

603. Preceptorial Clinic

Fall, Winter, Spring, Summer. 8(0-24) to 16(0-48) May re-enroll for a maximum of 16 credits. 602, SSM 601, 611 and approval of department.

Applied large animal clinical science. Students participate in all activities in assigned private practices tutored by practitioners with adjunct faculty appointments.

621. Integrative Clinical Problems

Fall, Winter, Spring, Summer. 2(0-6) to 4(0-12) May re-enroll for a maximum of 12 credits. 602, SSM 601, 611, and approval of department.

Comprehensive problem-solving explorations of selected clinical diseases, either systems or species oriented, in large animals.

640. Special Problems

Fall, Winter, Spring, Summer. 2(0-6) to 4(0-12) May re-enroll for a maximum of 8 credits. 602 and approval of department.

Exploration of problems in large animal specialties to meet specific goals of students.

809. Problems in Large Animal Surgery

Fall, Winter, Spring, Summer. Variable credit.

811. Problems in Large Animal Medicine

Fall, Winter, Spring, Summer. Variable credit.

813. Seminar

Fall, Winter, Spring. 1 credit.

823. Special Surgery

Spring. 3(1-6) May re-enroll for a maximum of 6 credits. Approval of department. Surgical techniques and tissue reactions following surgery in large animals.

899. Research

Fall, Winter, Spring, Summer. Variable credit. May re-enroll for a maximum of 18 credits. Approval of department.

Research on thesis problems.

LATIN

See Romance Languages

LINGUISTICS AND ORIENTAL AND AFRICAN LANGUAGES

College of Arts and Letters

Courses in CHINESE and JAPANESE on the 300 level or higher are normally conducted in the language.

Linguistics and Oriental and African

Language Courses

LOA

299. Special Projects

Fall, Winter, Spring, Summer. Variable credit. May re-enroll for a maximum of 18 credits. Approval of department.

Work in areas outside regular course offerings.

315. World Literature in English

Fall. 3(3-0) Interdepartmental with and administered by the English Department. Representative works, not from England or the United States, which were written originally in English, especially the English literature of present or former British Commonwealth nations, and nations from the Middle East and Africa.

316. World Literature in English Translation

Winter. 3(3-0) Interdepartmental with the English Department.

Significant and characteristic works of the Orient, the Middle East, and Africa in English translation.

317. Genres and Themes in World Literature

Spring. 3(3-0) Interdepartmental with and administered by the English Department.

Work will center each term around a single literary genre, type or theme. Typical examples: The Quest, Literature of Revolt, Satire, Literary examples will be selected from several national literatures.

499. Special Projects

Fall, Winter, Spring, Summer. Variable credit. May re-enroll for a maximum of 18 credits. Approval of department.

Work in areas outside regular course offerings.

African Languages

AFR

101. African Languages-Elementary

Fall. 5(3-2) May re-enroll for 101-102-103 sequence in more than one African language.

Comprehension and speaking taught by a linguist with native informants. Offerings include Bemba, Hausa, Ibo, Pidgin, Swahili, Yoruba. These and other African languages are taught upon sufficient demand and availability of instructors.

102. African Languages-Elementary

Winter. 5(3-2) May re-enroll for 101-102-103 sequence in more than one African language. 101.

Continuation of 101.

103. African Languages-Elementary

Spring. 5(3-2) May re-enroll for 101-102-103 sequence in more than one African language. 102.

Continuation of 102.

200H. Honors Work

Fall, Winter, Spring. 1 to 16 credits. Approval of department.

201. African Languages-Intermediate

Fall. 4(5-0) May re-enroll for 201-202-203 sequence in more than one African language. 103 in appropriate language or approval of department.

Continuation of African Languages-Elementary. Comprehension, speaking, reading and writing taught by a linguist with native informants. See AFR 101 for languages available.

202. African Languages-Intermediate

Winter. 4(5-0) May re-enroll for 201-202-203 sequence in more than one African language. 201.

Continuation of 201.

203. African Languages-Intermediate

Spring. 4(5-0) May re-enroll for 201-202-203 sequence in more than one African language. 202.

Continuation of 202.

400H. Honors Work

Fall, Winter, Spring. Variable credit. Approval of department.

420. African Literature in Translation

Fall, Winter, Spring. 3(3-0) May re-enroll for a maximum of 9 credits. Juniors or approval of department.

Development and influence of the ideas, forms and motifs of African literatures in the literatures of the world.

450. African Languages-Advanced

Fall, Winter, Spring. Variable credit. May re-enroll for maximum of 18 credits. Approval of department.

