

**Descriptions — Labor and Industrial Relations of Courses**

**841. Collective Bargaining in Public Employment**

Spring, Summer. 4(3-0) EC 305 or approval of school.

History and current status of collective bargaining practices and governmental policies in the public sector.

**854. Comparative Industrial Relations Systems**

Winter. 4(3-0) EC 305.

Comparative analysis of industrial relations systems of countries in various stages of economic development.

**857. Wage Theory**

Fall. 3(3-0) EC 320, 324, or approval of department. Interdepartmental with and administered by the Department of Economics.

Advanced analysis of: theories of wage determination; labor market research; economic effects of collective bargaining upon the national wage structure, output, employment, distribution of national income, the price level; nature and effects of government wage policies.

**858. Industrial Relations**

Winter. 3(3-0) EC 305 and approval of department. Open to graduate students in economics and related fields such as labor and industrial relations, psychology, sociology, anthropology, political science, business, and history. Interdepartmental with the Department of Economics.

Problems and issues in the administration and negotiation of collective bargaining agreements; includes both economic and noneconomic aspects of industrial relations policies and practices.

**863. Law of Labor-Management Relations**

Winter, Spring. 4(4-0) Approval of school.

The National Labor Relations Act as amended: rights to organize and undertake concerted activity; legal framework of contract negotiations; representation of bargaining unit members; union member rights; proposed statutory changes.

**865. Grievance Administration and Arbitration**

Winter, Spring. 4(3-0) Approval of school.

Grievance procedure and arbitration as the terminal step in the grievance process. Analysis of industrial common law.

**868. Equal Employment Opportunity and Occupational Safety and Health Policy**

Spring. 4(4-0)

Major emphasis on government policies to promote equal employment opportunity, their scope and impact on collective bargaining. Attention also given to governmental policies to protect workers from substandard working conditions.

**881. Advanced Seminar in Labor and Industrial Relations**

Spring. 4(4-0) May re-enroll for a maximum of 8 credits. Twelve graduate credits or approval of school.

Integrative and synthesizing seminar for advanced students; intensive analysis of selected problems in labor and industrial relations.

**895. Readings in Labor and Industrial Relations**

Fall, Winter, Spring, Summer. Variable credit. May re-enroll for a maximum of 8 credits. Approval of school.

**899. Research in Labor and Industrial Relations**

Fall, Winter, Spring, Summer. Variable credit. May re-enroll for a maximum of 9 credits. Approval of school.

**901. Seminar in Trade Union Behavior**

Fall. 4(4-0) 801 or approval of school.

Research and policy analysis of selected problems of trade union behavior.

**911. Seminar in Manpower**

Fall. 4(3-0) Approval of school.

Critical study of research and policy on selected manpower problems.

**923. Seminar in Organizational Behavior**

Spring. 4(4-0) Approval of school.

Research and policy on selected problems of organizational behavior in labor and industrial relations.

**958. Seminar in Collective Bargaining**

Spring. 4(3-0) EC 858 or approval of school.

Critical study of selected contemporary areas and issues in collective bargaining.

**LANDSCAPE ARCHITECTURE**

See Urban Planning and Landscape Architecture

**LARGE ANIMAL SURGERY AND MEDICINE LSM**

**College of Veterinary Medicine**

**412. Livestock Hygiene and Disease Control**

Winter. 3(3-0) Juniors; Agriculture majors.

Fundamentals of health and disease in animals, relation of infectious and parasitic diseases of animals to human health, disease prevention and role of veterinarian in preventive medicine.

**IDC. The Impact of Animal Resource Management Upon the World's Developing Nations**

For course description, see Interdisciplinary Courses.

**601. Large Animal Clinics Clerkship**

Fall, Winter, Spring, Summer. 8 credits. Veterinary Medicine students in terms 9, 10, or 11 electing Small Animal or Non-Practice options and approval of department.

Introductory concepts and practices in large animal clinical medicine, emphasizing diagnosis, patient care, medicine, surgery, disease prevention and herd health in a rotation through clinical services.

**602. Large Animal Clinics Clerkship**

Fall, Winter, Spring, Summer. 4 to 16 credits. May re-enroll for a maximum of 32 credits. Veterinary Medicine students in terms 9, 10, or 11 electing the Large Animal or Mixed-Practice options and approval of department.

Concepts and practices in large animal clinical medicine—rotation through clinical services with assignment and care of clinical patients supervised by faculty and staff.

