

Descriptions - BIOCHEMISTRY

of

Courses

832. Physiological Biochemistry II

Spring, 3(3-0) BCH 831.
Continuation of BCH 831.

855. Special Problems

Fall, Winter, Spring, Summer.
Variable credit. May reenroll for a maximum of 12 credits. Approval of department.
Consideration of current problems.

864. Plant Biochemistry

Spring, 4(4-0) BCH 401, BOT 301 or approval of department. Interdepartmental with the Department of Botany and Plant Pathology. Metabolism of nitrogen-compounds, carbohydrates, and lipids unique to plants; cell organelles; photosynthesis; photorespiration; dark respiration; cell walls; lectins; nitrogen cycle including nitrogen fixation; sulfur cycle.

899. Master's Thesis Research

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

960. Selected Topics in Biochemistry

Fall, Winter, Spring, Summer. 1 to 3 credits. May reenroll for a maximum of 6 credits. Approval of department.
Topics will be selected from the areas of biochemical genetics, biochemistry of development, biochemical evolution, complex proteins, lipid metabolism, immunochemistry, hormones, control mechanisms and structure of biological macromolecules.

961. Selected Topics in Biochemistry

Fall, Winter, Spring, Summer. 1 to 3 credits. May reenroll for a maximum of 6 credits. Approval of department.
Topics will be selected from the areas of bioenergetics, bioinstrumentation, complex carbohydrates, mechanisms of enzyme action, natural products, 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 reports by graduate students on biochemical topics of current interest.

999. Doctoral Dissertation Research

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

BIOLOGICAL SCIENCE B S

College of Natural Science

The content of courses 400, 405, 420, 440, 450 and 451, as well as the research and problems courses 499, 800 and 999, may vary from term to term. Brochures giving detailed information about individual courses are available in the Science and Mathematics Teaching Center and the Office of the Assistant Dean for Lifelong Education. These courses are primarily designed for in-service teachers and interested adults and are offered in off-campus locations.

202. Introductory Biology for Non-Science Majors

Fall, Winter, Spring, 4(3-3) 12 credits in general education natural science courses. Concepts, procedures, and perspectives appropriate to developing a basic literacy in biology with emphasis on fundamental biological principles and their relation to world society. Appropriate preparation for pre-service elementary teachers.

For prerequisite purposes, the introductory biology sequence in Lyman Briggs College, LBC 140, LBC 141, LBC 242, may be used instead of this sequence.

210. General Biology

Fall, Spring, 4(4-2) Not open to students with credit in LBC 141.
Concepts relating to basic attributes and diversity of living things.

211. General Biology

Fall, Winter, Spring, 4(4-2) CEM 130 or high school chemistry. Not open to students with credit in LBC 242.
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 BS 211.

400. Biological Science for Teachers

Fall, Winter, Spring, Summer. 3 to 4 credits. May reenroll 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.

405. Topics in Biological Science

Fall, Winter, Spring, Summer. 1 to 3 credits. May reenroll for a maximum of 6 credits if different topic is taken. Approval of department.
Presentation of single topics from the biological sciences by senior faculty and guest lecturers. Topics are selected to facilitate development of strong biological science programs in schools.

408. Freshwater Ecology

Summer. 6 credits. B S 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 structure, and the functional interrelationships of environmental variables regulating population dynamics, productivity and community structure. Extensive field investigations.

410. Terrestrial Ecology

Summer. 6 credits. B S 212 or approval of department. Given at W. K. Kellogg Biological Station. Interdepartmental with the departments of Botany and Plant Pathology, and Zoology.
Factors determining distribution and abundance. Interrelationship of plants, animals, and environment. Extensive field investigations of several types of terrestrial communities in light of current theory.

420. Seminar in Recent Advances in Biological Science

Fall, Winter, Spring, Summer. 1 to 3 credits. May reenroll 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.

440. Man and Environment Workshop for Teachers

Summer. 3 credits. Approval of department. Given at W. K. Kellogg Biological Station.
Discussions and practical work sessions concerning the development of ideas and activities for environmental studies in and outside the classroom. Designed for intermediate and secondary inservice teachers.

450. Outdoor Environmental Studies

Summer. 3 credits. May reenroll for a maximum of 9 credits when new topics are given. Teaching experience or approval of department. B S 451 must be taken same summer. Given at W. K. Kellogg Biological Station.
Emphasis on environmental understanding. Planning and developing interdisciplinary program for elementary and intermediate children.

451. Outdoor Environmental Studies: Laboratory

Summer. 2 to 5 credits. May reenroll for a maximum of 15 credits when new topics are given. Teaching experience, B S 450. Given at W. K. Kellogg Biological Station.
Testing instructional materials and strategies developed in B S 450 with elementary and middle school children in an outdoor environmental education program.

499. Research

Fall, Winter, Spring. 2 to 4 credits. May reenroll for a maximum of 12 credits. Approval of director of biological science program and student's adviser.
Undergraduates are invited on an individual basis into research laboratories of faculty in biological departments of the college. After three terms of research, a presentation in thesis form is produced and defended.

800. Problems in Biological Science

Fall, Winter, Spring. Variable credit.
B.S. degree in biological Science.

999. Doctoral Dissertation Research

Fall, Winter, Spring. Variable credit.
M.S. degree in biological science or equivalent.
Research in some phase of biological science, data to form the basis for the thesis required for the doctoral degree in biological science.