

## Interim/Spring 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, and research 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](mailto:b-hyatt@bethel.edu)), the Bio-Notes editor this year.

**Registration for Interim and Spring 2009 courses is November 4-12. You should have received a registration packet during the week of October 20<sup>th</sup>-24<sup>th</sup>.**

**The Biology Department is delighted to introduce you to our newest faculty members, Dr. Jon Van Berkomp and Dr. Paula Soneral.**

Before coming to Bethel this past fall, Dr. Van Berkomp spent 17 years practicing in the field of veterinary medicine. Eleven of those years were spent in mixed animal private practice, where he was able to work on a wide variety of animals from pets to livestock. After selling his practice in 2001, he accepted a position as a veterinary medical officer for the U.S. Department of Agriculture. In this role he assisted states in eradication of livestock diseases and emergency animal disease and disaster planning.

Dr. Van Berkomp has a Doctorate in Veterinary Medicine and Bachelor of Science in Pharmacy from the University of Minnesota. He also has a Master of Veterinary Science with an emphasis in forensic toxicology from the University of Florida.

Dr. Soneral is delighted to join the Biology Department at Bethel. She completed her Ph.D. at Stanford University School of Medicine and did post-doctoral research at the University of Wisconsin-Madison and the University of Minnesota. Dr. Soneral enjoys using multidisciplinary approaches to study cellular physiology, and her current research interests include cell motility and the cytoskeleton as well as the regulation of motor proteins in cilia/flagellar assembly. She will be teaching BIO112D (Introduction to Molecular and Cellular Biology), BIO378 (Molecular Biology), and BIO109D (General Biology) during the 08-09 school year.

**For current sophomores, juniors, seniors: below is a description of the biology research/seminar/symposium sequence (BIO399, BIO493, BIO495, BIO496, and BIO499)**

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.
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.*
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.
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 Spring 2009:**

**INTRODUCTORY COURSES**

BIO112D Intro to Molecular/Cellular Biology (Dr. Hyatt)

BIO113D Intro to Organismic Biology (Dr. Apostol)

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

**CELL AND MOLECULAR AREA**

BIO207 Microbiology (Dr. Johnston)

BIO341 Cell Biology (Dr. Doan)

BIO378 Molecular Biology (Dr. Soneral)

**ORGANISMAL AREA**

BIO202 Human Physiology (Dr. DeGolier)

BIO209 Human Anatomy and Physiology (Dr. Van Berkomp)

BIO306 Vertebrate Histology (Dr. Johnston)

BIO348 Neurobiology (Dr. Shaw)

**ENVIRONMENTAL AREA**

BIO322 Animal Behavior (Dr. Johnson)

BIO366 Plant Physiology (Dr. Apostol) **Note:** this is now an environmental area course, this is different than the catalog listing

**OTHER BIO COURSES**

BIO105 Medical Terminology (Dr. Shaw)

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

BIO496 Biology Research (option for BIO majors; sign-up per faculty section)

BIO499 Biology Symposium (Dr. Doan)

The following Environmental Studies courses will be offered Spring 2009:

ENS102D Environment and Humanity (Dr. Petersen)

ENS205L Sustainable Living (Dr. Petersen)

ENS305K Transforming Technology: Environmental Perspectives (Dr. Kistler)

ENS498 Seminar in Environmental Studies (Dr. Petersen)

ENS496 Research in Envir. Studies (Dr. Petersen; required for senior ENS majors)

Interim 2009 Science, Technology, and Society (K) ENS courses

**ENS335K Environmental Ethics** (3 credits) An examination of the intersection of science, society, and technology as they pertain to issues in environmental ethics. The course moves from theory by considering science, society, and technology philosophically to application by concluding with a major research project on an applied issue in environmental ethics involving scientific data and technological choice. Prerequisites: Laboratory Science (D) course, Mathematics (M) course.

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

**GES307K Natural Resources** (3 credits, Bryan Anderson) A consideration of the use and management of natural resources and their impact on society and vice versa. Primary resources considered include forests, agricultural land, and geologic/mineral resources. GPS and GIS technologies are spotlighted as key management tools. Prerequisites: Laboratory Science (D) course, Mathematics (M) course.

