

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.
Scientific study of language.
- 402. Phonetics and Phonemics**
Fall, Winter, Spring. 3(3-0) 401 or approval of department.
Techniques for scientific description of languages. Problems of phonemic analysis.
- 403. Morphology**
Fall, Winter, Spring. 3(3-0) 402 or concurrently.
Problems of morphemic analysis.
- 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 Transformational Grammar**
Winter. 3(3-0) 403 or approval of department.
Transformational linguistics with emphasis on the theory of syntax. Writing phrase structure rules and transformations.
- 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.
An elementary introduction to types of linguistic change and the methods used by the historical and comparative linguist. Exercises in comparative and internal reconstruction.
- 811. History of Linguistics**
Fall, Winter, Spring 3(3-0) Approval of department.
Selected topics in the historical development of linguistic theory.
- 815. Dialectology**
Winter. 3(3-0) Approval of department.
Cultural and geographic factors in the social and spatial diffusion of linguistic traits.
- 821. Phonological Analysis**
Fall, Winter, Spring. 3(3-0) May re-enroll for a maximum of 9 credits. 403 or approval of department.
Problems of advanced phonological analysis.
- 831. Grammatical Analysis**
Fall, Winter, Spring. 3(3-0) May re-enroll for a maximum of 9 credits. 403 or approval of department.
Problems of advanced structural analysis.
- 835. Semantics of Natural Languages**
Spring. 3(3-0) Approval of department.
Selected topics in the history, techniques and theories of the semantics of natural languages.

- 838. Interdisciplinary Seminar on Africa**
For course description, see Interdisciplinary Courses.
- 841. Field Methods**
Fall, Winter, Spring. 3(3-0) May re-enroll for a maximum of 9 credits. 403 or approval of department.
Working with informants, collecting and processing linguistic information.
- 851. African Linguistics**
Fall, Winter, Spring. 3(3-0) May re-enroll for a maximum of 9 credits. 403 or approval of department.
Phonologic, morphologic and semantic characteristics of one or a group of related African languages.
- 860. Special Projects**
Fall, Winter, Spring, Summer. Variable credit. Approval of department.
Supervised study of specialized linguistic projects.
- 871. Comparative Indo-European Linguistics**
Spring. 3(3-0) 471.
Comparative Indo-European linguistics.
- 880. Seminar in Linguistics**
Fall, Winter, Spring. 3(3-0) May re-enroll for a maximum of 9 credits. Approval of department.
Topics of current relevance in linguistics.
- 899. Research**
Fall, Winter, Spring, Summer. Variable credit. Approval of department.
- 970. Graduate Reading Course**
Fall, Winter, Spring. 3(3-0)
Supervised readings in linguistics for Ph.D. candidates.
- 980. Seminar in Linguistics**
Fall, Winter, Spring. 3(3-0)
Special topics in linguistics for Ph.D. candidates.
- 999. Research**
Fall, Winter, Spring. Variable credit. Approval of department.

South Asian Languages

SAL

- 101. South Asian Languages—Elementary**
Fall. 4(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. 4(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. 4(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; 125 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 125. 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.
- 125. Elements of Computer Programming**
Fall, Winter, Spring. 3(3-0) 112 concurrently. Students may not receive credit for 125 and CPS 110 or CPS 120.
FORTRAN programming; arithmetic and logical operations; functions and subroutines; applications to concurrent topics in mathematics; principles of operation and programming of batch processing and time-shared computers.
- 131. Third Culture Rhetoric I**
Fall, Winter. 3(3-0)
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. 3(3-0) 131.
Continuation of 131 with emphasis upon investigative papers. Selected students may meet course requirements through independent study.
- 140. Biology I**
Winter, Spring. 3(1-3) Not open to students with credit in B S 212.
Development of the concept of terrestrial and aquatic ecosystems and the maintenance and

manipulation of energy, materials, and space at the organismal level of organization.

°141. Biology II

Fall, Spring. 3(2-3) 140; Not open to students with credit in B S 211.

Maintenance and manipulation of materials, energy, space and information at the cellular and tissue level of organization.

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.

214. Calculus III

Fall, Winter, Spring. 5(5-0) 113. Not open to students with credit in MTH 215.

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.

215. Calculus IV

Fall, Winter, Spring. 5(5-0) 214. Not open to students with credit in MTH 214.

Introduction to the calculus of several variables.

°242. Biology III

Fall, Winter. 4(3-3) 141.

Organismal growth and development from molecular genetics through life cycles of selected plant and animal species.

251. Introduction to Chemistry and Physics IV

Fall. 4(4-3) 153.

Classical physics; kinematics and dynamics of particles and rigid bodies; electricity; magnetism, electromagnetism, wave motion and wave optics.

252. Introduction to Chemistry and Physics V

Winter. 4(4-3) 251.

