or minor in physical education. Three hours of laboratory each week. (1403)
43. Human Anatomy. 3 cr. Prerequisite: Sophomore standing. For Health and Physical Education majors and minors. Structural human anatomy and its application basic to an understanding of problems in athletic and corrective physical therapy. Three hours of lecture each week. (2500)

44. Individual Sports for Men. 2 cr. Theory, practice and techniques of individual sports designed for majors and minors in physical education. Six hours of laboratory each week. (2402)
45. Individual Sports for Men. 2 cr. Theory, practice and techniques of individual sports for those who plan to major or minor in physical education. Six hours of laboratory each week. (2403)
52. Principles and History of Physical Education. 3 cr. A study of the scientific, philosophical and historical foundations of health education and physical education. Three hours of lecture each week. (2501)
55. Beginning Modern Dance. 1 cr. For women majors or minors in physical education. Three hours of laboratory each week. (2800)
63. Methods and Materials in Health and Physical Education for the Elementary School. 3 cr. Designed for elementary education majors. Preparation of the elementary school teacher in skills, attitudes, and knowledges requisite to health education of children. Two hours of lecture each week. (2602)
70. First Aid. 1 cr. A course for men and women dealing with procedures to be employed in first-aid treatment of wounds, shock, poisoning, fractures and unconsciousness. American Red Cross certificates will be granted to those who satisfactorily complete the course. One hour of lecture and one hour of laboratory each week. (2601)
73. Methods and Materials in Physical Education for the Elementary School. 2 cr. A course designed for the elementary school classroom teacher. Two hours of lecture and two hours of laboratory each week. (3507)

HISTORY

1. History of Western Civilization. 3 cr. A general survey of ideas, trends, and institutions in Western Civilization from the earliest times to the Reformation. Three hours of lecture each week. (1001)
2. History of Western Civilization. 3 cr. A general survey of the developments of Western Civilization from the Reformation to the present. Three hours of lecture each week. (1003)
55. American History. 3 cr. Survey of American history from the earliest times to 1865. Prerequisite for all advanced courses in American history. Three hours of lecture each week. (2055)

56. American History. 3 cr. Survey of American history from 1865 to present. Prerequisite for all advanced courses in American history. Three hours of lecture each week. (2057)
61. English History. 3 cr. A survey of English history from Roman times to the Glorious Revolution (1688). Three hours of lecture each week. (2011)
62. English History. 3 cr. English history from 1689 to the present. Three hours of lecture each week. (2012)
71. History of Louisiana. 3 cr. General survey of the political, economic, social, and cultural development of Louisiana. Three hours of lecture each week. (2071)

MANAGEMENT

59. Management Principles and Policies. 3 cr. A study of the nature and principles of management. Problems of policies, organizations, operations, and external relationships are studied. Three hours of lecture.
71. Business Communication. 3 cr. Prerequisite: English 1C. The study of communication theory and its applications to business. Practice in composing the basic forms of business communication, including correspondence and reports. Three hours of lecture. (2071)

MARKETING

60. Principles of Marketing. 3 cr. Prerequisite: credit for or registration in Economics 51 or 55. Historical development of trade centers and trade routes in relation to resources and business opportunities. Channels involved in the distribution of merchandise. Services performed by retailers, wholesalers, and other middlemen. Marketing costs and efficiency. Three hours of lecture.

MATHEMATICS

On the basis of a diagnostic test and previous high school or college mathematics the student is assigned to the proper level mathematics course. No student may receive more than nine hours credit in mathematics courses numbered below 50. No student who has already received credit for a mathematics course numbered 50 or above may be registered in a mathematics course numbered below 50, unless given special permission by the mathematics department. The student whose major is chemistry, engineering, mathematics or physics will not receive degree credit for any mathematics course numbered below 50. However, a student not adequately prepared

to take mathematics 50 should take the prerequisite courses. A student selecting mathematics as his field of concentration must take a minimum of thirty-one hours in mathematics courses numbered 50 or higher.