Advanced training or specialized research in particular African languages.

Chinese

CHS

101. Elementary Chinese

Fall. 5(3-5)

Introduction to Mandarin, the official spoken language of China, with emphasis on pronunciation drill and conversation practice.

102. Elementary Chinese

Winter. 5(3-5) 101.

Continued practice in conversation and aural comprehension; introduction to the reading and writing of Chinese characters.

103. Elementary Chinese

Spring. 5(3-5) 102.

Continuation of 102 and grammatical analysis of basic Chinese sentence structure.

200H. Honors Work

Fall, Winter, Spring. 1 to 16 credits. Approval of department.

201. Second-Year Chinese

Fall. 3(3-0) 103.

Conversation, reading, and writing at the intermediate level.

202. Second-Year Chinese

Winter. 3(3-0) 201.

Reading of advanced texts; introducing Chinese radicals and practice in the use of a Chinese dictionary.

203. Second-Year Chinese

Spring. 3(3-0) 202.

Continuation of 202; selected texts from Chinese newspapers, periodicals, and political journals.

221. Second-Year Conversation and Composition

Fall. 2(2-0) 103.

Conversation and composition at the intermediate level to supplement 201.

222. Second-Year Conversation and Composition

Winter. 2(2-0) 221.

Continuation of 221.

**Descriptions — Linguistics and Oriental and African Languages
of
Courses**

223. Second-Year Conversation and Composition
Spring. 2(2-0) 222.
Continuation of 222.

250. Chinese Calligraphy
Spring. 2(2-0) One year in Chinese language or approval of department.
The essential characteristics of and fundamental skills involved in writing Chinese characters, from the point of view of practical use.

301. Readings in Modern Chinese Literature
Fall. 3(3-0) 203.
Selected short stories from authors of the twentieth century.

302. Readings in Modern Chinese Literature
Winter. 3(3-0) 301.
Selected essays from authors of the twentieth century.

303. Readings in Classical Chinese Literature
Spring. 3(3-0) 302.
Selections from the writings of the important philosophers, historians, and poets.

321. Conversation and Composition
Fall, Winter, Spring. 3(3-0) May re-enroll for a maximum of 9 credits. 203.
Directed topical conversation and practice in composition.

400H. Honors Work
Fall, Winter, Spring. Variable credit.
Approval of department.

401. Survey of Chinese Literature
Fall, Winter, Spring. 3(3-0) May re-enroll for a maximum of 9 credits. Oral command and reading knowledge of Chinese language.
Survey of Chinese literature from earliest record to contemporary writings. Lectures and discussions conducted in Chinese. Most assigned readings in Chinese, some in English translation.

420. Oriental Literature in Translation
Fall, Winter, Spring. 3(3-0) May re-enroll for a maximum of 9 credits. Juniors or approval of department.
Development and influence of the ideas, forms and motifs of Far Eastern literatures in the literatures of the world.

431. Chinese Poetry
Fall. 3(3-0) Reading knowledge of Chinese.
Rise and development of Chinese poetry with particular attention to poetry of the T'ang Dynasty.

432. Chinese Drama
Winter. 3(3-0) Reading knowledge of Chinese.
Special emphasis on drama of the Yuan Dynasty.

433. Chinese Novels
Spring. 3(3-0) Reading knowledge of Chinese.
The most important vernacular novels.

Japanese JAP

101. Elementary Japanese
Fall. 5(4-1)
Spoken and written Japanese; emphasis on conversation and easy reading.

102. Elementary Japanese
Winter. 5(4-1) 101.
Continuation of 101.

103. Elementary Japanese
Spring. 5(4-1) 102.
Continuation of 102.

201. Second-Year Japanese
Fall. 3(3-0) 103.
A second-year course, stressing both oral and written Japanese.

202. Second-Year Japanese
Winter. 3(3-0) 201.
Continuation of 201.

203. Second-Year Japanese
Spring. 3(3-0) 202.
Continuation of 202.

221. Second-Year Composition
Fall. 2(2-0) 103.
Review grammar and composition to supplement 201.

222. Second-Year Composition
Winter. 2(2-0) 221.
Continuation of 221.

223. Second-Year Composition
Spring. 2(2-0) 222.
Continuation of 222.

400H. Honors Work
Fall, Winter, Spring. Variable credit.
Approval of department.

Linguistics LIN

200. Language and Linguistics
Fall, Winter, Spring. 3(3-0)
Especially for students in areas other than linguistics, this course consists of an introduction to language and linguistics, emphasizing the application of linguistics to various other disciplines.