**603. Preceptorial Clinic**

Fall, Winter, Spring, Summer. 8(0-24) to 16(0-48) May re-enroll for a maximum of 16 credits. 602, 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, 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 and Classical 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, Fidgin, 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.

**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.

**Japanese** **JAP**

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

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

- 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.

- 410. Child Language Acquisition**  
Fall. 3(3-0) 200 or 401 or approval  
of instructor.  
Linguistic issues, perspectives, and research on the acquisition of language, in spoken and written form, by children; phonology, morphology, syntax, semantics, and linguistic universals; implications for related disciplines.
- 421. Articulatory Phonetics**  
Fall, Winter, Spring. 3(2-2) Ap-  
proval of department.  
Development of phonetic skills for the learning and teaching of languages.
- 431. Introduction to Transformational Grammar**  
Winter, Spring. 3(3-0) 401 or ap-  
proval 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 depart-  
ment.  
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.

- 851. African Linguistics**  
Winter. 3(3-0) May re-enroll for a  
maximum of 9 credits. 401; 402 or concu-  
rently.  
Investigation of linguistic issues and phenomena in one or a group of African languages.
- 860. Special Projects**  
Fall, Winter, Spring, Summer. Vari-  
able 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 dif-  
ferent topics. Approval of department.  
Advanced critical study of current topics in linguistics such as applications to other disci-  
plines, aspects of linguistic theory, child lan-  
guage acquisition, contrastive analysis, structure  
of particular languages.
- 899. Research**  
Fall, Winter, Spring, Summer. Vari-  
able credit. Approval of instructor.

- 980. Seminar in Linguistics**  
Spring. 3(3-0) May re-enroll for a  
maximum of 9 credits in different areas. Ap-  
proval of department.  
Special topics in linguistics for advanced grad-  
uate students.
- 999. Research**  
Fall, Winter, Spring. Variable credit.  
Approval of instructor.

**Linguistics**

**LIN**

- 200. Language and Linguistics**  
Fall, Winter, Spring. 3(3-0)  
Especially for students in areas other than lin-  
guistics, this course consists of an introduction  
to language and linguistics, emphasizing the  
application of linguistics to various other dis-  
ciplines.
- 401. Introduction to Linguistics**  
Fall, Winter, Spring, Summer. 4(4-0)  
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 lin-  
guistics, with examples from a variety of lan-  
guages.
- 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 pho-  
netics, and phonology in contemporary lin-  
guistic theories.
- 403. Morphology**  
Fall, Winter, Spring. 3(3-0) 402 or  
concurrently.  
Structure of words, covering the identification  
and classification of morphemes, morpho-  
phonemics alternation, and morphology in con-  
temporary linguistic theories.

- 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 utiliz-  
ing 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 Interdis-  
ciplinary Courses.

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

**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 pro-  
nunciation, 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. 4(3-3) 140; not open to students with credit in BS 210.  
Cellular structure and function. 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**  
Winter. 1(2-0) 152 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.

**233. Special Topics in Third Culture Rhetoric**  
Fall, Winter, Spring. 1 to 2 credits. May re-enroll for a maximum of 6 credits. 132  
Guided study of relations between the humanities and sciences. Students submit written work.

**\*242. Biology III**  
Fall, Winter. 4(3-3) 141. Not open to students with credit in BS 211.  
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.

**IDC. Energy Consumption and Environmental Quality**  
For course description, see Interdisciplinary Courses.

**290. Directed Study**  
Fall, Winter, Spring, Summer. Variable credit. May re-enroll for a maximum of 6 credits. Approval of college.  
Faculty directed studies in curricular areas which are normally related to regular course offerings.

- A. Directed Study—General  
1 or 2 credits.
- B. Directed Study—Biology  
1 or 2 credits.
- C. Directed Study—Chemistry/Physics  
1 or 2 credits.
- F. Directed Study—Computer Science  
1 to 3 credits.

**295. Independent Study**  
Fall, Winter, Spring, Summer. 1 to 4 credits. May re-enroll for a maximum of 12 credits. Approval of college.  
Student conceived individual courses of study in curricular areas. Preliminary faculty approval and continuing guidance.

- A. Independent Study—General
- B. Independent Study—Biology
- C. Independent Study—Chemistry/Physics
- D. Independent Study—Mathematics
- E. Independent Study—Science Studies

**331. Modern Fiction**  
Fall. 4(4-0) 132 or 131 with a 3.0 or better.  
Recent fiction and its cultural backgrounds, particularly those of special value to students of science. Students may submit original fiction in partial fulfillment of course writing requirements.

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