1. Algebra. 3 cr. Prerequisite: Course 7 or assignment on basis of placement test. Three hours of lecture each week. (1021)
2. Plane Trigonometry. 3 cr. Prerequisite: Course 1 or assignment on basis of placement test. Three hours of lecture each week. (1022)
3. Elementary Functions. 4 cr. The study of algebraic, trigonometric and transcendental functions with emphasis on preparation for calculus. This course does not replace Mathematics 1 and 2 for those who need credit in only 1 and 2. A better than average knowledge of algebra and some knowledge of trigonometry will be presumed. Minimum requirements for admission to this course, 24 math score on ACT plus some trigonometry. (1023)
6. Mathematics of Business and Management. 3 cr. Prerequisites: Courses 1 or 11. Primarily for students of business administration and agriculture. Three hours of lecture each week. (1006)
7. Introduction to College Algebra. 3 cr. A study of basic algebra for those not prepared to take Mathematics 1. Three hours will be added to the degree program of any student taking this course. Admission by permission of, or assignment by, the Department of Mathematics. (0007)
9. Introductory College Mathematics. 3 cr. A course in modern mathematics designed primarily for elementary education majors and others whose curricula require a survey of modern mathematics. A study of the natural numbers, the counting numbers, and the rational numbers emphasizing field properties. Set nomenclature and some number theory are included. Three hours of lecture each week. (1009)
10. Introductory College Mathematics. 3 cr. Prerequisite: Mathematics 9. A course in modern mathematics designed primarily for elementary education majors and others whose curricula require a survey of modern mathematics. A continuation of Mathematics 9. A study of the real numbers including ordered field properties, decimals, and systems of linear equations. (1010)
- 11-12. Algebra and Trigonometry. 3 cr. each semester. Course 11 or permission of math faculty as prerequisite for course 12. Topics from college algebra and trigonometry primarily for students not intending to continue into calculus. Three hours of lecture each week. (1011-1012)

29. Geometry for Elementary School Teachers. 3 Cr. A study of intuitive geometry designed to help give the elementary mathematics teacher the background necessary for the modern elementary school curriculum. (1019)
31. Calculus with Business and Economic Applications. 3 cr. Prerequisite Mathematics 1 or consent of department. Differential and integral calculus of algebraic functions, with applications to economic models and probability. (1031)
35. Finite Mathematics with Business and Economic Applications. 3 cr. Prerequisite Mathematics 31 or consent of department. Set theory, probability, and vectors and matrix algebra, with applications to business. (1035)
50. Analytic Geometry and Calculus. 5 cr. Prerequisite: Course 2 or approval of the mathematics faculty. Five hours of lecture each week. (1050)
51. Analytic Geometry and Calculus. 5 cr. Prerequisite: Course 50. Five hours lecture each week. (1052)
55. Elementary Differential Equations. 3 cr. Prerequisite: Course 51. A beginning course in ordinary differential equations with emphasis on the solving of linear equations. (2065)
57. Multidimensional Calculus. 3 cr. Prerequisite: Course 51. Three dimensional analytic geometry, partial derivatives, multiple integrals. (2057)
85. Linear Algebra. 3 cr. Prerequisite: Course 51. Systems of linear equations, vector spaces, linear transformations, matrices and determinants. Three hours of lecture each week. (2085)
99. Elementary Number Theory. 3 cr. Three hours of lecture each week. (2901)

MICROBIOLOGY

51. General Microbiology. 4 cr. Prerequisite: general biology and some knowledge of chemistry. A study of the structure and function of microbial cells with emphasis on their relationship to man. Two hours lecture and four hours laboratory each week. (2051)

NURSING

Students enrolling in the Nursing program who have had clinical or academic instruction in non-accredited institutions or other experience which led to reasonable proficiency in courses appearing in Associate Degree Program which is not acceptable for immediate credit may challenge for advanced standing examination in these courses by providing the Director of Nursing sufficient evidence to

suggest likelihood for success in the examination. When such challenges result in the recommendation of credit, these courses will be posted to the permanent record in accordance with usual procedures for advanced standing credits.

