

Fall 2009 Registration Issue

The official publication for students of the
Department of Biological Sciences, Bethel University

Bio-Notes is published from time to time during the academic year to inform biology and related majors of the activities of the department. Examples of entries include course offerings, upcoming events, research opportunities, and other opportunities within or outside of the department. Be sure to read each issue carefully as there are often important announcements presented here. If you have any comments regarding Bio-Notes or if you would like to have something included, see Dr. Hyatt (AC130, b-hyatt@bethel.edu), the Bio-Notes editor this year.

Registration for Fall 2009 courses is April 8-15. You should have received registration information during the week of March 23rd.

For current sophomores and juniors: below is a description of the biology research/seminar/symposium sequence (BIO399, BIO493, BIO495, BIO496, and BIO499). Please read and make sure you register for the correct classes. Questions--ask your advisor.

1. **BIO399 Introduction to Research** (*all junior biology and ENS majors*) is offered in the fall only. If you will be a junior biology or ENS major next year, you must take BIO399 during the fall 2009 semester. New this year, we will have three sections of this course for you to choose from.
2. **BIO493 Literature Review in Biology** (offered fall and spring). Students with senior standing that plan on completing a literature review for their senior project should sign up for this course the semester *before* you plan to graduate. *All students planning on completing a literature review must register for this course.* If you take this course, you will not take BIO496.
3. **BIO496 Biology Research** (offered fall and spring). Students with senior standing that plan on completing an independent research project for their senior project should sign up for this course at least one semester *before* you plan to graduate. *All students completing independent research for their senior project must register for this course.* If the project is significant in scope and time commitment, in consultation with your research advisor, you may register for up to 2 credits. If you take this course, you will not take BIO493.
4. **BIO495 Biology Seminar** (offered fall only). *All biology majors of senior standing must register for this course during the fall of their senior year.* May be taken concurrently with BIO493 or BIO496 or BIO499. Prerequisites: BIO399 Introduction to Research, Senior standing.

5. **BIO499 Biology Symposium** (offered fall and spring). *All biology majors of senior standing must register for this course during either the fall or spring of their senior year. Prerequisites: BIO399 Introduction to Research (cannot be taken concurrently), Senior standing.*

The following Biology courses will be offered Fall 2009:

INTRODUCTORY COURSES

BIO112D Introduction to Molecular and Cellular Biology (Dr. Doan and Dr. Soneral)

BIO113D Introduction to Organismic Biology (Dr. Port and Dr. DeGolier)

BIO114D Introduction to Biodiversity, Ecology, and Adaptation (Dr. Johnson)

CELL AND MOLECULAR AREA

BIO207 Microbiology (Dr. Johnston)

BIO312 Genetics (Dr. Hyatt)

BIO370 Immunology (Dr. Doan)

BIO386 Biochemistry I (Dr. Neibergall and Dr. Anose)

ORGANISMAL AREA

BIO201 Human Anatomy (Dr. Shaw)

BIO352 Structure and Development of Vertebrates (Dr. Van Berkomp)

BIO365 Animal Physiology (Dr. DeGolier)

ENVIRONMENTAL AREA

BIO311 Ecology (Dr. Port)

BIO361 Plant Taxonomy and Ecology (Dr. Johnson)

RESEARCH/SEMINAR/SYMPOSIUM COURSES

BIO399 Introduction to Research (Drs. Soneral, DeGolier and Apostol)

BIO493 Literature Review in Biology (various; required for students completing the literature review option; sign-up per faculty section)

BIO495 Biology Seminar (Dr. Johnston)

BIO496 Biology Research (various; required for students completing the research option; sign-up per faculty section)

BIO499 Biology Symposium (Dr. Apostol)

NON-MAJOR COURSES

BIO103D Human Biology (Dr. Van Berkomp)

BIO105 Medical Terminology (Dr. Shaw)

BIO117D Introduction to Horticulture (Dr. Apostol)

The following Environmental Studies courses will be offered Fall 2009:

ENS102D Environment and Humanity (Grant Spickelmier)

ENS330K Science, Values, and the Making of Environmental Policy (Dr. Van Geest)

ENS341K Environmental Writing (Dr. Becknell)

ENS399 Introduction to Research (Drs. Soneral, DeGolier and Apostol)

ENS496 Research in Environmental Studies (Staff; required for senior ENS majors)

Spring 2009 Science, Technology, and Society (K) courses taught by Biology/ENS faculty

GES322K Cancer: Science and Society (3 credits, Dr. Soneral) The biology of cancer; the technologies of cancer diagnosis and treatment; and some social, family, and personal impacts of this disease. Prerequisites: Laboratory Science (D) course, Mathematics (M) course.