401. Introduction to Linguistics
Fall, Winter, Spring. 3(3-0) Juniors or approval of department. Not open to students with credit in 200.
The scientific study of human languages. Basic goals, assumptions, terminology, and research results of modern theoretical and applied linguistics, with examples from a variety of languages.

402. Phonology
Fall, Winter, Spring. 3(3-0) 401 or approval of department.
Sounds and sound systems, emphasizing the four basic areas of articulatory phonetics, phonetic features and components, classical phonemics, and phonology in contemporary linguistic theories.

403. Morphology
Fall, Winter, Spring. 3(3-0) 402 or concurrently.
Structure of words, covering the identification and classification of morphemes, morphonemic alternation, and morphology in contemporary linguistic theories.

421. Articulatory Phonetics
Fall, Winter, Spring. 3(2-2) Approval of department.
Development of phonetic skills for the learning and teaching of languages.

431. Introduction to Transformation Grammar
Winter, Spring. 3(3-0) 401 or approval of department.
Investigation of the origin and development of transformational theory of syntax; properties of deep structure, surface structure, and transformations; application of transformational concepts to native and foreign language learning.

441. Introductory Readings in Linguistics
Fall, Winter, Spring. 3(3-0) 401.
Critical reading of basic texts of modern linguistics.

471. Principles and Methods of Historical Linguistics
Winter. 3(3-0) 403 or concurrently.
Types of linguistic change and the methods used by linguists to study the historical development of languages and language families.

811. History of Linguistics
Fall. 3(3-0) Approval of department.
The origin and development of linguistic studies from ancient India and Greece to the present. Provides a foundation for the understanding of contemporary issues in linguistics.

821. Phonological Analysis
Fall, Winter, Spring. 3(3-0) May re-enroll for a maximum of 9 credits. Approval of department.
Advanced study of phonology, generally utilizing one of the following theories: stratificational, tagmemic, transformational.

831. Grammatical Analysis
Fall, Winter, Spring. 3(3-0) May re-enroll for a maximum of 9 credits. Approval of department.
Advanced study of syntax and related topics, generally utilizing one of the following theories: stratificational, tagmemic, transformational.

835. Semantics of Natural Languages
Spring. 3(3-0) 431 or approval of department.
Selected topics on the study of meaning in human languages. History, issues, and theories of semantics.

IDC. Interdisciplinary Seminar on Africa
For course description, see Interdisciplinary Courses.

841. Field Methods
Fall. 3(3-0) May re-enroll for a maximum of 9 credits. 403 or approval of department.
Methods of working with informants in order to gather linguistic information, processing and analyzing data, writing linguistic descriptions.

851. African Linguistics
Winter. 3(3-0) May re-enroll for a maximum of 9 credits. 401; 402 or concurrently.
Investigation of linguistic issues and phenomena in one or a group of African languages.

860. Special Projects
Fall, Winter, Spring, Summer. Variable credit. Approval of instructor.
Supervised study, reading, and research in specialized areas of linguistics.

865. Contrastive Analysis
Spring. 3(3-0) 403.
The essentials of contrastive analysis, with emphasis on methods of making such analysis. The usefulness of and controversies concerning contrastive analysis will also be discussed.

871. Comparative Indo-European Linguistics
Spring of odd-numbered years. 3(3-0) 471.
Comparative linguistics as applied to the investigation of the development and historical relationships of the languages of the Indo-European family.

880. Seminar in Linguistics
Fall, Winter, Spring. 3(3-0) May re-enroll for a maximum of 18 credits in different topics. Approval of department.
Advanced critical study of current topics in linguistics such as applications to other disciplines, aspects of linguistic theory, child language acquisition, contrastive analysis, structure of particular languages.

899. Research
Fall, Winter, Spring, Summer. Variable credit. Approval of instructor.

980. Seminar in Linguistics
Spring. 3(3-0) May re-enroll for a maximum of 9 credits in different areas. Approval of department.
Special topics in linguistics for advanced graduate students.

999. Research
Fall, Winter, Spring. Variable credit. Approval of instructor.

South Asian Languages SAL

101. South Asian Languages—Elementary
Fall. 5(3-2) May re-enroll for 101-102-103 sequence in more than one South Asian Language.
The spoken language. Emphasis on intensive pronunciation, comprehension drills, and developing sentence structure. Orthography introduced.

102. South Asian Languages—Elementary
Winter. 5(3-2) May re-enroll for 101-102-103 sequence in more than one South Asian Language. 101.
Continuation of 101.

103. South Asian Languages—Elementary
Spring. 5(3-2) May re-enroll for 101-102-103 sequence in more than one South Asian Language. 102.
Continuation of 102.