- 20A. Fundamentals of Nursing. 4 credits. The course is designed to introduce basic concepts and principles of nursing care. Professional ethics, personal and community health, normal nutrition, mental health concepts, and simple nursing techniques are included. Fundamental human needs and their relationship to basic nursing are emphasized. Clinical laboratory experiences in the hospital under supervision provide the opportunity to develop nursing skills by giving patient care. Two hours of lecture and six hours of laboratory each week.
- 21A. Fundamentals of Nursing. 6 credits. This course is a continuation of Nursing 20A. A study of specific pathological states or certain symptoms that modify basic nursing. Emphasis will be placed on the nursing needs of individuals as affected by age, cultural background, physical and intellectual capacities, and emotional balance. Clinical laboratory experience is provided to develop skill in individualized nursing care. Three hours of lecture and nine hours of laboratory each week.
- 42A. Nursing in the Psychiatric Setting. 6 credits. A study of emotional disturbance of the adult and child. Consideration is given to normal development and personality and behavioral deviations in illness. Emphasis is placed on the therapeutic role of the nurse. Clinical laboratory experiences with adolescents and adults are planned to demonstrate the concepts of behavior. Six hours of lecture and eighteen hours of laboratory each week.
- 50A. Maternal and Neonatal Care. 7 credits. The course is oriented to family concepts beginning with discussion of the family unit. Emphasis is placed on the role of the nurse in all aspects of prenatal care, labor, delivery, post-partum and care of the newborn. Clinical laboratory experiences in the maternity setting, including prenatal clinics, are provided with particular attention being directed toward the preventive aspects of care. Three hours of lecture and twelve hours of laboratory per week. Prerequisite: Nursing 20A-21A.
- 54A. Nursing in the Pediatric and Medical Setting. 8 credits. Prerequisites: Nursing 20A-21A. This course is related to the care of the physically ill child and adult utilizing the patient centered approach. Major health problems and nursing problems peculiar to each age group will be identified and studied. Normal child growth and development will serve as a basis in caring for the sick child. Clinical labora-

tory experience in the care of children and adults is provided. Three hours of lecture and fifteen hours of laboratory each week.

- 55A. Nursing Seminar. 2 cr. A lecture and discussion course designed to aid the student in her period of transition from student to graduate. Attention is given to increasing the students' understanding of the opportunities and responsibilities of the general duty nurse. Two hours of lecture and discussions each week.

- 70A. Nursing in the Medical-Surgical setting. 6 credits. (Summer). Prerequisite: Nursing 20A-21A-42A-54A.

This course is planned to assist the student in continued development of knowledge, skills, and attitudes relating to comprehensive care of adults with medical-surgical conditions. Emphasis is placed on planning, implementing, and evaluating nursing care. Consideration is given to the care of patients with complex nursing problems, the critically ill, and groups of patients. Six hours of lecture and eighteen hours of laboratory each week.

OFFICE ADMINISTRATION

51. Beginning Typewriting. 2 cr. An introductory course. Presentation of the keyboard, basic letters, manuscript typewriting, and some speed building. Five hours of lecture, demonstration, and practice per week. (2000)
52. Intermediate Typewriting. 2 cr. Building speed and accuracy on letters, manuscripts, tabulations, etc. Five hours of lecture, demonstration, and practice per week. (2001)
53. Advanced Typewriting. 2 cr. A continuation of course 52 with special attention given to typing for general office, technical office, professional office, government office, and executive office. Five hours of lecture, demonstration, and practice per week. (2002)
55. Beginning Shorthand. 3 cr. The basic principles of reading and writing Gregg Diamond Jubilee Shorthand. Dictation of practiced material. Five hours of lecture, demonstration, and practice per week. (2002)
- 55M Shorthand. 3 cr. Use of mechanical recorder.
56. Intermediate Shorthand. 3 cr. Building dictation speed with unpracticed material and a review of Gregg Diamond Jubilee Shorthand principles. Five hours of lecture per week. (2101)
57. Advanced Shorthand. 3 cr. A continuation of the previous course with emphasis on the development of speed in dictation and transcription. Five hours. (2102)

