953. Plant Physiology and Biochemistry I  
Winter of odd-numbered years. 3(3-0)  
Approval of department. Interdepartmental with the Botany and Plant Pathology Department.  
Selected topics concerning photosynthesis and related processes.

955. Plant Physiology and Biochemistry II  
Winter of even-numbered years. 3(3-0)  
Approval of department. Interdepartmental with the Botany and Plant Pathology Department.  
Metabolic pathways of unique significance to plants.

960. Selected Topics in Biochemistry  
Fall, Winter, Spring, Summer. 1(1-0) or 2(2-0) May re-enroll for a maximum of 6 credits if a different topic is taken. Approval of department.  
Topics will be selected from the areas of biochemical genetics, biochemistry of development, biochemical evolution, complex proteins, lipid metabolism, immunology, hormones, control mechanisms and structure of biological macromolecules.

961. Selected Topics in Biochemistry  
Fall, Winter, Spring, Summer. 1(1-0) or 2(2-0) May re-enroll for a maximum of 6 credits if a different topic is taken. Approval of department.  
Topics will be selected from the areas of bioenergetics, bioinstrumentation, complex carbohydrates, mechanisms of enzyme action, action of drugs, carbohydrate metabolism, mass spectrometry and biochemistry of isoprenoid compounds.

978. Seminar in Biochemistry  
Fall, Winter, Spring. 0 or 1(1-0)  
Presentation and discussion of papers by graduate students on biochemical topics of current interest.

999. Research  
Fall, Winter, Spring, Summer. Variable credit. Approval of department.

BIODENOMICAL SCIENCE

College of Natural Science

200. Studies in Contemporary Biological Science  
Spring. 4(3-3) 12 credits in a Department of Natural Science sequence. Biological topics impacting contemporary American and world society are studied in the context of major biological themes and individual laboratory investigation of a self-chosen topic.

202. Biological Science for Elementary Teachers  
Fall, Winter. 4(3-0)  
Fundamental principles of biology which provide background appropriate for preparation for elementary education teaching.

*210. General Biology  
Fall, Spring. 4(4-2) Coreq: 150 or high school chemistry. Not open to students with credit in LBC 141.  
Course will not emphasize teaching specific technical skills, but will cover many areas of both biological sciences and environmental sciences. Awareness, understanding and implementation will be stressed with classroom applications.

*211. General Biology  
Fall, Winter. 4(4-2) Coreq: 150 or high school chemistry. Not open to students with credit in LBC 141.  
The structure and behavior of cells and their subunits, interactions of tissues, genetics and the development, history and relations of organisms.

*212. General Biology  
Winter, Spring. 4(4-2) Not open to students with credit in LBC 140.  
Continuation of 211.

400. Biological Science for Teachers  
Fall, Winter, Spring. 3 to 4 credits. May re-enroll for a maximum of 12 credits. Teacher certification with science major or minor.  
A course for in-service teachers, topics will be selected from actual classroom problems of the participants. Stress will be placed on field, laboratory and inquiry teaching.

408. Freshwater Ecology  
(413) Summer. 6 credits. 212 or approval of department. Given at W. K. Kellogg Biological Station. Interdepartmental with the departments of Zoology and Botany and Plant Pathology.  
The ecology of freshwater ecosystems, their biotic and abiotic components, and the functional interrelationships of environmental variables regulating population dynamics, productivity and community structure. Extensive field investigations.

410. Terrestrial Ecology  
Summer. 6 credits. 212 or approval of department. Given at W. K. Kellogg Biological Station. Interdepartmental with the departments of Botany and Plant Pathology and Zoology.  
Further determination of distribution and abundance. Interrelationships of plants, animals, and environment. Extensive field investigations of several types of terrestrial communities in light of current theory.

410. Seminar in Recent Advances in Biological Science  
Fall, Winter, Spring, Summer. 3(3-0)  
May re-enroll for a maximum of 6 credits if different topic is taken. Approval of department.  
A series of lectures by senior faculty of topics on the history, development, the most recent advances and the possible future and limits of the Biological Sciences.

580. Introduction to Athletic Medicine  
Fall, Winter. 3(3-0) Approval of department.  
Health care of student athlete. Evaluation and evaluation of physical training sequences for high school athletes. Analyze functional role of musculoskeletal systems; illustrated in various high school sports.

551. Athletic Medical Systems  
Fall, Spring. 3(3-0) Bachelor's degree and involvement with secondary school athletics.  
Health care systems for athletes in growth years. Large group approach to human development, training and care. Injury prevention, emergency medicine and rehabilitation stressed.

620. Directed Studies  
Fall, Winter, Spring, Summer. 1 to 6 credits. May re-enroll for a maximum of 24 credits. Approval of department.  
Individual or group work on special problems related to biomechanics, neuroendocrine system primarily.

865. Advanced Neurobiology  
Winter of odd-numbered years. 3(3-0)  
BPY 635. Interdepartmental with the departments of Biophysics, Physiology, Psychology and Zoology.  
Basic organization, structure and function of neural networks comprising sensory, motor, and autonomic system; involving examples from invertebrates and vertebrates.

Established July 1, 1972.