**GES314K Biotechnology** (3 credits, Dr. Hyatt) Biotechnology, or the production of technology through the manipulation of biological systems, influences many areas of our lives. Applications of biotechnology, such as drug production, human cloning, gene therapy, stem cells, and reproductive technologies, will be examined as well as their impact on society. Prerequisites: Laboratory Science (D) course, Mathematics (M) course.

**ENS305K Transforming Technology: Environmental Perspectives** (3 credits, Dr. Kistler) An examination of the pervasive influence of technology in shaping our views, values, society, and environment. The course seeks to develop an ability to critically analyze technology and the social and environmental influences and impacts of technology. Basic concepts of Environmental Science serve as a focal point of the course, leading to an understanding of the pervasive and value-laden nature of technology in our modern society and how such technologies and technological artifacts have changed our environments, our social structures, and our values. Prerequisites: Laboratory Science (D) course, Mathematics (M) course.

Spring 2009 Contemporary Christian Issues (P) courses taught by Biology faculty

**GES424P Christian Perspectives on Creation and Evolution** (3 credits, Dr. Shaw)  
An examination of the positions held by different scientists and Christians in regard to the origins of humans, of the world, and the interpretation of Genesis 1 and 2.  
Prerequisites: Senior standing; GES110 or GES245; Nature of Persons (N) course; THE201; Comparative Systems (G) course.

Spring 2009 Non-major Biology courses needing Biology teaching assistants

**BIO103D Human Biology (Bryan Anderson and Dr. Van Berkom)**

**BIO109D General Biology (Dr. Soneral)**

**BIO116D Science of Birds (Dr. Port)**

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 (summer)**. Bethel is one of 60+ Christian colleges and universities affiliated with this environmental institute. Several environmentally oriented courses are offered each summer at their Great Lakes and Pacific Rim campuses. 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). 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. Port or the Office of International Studies for more information.

**Au Sable Institute of Environmental Studies (interim at Great Lakes Campus).**

Courses offered include Winter Stream Ecology and Watersheds, Winter Biology, and Environmental Ethics. Winter Stream Ecology and Winter Biology can be used as environmental area courses for the biology major. See Dr. Port or Dr. Petersen if interested.

**Au Sable Institute of Environmental Studies (interim in India).** mid December-mid

January. Course focuses on the ecology of India. Dates and further information will be available by mid summer. See Dr. Port or [www.ausable.org](http://www.ausable.org) for more information.

**Students: To help you plan for the full year, the following courses are scheduled to be offered next Fall 2009:**

**INTRODUCTORY COURSES**

- BIO112D Intro to Molecular/Cellular Biology
- BIO113D Intro to Organismic Biology
- BIO114D Intro to Biodiversity, Ecology, and Adaptation

**CELL/MOLECULAR AREA**

- BIO207 Microbiology
- BIO312 Genetics
- BIO370 Immunology
- BIO386 Biochemistry I

**ORGANISMAL AREA**

- BIO201 Human Anatomy
- BIO352 Structure and Development of Vertebrates
- BIO365 Animal Physiology

**ENVIRONMENTAL/ECOLOGY AREA**

- BIO311 Ecology
- BIO361 Plant Taxonomy and Ecology

**OTHER BIOLOGY COURSES**

- BIO105 Medical Terminology
- BIO117D Introduction to Horticulture
- BIO399 Introduction to Research
- BIO493 Literature Review in Biology
- BIO495 Biology Seminar
- BIO496 Biology Research
- BIO499 Biology Symposium

**ENS and K courses taught by biology faculty scheduled for Fall 2009**

- ENS102D Environment and Humanity
- ENS330K Science, Values, and the Making of Environmental Policy
- ENS341K Environmental Writing
- ENS399 Introduction to Research
- ENS496 Research in Environmental Studies

- GES322K Cancer: Science and Society
- GES326K Economic Botany

## GES328K Nutrition: The Total Diet

### **Important dates to remember:**

Thursday, November 13	Tri-Beta Fall Banquet (November 1 <sup>st</sup> is last day to join to be inducted)
Wednesday, November 19	Biology/ENS Senior Research Symposium
Thur-Fri November 27-28	Thanksgiving Break
Wednesday, December 10	Last day of classes
Wednesday, December 17	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