58. Advanced Shorthand. 3 cr. Continuation of the previous course with emphasis on the development of speed in dictation and transcription. Five hours. (2103)
62. Filing Systems, Procedures, and Practice. 2 cr. Prerequisite: Sophomore standing. Two hours of lecture, demonstration, and practice per week. (2200)
63. Use of Office Machines. 1 cr. Required for students in associate degree program. Three hours of laboratory each week.
90. Administrative Secretarial Training. 3 cr. Prerequisites: Courses 53, 57. A study of professional responsibilities and duties of the administrative secretary. One hour of lecture and three hours of laboratory. (2300)

PHYSICS

51. General Physics. 3 cr. Prerequisite: Mathematics 2 or 12. Non-calculus physics for students in all medical curricula and for students in certain curricula in agriculture, forestry, home economics, arts and sciences, education and business. A study of principles and applications of mechanics, heat, and sound. Three hours of lecture and demonstration each week. (2001)
52. General Physics. 3 cr. Prerequisite: Physics 51. A study of principles and applications of light, electricity and magnetism, and topics in modern physics. Three hours of lecture and demonstration each week. (2002)
53. General Physics Laboratory. 1 cr. Prerequisite: credit for or registration in Physics 51. Laboratory course to accompany Physics 51. Experiments on mechanics, heat, and sound. Three hours of laboratory each week.
54. General Physics Laboratory. 1 cr. Prerequisite: Credit for or registration in Physics 52. Laboratory course to accompany Physics 52. Experiments on light, electricity and magnetism, and modern physics. Three hours of laboratory each week. (2009)
61. General Physics for Technical Students. 3 cr. Prerequisite: Mathematics 50. For students in engineering, mathematics, chemistry, and physics. Calculus and vector analysis are used in the study of mechanics, heat, and sound. Three hours of lecture and demonstration each week. (2101)
62. General Physics for Technical Students. 3 cr. Prerequisite: Physics 61. Calculus and vector analysis are used in the study of light, electricity and magnetism, and topics in modern physics. Three hours of lecture and demonstration each week. (2102)

63. General Physics Laboratory for Technical Students. 1 cr. Prerequisite: Credit for or registration in Physics 61. Laboratory course to accompany Physics 61. Experiments on mechanics, heat, and sound. Three hours of laboratory each week. (2108)
64. General Physics Laboratory for Technical Students. 1 cr. Prerequisite: Credit for or registration in Physics 62. Laboratory course to accompany Physics 62. Experiments on light, electricity and magnetism, and modern physics. Three hours of laboratory each week. (2109)

PHYSICAL SCIENCE

1. Physical Science. 3 cr. A non-technical survey course covering the fields of chemistry and physics. It is not intended for students who wish to pursue further work in chemistry or physics, and it may not be substituted for basic courses covering these areas of science. Three hours of lecture and demonstration each week. (1001)
2. Physical Science. 3 cr. A non-technical survey course covering the fields of astronomy and meteorology. This course is intended for non-science majors and may not be substituted for basic science courses in these fields. Course one is not a prerequisite. Three hours of lecture each week. (1002)

POLITICAL SCIENCE

51. American Government. 3 cr. A survey of the principles, structures, processes, and functions of American government with emphasis on the national government. (2051)

PSYCHOLOGY

51. Introduction to Psychology. 3 cr. An introduction to the understanding, prediction and control of human behavior. Three hours of lecture each week. (2000)
56. Educational Psychology. 3 cr. Applications of psychology to the educative process. Three hours of lecture each week. (2060)
57. Child Psychology. 3 cr. Prerequisite: Course 51 or 56 or consent of the instructor. Study of the physical, social, and psychological development of the child. Three hours of lecture each week. (2076)
58. Adolescent Psychology. 3 cr. Prerequisite: Course 51 or 56 or consent of the instructor. Consideration of adolescent behavior in the light of information available on social, physical and psychological development. Three hours of lecture each week. (2078)