GES326K Economic Botany (3 credits, Dr. Apostol) Review of the history, principles, and technology used to domesticate and improve food and beverage crop, lumber, cloth and rope fiber, medicinal, and herbal plants for human use. Emphasis on modern technologies to increase quality, shelf life, transportability, yield, pest resistance, growing season, and soil type tolerances. Includes technologies such as genetic engineering, hybridizing and breeding that raise ethical issues about their long term impact on humans, other species, and the environment. Prerequisites: Laboratory Science (D) course, Mathematics (M) course.

ENS330K Science, Values, and the Making of Environmental Policy (3 credits, Dr. Van Geest) Prerequisites: Laboratory Science (D) course, Mathematics (M) course.

ENS341K Environmental Writing (3 credits, Dr. Becknell) As the environmental crisis has deepened, American nature writing has evolved into a richly creative endeavor to understand the complex interactions of nature, technology, and society. A study of environmental writing as a means for valuing biodiversity and for envisioning changes in global policies, applications of technology, and environmental ethics. Prerequisites: Laboratory Science (D) course, Mathematics (M) course.

Teaching Assistant Opportunities

If you are interested in becoming a teaching assistant (TA) for any of the biology courses being offered in the fall, please contact Brent Hoernemann (AC 128), the biology lab and TA coordinator.

Summer Offerings

BIO409 Advanced Gross Anatomy (4 credits, Dr. Shaw). For the undergraduate pre-health professions student. A regional approach to the study of anatomy through supervised and directed student dissection of human cadavers. Identification of detailed structures and understanding their significance to the body. Prerequisite: One course in biology involving some dissection.

AuSable Institute of Environmental Studies. Bethel is one of 60+ Christian colleges and universities affiliated with this environmental institute. Several environmentally oriented courses are offered this summer at their Great Lakes campus. See Dr. Port or Dr. Petersen if interested.

Fall 2009 Off-campus programs

Creation Care Study Program. The CCSP is a high-caliber academic semester abroad connecting Christian faith with complex global issues. They offer two programs during both fall and spring semesters: one in [Belize](#), Central America and one in the [South Pacific](#) (New Zealand and Samoa). In the fall of 2009, only the South Pacific location will be operating. Hopefully both locations will be operating in the spring of 2010. See Dr. Johnston or the Office of International Studies for more information.

Interim 2010 Off-campus programs

BIO318K Ecuador and the Galapagos Islands: Natural History and Future Prospects. Travel from base in Quito throughout Ecuador and the Galapagos Islands, surveying the land, climate, plants, animals, homes, transportation, and industries, noting especially the impact of human culture, presence, and activities. Sites include the Amazon rainforest, Andean cloud forests, volcanic mountains, highlands, towns, cities, and the Galapagos Islands. Prerequisite: Laboratory Science (D) course (carries cross credit in environmental studies). Registration starts in the spring of 2009. See Dr. Johnston or the Office of International Studies for more information.

Au Sable Institute of Environmental Studies. The future of the Au Sable Institute is uncertain at this time, please see Dr. Port or www.ausable.org for more information.

Students: To help you plan for the full year, the following courses are scheduled to be offered next Spring 2010:

INTRODUCTORY COURSES

BIO112D Introduction to Molecular and Cellular Biology

BIO113D Introduction to Organismic Biology

BIO114D Introduction to Biodiversity, Ecology, and Adaptation

CELL/MOLECULAR AREA

BIO207 Microbiology

BIO341 Cell Biology

BIO378 Molecular Biology

ORGANISMAL AREA

BIO202 Human Physiology

BIO209 Human Anatomy and Physiology

BIO220 Pathophysiology and Pharmacology

ENVIRONMENTAL/ECOLOGY AREA

BIO301 Wildlife Ecology and Management

BIO308 Invertebrate Biology

OTHER BIOLOGY COURSES

BIO493 Literature Review in Biology

BIO496 Biology Research

BIO499 Biology Symposium

ENS COURSES

ENS102D Environment and Humanity
ENS201 Introduction to GIS
ENS205L Sustainable Living
ENS301 Wildlife Ecology and Management
HIS320K History and the Human Environment
ENS496 Research in Environmental Studies
ENS498 Seminar in Environmental Studies

Important dates to remember:

Friday, April 10	Good Friday
Wednesday, April 29	Assessment Day
Saturday, May 2	Biology/ENS Senior Research Symposium
Friday, May 15	Last day of classes
Tuesday, May 19	Biology Senior Night Out
Saturday, May 23	Commencement

All students: Please visit the first and second floor Departmental Bulletin Boards for information on upcoming summer jobs, internships, and research opportunities in the biological sciences or see the biology department webpage (<http://cas.bethel.edu/dept/biology/index.html>) for links to available internships and jobs. Participation in these professional experiences often increases the likelihood of acceptance into graduate and/or medical schools