Chemistry of non-metals, transitional elements and coordination compounds, organic chemistry.

253. Introduction to Chemistry and Physics VI

Spring. 4(4-3) 252.

Relativity; atomic, molecular, and solid-state physics, quantum-mechanical effects and devices, nuclear models and nuclear energy levels.

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

256. Energy Consumption and Environmental Quality

Spring. 3(3-0) Sophomores. Interdepartmental with the Physics Department.

The role of energy as a fundamental pollutant will be discussed along with the availability of fossil energy sources. Limitations on the safe utilization of both fossil and nuclear energy will also be considered.

290. Special Problems

Fall, Winter, Spring. 1 or 2 credits. May re-enroll for a maximum of 6 credits. Approval of college.

295. Independent Study

Fall, Winter, Spring, Summer. 1 to 4 credits. May re-enroll for a maximum of 12 credits. Approval of college.

Independent study for qualified students under direction of a faculty member.

331. Modern Fiction

Fall. 3(3-0) 132.

The study of recent short stories and novels, particularly those which might have a special value for the student of science. Student may submit original work of a fictional nature in partial fulfillment of course requirements. Selected students may meet course requirements through independent study.

332. Modern Drama

Winter. 3(3-0) 132.

The study of recent plays which have social or literary significance. Student may submit original work of a dramatic nature in partial fulfillment of course requirements. Selected students may meet course requirements through independent study.

333. Modern Poetry

Spring. 3(3-0) 132.

The study of recent verse of a literary or provocative nature. Student may submit original poetry in partial fulfillment of course requirements. Selected students may meet course requirements through independent study.

372. Introduction to Symbolic Logic

Fall, Winter. 4(4-0) Sophomores or approval of college.

Concepts, notation and application of truth-functional and quantificational logic. Special topics may include axiomatics, meta-theory, modal logic, fallacies, paradoxes, inductive argument, the justification of logic.

373. Introduction to the Philosophy of Science

Winter, Spring. 4(4-0) 372. Juniors or approval of college.

Philosophical problems about the character and justification of scientific knowledge. Possible topics: concept formation, theory construction, scientific explanation, confirmation theory, "logic" of discovery, philosophical implications of physical theories.

374. Historical Problems in the Biological Sciences

Fall, Winter. 4(4-0) Juniors or approval of college.

Various themes or periods in the biological sciences. The course may emphasize the pattern of theoretical development, changes in explanatory ideals, the interaction of external factors and scientific ideas, etc.

375. Historical Problems in the Physical Sciences

Spring. 4(4-0) Juniors or approval of college.

Various themes or periods in the physical sciences. The course may emphasize the pat-

tern of theoretical development, changes in explanatory ideals, the interaction of external factors and scientific ideas, etc.

376. Historical Problems in Technical Change

Fall, Spring. 4(4-0) Juniors or approval of college.

Factors which influence technical change. Exploration of both historical and contemporary problems of technology and technical change.

483. Philosophy of Physical Science

Fall, Spring. 4(4-0) Nine credits in physical science or approval of department. Interdepartmental with the Department of Philosophy.

Philosophical problems of the physical sciences. The topics will be taken from such areas as: quantum mechanics, space-time, classical mechanics, relativity.

484. Philosophy of Biological Sciences

Winter, Spring. 4(4-0) Nine credits in science or approval of department. Interdepartmental with the Department of Philosophy.

Methodological notions and problems of the biological sciences such as: observation and measurement, classification, teleological and functional explanation, teleological systems, emergentism, vitalism, value neutrality.

490. Special Problems

Fall, Winter, Spring, Summer. 1 to 6 credits. May re-enroll for a maximum of 6 credits. Approval of department.

491. Senior Seminar I

Fall, Winter, Spring. 3(3-0) Seniors or approval of college.

Selected interdisciplinary problems concerned with the interface between science and society or science and man are identified and formulated. A bibliography is generated and an outline for a thesis prepared.

492. Senior Seminar II

Fall, Winter, Spring. 3(3-0) 491.

The thesis planned in 491 is written and evaluated.

495. Independent Study

Fall, Winter, Spring, Summer. 1 to 12 credits. May re-enroll for a maximum of 12 credits. Juniors.

MANAGEMENT MGT

College of Business

101. Introduction to Business

Fall, Winter, Spring. 4(4-0) Under-
sity College students or approval of department.

Functions performed by business and the role of administration in our economy as a whole and in the operation of a specific business. Four major objectives: to aid students in choosing a vocation, to help Business majors select a field of concentration, to show the place of specialized techniques presented in more advanced business courses, and to give some familiarity with common business practices and terminology.

300. Production Management

Fall, Winter. 4(4-0) CPS 110, STT 315, AFA 202.

Production management in manufacturing, service and distributive firms. Operations processes, analyses and decisions. Coordination of inventories, operations and quality. Work layout, methods and standards.