59. Psychology of Adjustment. 3 cr. Prerequisite: Course 51 or 56 or consent of instructor. An introduction to the study of adjustment mechanisms in normal adults. Emphasis is upon vocational, personal, and social adjustment. Three hours of lecture each week. (2004)

SOCIOLOGY

51. Introductory Sociology. 3 cr. A survey of major subject areas and principles of sociology. (2001)
62. Current Social Problems. 3 cr. Contemporary social problems and their consequences for mankind, with special emphasis on the American society. (2080)

SPEECH

1. Speech Fundamentals. 3 cr. (Not open to students who have credit in Course 51.) An introduction to the fundamentals of speech — selection of subjects and materials, style, structure, and oral and physical aspects of delivery. Intended to give the beginner an understanding and practice of communicative speaking. (1061)
2. Speech Fundamentals. 3 cr. Voice Science. A study of the speaking process. Concentration on the body functions involved. Attention is given to individual speaking improvement through emphasis on articulation and pronunciation. A basic study of phonetics. Three hours of lecture each week. (1050)
6. Speech for Business and Professional People. 3 cr. Attention given to instructional and report presentation, promotional and sales talks, policy speeches, speech for special occasions, use of visual aids in explanation and demonstration, and planning and conducting meetings. (1063)
51. Public Speaking. 3 cr. (Not open to students who have credit in Course 1 and 2, 1 and 6, or 75.) An introductory course in public speaking. Chief emphasis is placed upon the delivery of carefully prepared speeches, and major attention is given to such principles of public speaking as audience analysis, collection of materials, and outlining. (2060)
63. Interpretative Reading. 3 cr. A course designed to aid the student to read literature aloud intelligently and with naturalness and individuality. (2040)
64. Readers Theater. 3 cr. Oral reading drama. Designed to aid students in the intelligent reading of drama, cultural enrichment, creativity and literary study.

65. Argumentation and Debate. 3 cr. Prerequisite: Courses 1 or 51. A study of the principles of argumentation and debate, including analysis, briefing, evidence, reasoning, and refutation; class debating in vital questions. (2063)

ZOOLOGY

1. Introductory Zoology. 3 cr. Prerequisite: Registration in Zoology 3 or permission of instructor. An introductory course in the principles of Zoology with emphasis on anatomy and physiology of vertebrate animals at the system level of organization. Three hours of lecture. (1001)
2. Introductory Zoology. 4 cr. A survey of the animal kingdom from the standpoint of taxonomy, morphology, physiology, and phylogenetic relationships. Two hours of lecture and four hours of laboratory each week. (1002)
3. Zoology Laboratory to Accompany Zoology 1. 1 cr. Two hours per week.
51. General Zoology. 4 cr. Prerequisite: General Biology 1, 2 and 3, 4 or advanced placement by examination at the discretion of the department. A survey course in which the major groups of animals are studied with emphasis on taxonomy, morphology, and phylogenetic relationships. Not open to students with credit in Zoology 1 and 2. Two hours of lecture and four hours of laboratory each week.
52. Comparative Anatomy. 4 cr. A comparative study of the vertebrate organ systems with emphasis on the evolution of these systems from fish through mammal. Laboratory work will include dissections of representative vertebrates such as the dogfish shark (**Squalus**), mudpuppy (**Necturus**), and cat. Two hours of lecture and six hours of laboratory each week. (2152)
53. Principles of Genetics. 3 cr. Prerequisite: Six semester hours of biology or permission of instructor. A study of the principles of inheritance and their application to plants and animals. Three hours of lecture each week. (2153)
57. Elementary Physiology. 4 cr. An elementary course in physiology with emphasis on human systems and their function. Three hours of lecture and two hours of laboratory each week. (2157)