201. South Asian Languages—Intermediate
Fall. 4(3-2) May re-enroll for 201-202-203 sequence in more than one South Asian Language. 103.
Continued development of oral and aural skills. Study of grammar, readings in simple texts and exercises in composition.

202. South Asian Languages—Intermediate
Winter. 4(3-2) May re-enroll for 201-202-203 sequence in more than one South Asian Language. 201.
Continuation of 201.

203. South Asian Languages—Intermediate
Spring. 4(3-2) May re-enroll for 201-202-203 sequence in more than one South Asian Language. 202.
Continuation of 202.

LYMAN BRIGGS COLLEGE LBC

111. College Algebra
Fall. 5(5-0) Placement Test or approval of the college. Not open to students with credit in MTH 108, 109, or 111.
Topics covered include polynomial, trigonometric, exponential, and logarithmic functions, their inverses and their properties; and analytic geometry with an emphasis on conics.

112. Calculus I
Fall, Winter, Spring. 5(5-0) 111 or MTH 109; LBC 124 concurrently. Not open to students with credit in MTH 112.
Topics covered include sequences and their limits, derivatives of rational power functions, techniques of differentiation, applications, numerical methods for evaluating polynomials and approximating square roots.

113. Calculus II
Fall, Winter, Spring. 5(5-0) 112 and 124. Not open to students with credit in MTH 113.
Continuation of 112. Topics covered are applications of the derivative integration, exponential, logarithmic, and trigonometric functions, power series, and numerical methods for integrating, root finding, and series evaluating.

124. APL-Computer Programming for Scientists
Fall, Winter, Spring. 3(3-0) 112 or concurrently. Interdepartmental with the Computer Science Department.
APL programming; interactive programming techniques; arithmetic, logical, and extended APL operators; functions; applications to concurrent topics in mathematics; principles of operations of time-shared computers.

131. Third Culture Rhetoric I
Fall, Winter. 4(4-0)
Instruction and practice in expository writing. Paper and report topics drawn from readings which relate science and human values.

132. Third Culture Rhetoric II
Winter, Spring. 4(4-0) 131.
Continuation of 131 with emphasis upon investigative papers. Selected students may meet course requirements through independent study.

140. Biology I
Winter, Spring. 4(3-3) Not open to students with credit in BS 212.
The organisms and their environment. Organismal level of organization. Evolution and adaptation as forces for biological variance.

***141. Biology II**
Fall, Spring. 3(2-3) 140; Not open to students with credit in BS 210.
Maintenance and manipulation of materials, energy, space and information at the cellular and tissue level of organization.

142. Biology IA
Winter, Spring. 1 to 2 credits. May re-enroll for a maximum of 4 credits. 140 or concurrently.
Selected problems such as analysis of biological data, interspecific and intraspecific competition, microarthropods inhabiting leaf litter, spring flora, diversity, stability and evolution of natural communities.

143. Biology IIA
Fall, Spring. 2 to 4 credits. May re-enroll for a maximum of 4 credits. 141 or concurrently.
Selected biology problems considering such topics as genetics, bacterial culturing and staining techniques, photosynthesis and histological techniques.

150. Physics—Elementary Concepts
Fall. 1(2-0) MTH 108 or 109 or LBC 111 and LBC 151 concurrently.
Elementary concepts of mechanics, electricity, magnetism and optics.

151. Introduction to Chemistry and Physics I
Fall. 4(4-3) MTH 108 or 109 or LBC 111 concurrently; high school physics or 150 concurrently.
Fundamental techniques of quantitative scientific investigation; gas laws, kinetic theory and thermodynamics.

152. Introduction to Chemistry and Physics II
Winter. 4(4-3) 151.
Topics in modern physics: photons, electrons, atoms and nuclei; radioactivity, nuclear reactions; Bohr theory of the hydrogen atom; special theory of relativity.

153. Introduction to Chemistry and Physics III
Spring. 4(4-3) 152.
Topics in modern chemistry: atomic structure, chemical bonding, molecular orbitals; stoichiometry, chemical dynamics and equilibria, fundamentals of organic chemistry.

216. Calculus III
(215.) Fall, Winter, Spring. 5(5-0) 113.
Introduction to the calculus of several variables.

217. Calculus IV
(214.) Fall, Winter, Spring. 5(5-0) 216.
Topics covered include infinite series, power series, and introduction to differential equations; first order, second order linear with constant coefficients, first order systems; numerical methods, power series solutions, and applications.

*For prerequisite purposes this introductory biology sequence may be used in place of Biological Science 210, 211, 212.