Immunology (A Graduate Group)

Charles Bevins, M.D., Ph.D., Chairperson of the Group

Group Office. 5217 Vet Med 3A; 530-754-0103; http://immunology.comped.ucdavis.edu

Immunology (A Graduate Group)

146. Hydrogeology and Contaminant Transport (51)
Lecture—3 hours; laboratory—2 hours; term paper. Prerequisite: course 144 or Civil and Environmental Engineering 144 or the equivalent. Physical and chemical processes affecting groundwater flow and contaminant transport, with emphasis on realistic hydrogeologic examples. Groundwater geology and chemistry. Fundamentals of groundwater flow and transport analysis. Laboratory includes field pumping test and work with physical and computer models. (Same course as Geology 156.) GE credit: SciEng | SE.–II. (II.) Fogg

147. Runoff, Erosion and Water Quality Management in the Tahoe Basin (3)
Lecture/labatory—30 hours; fieldwork—15 hours; discussion—10 hours; term paper. Prerequisite: Physics 7B or 9B, Mathematics 16C or 21C, Civil and Environmental Engineering 142 or course 141 or Environmental and Resource Sciences 100. 5 days of instruction in Tahoe City. Practical hydrology and runoff water quality management from Tahoe Basin slopes. Development of hillslope and riparian restoration concepts, modeling and applications from physical science perspectives including precipitation/runoff relationships, sediment transport, and detention ponds. (Same course as Biological Systems Engineering 147.) GE credit: SciEng | QL, SE, SL.–IV. (IV.) Grismer

150. Water Law (3)
Lecture—3 hours. Prerequisite: Environmental and Resource Sciences 100 or consent of instructor. Principles and issues of California Water Law. Types of water rights, groundwater rights and management, and protection of instream uses. Water projects, role of federal government and federal and state relations. Basic water quality acts, endangered species act, water transfers and current water issues. GE credit: SocSci | ACHS, SS.–II. (II.) Cahill

151. Field Methods in Hydrology (4)
Lecture—2 hours; laboratory—3 hours; fieldwork—3 hours. Prerequisite: Environmental and Resource Sciences 100 or course 141. Measurement methods and data analysis for evaluation of water storage, movement, and groundwater recharge in the field. Equipment such as data loggers, water and sediment samplers, pressure transducers, weather stations, surveying equipment, and flow meters will be offered. Offered in alternate years. GE credit: SciEng | QL, SE, SL.–II. Pasternack

182. Environmental Analysis using GIS (4)
Lecture—2 hours; laboratory—4 hours. Prerequisite: Applied Biological Systems Technology 180 or the equivalent GIS experience and skills; general biology and/or ecology courses recommended. Ecosystem and landscape modeling with emphasis on hydrology and solute transport. Spatial analysis of environmental risk analysis including ecological risk assessment, natural resource management. Spatial database structures, scripting, data models, and error analysis in GIS. Offered in alternate years. (Same course as Biological Systems Technology 182.) GE credit: SciEng | QL, SE, SL, VL.–II. (II.) Hiijmans

192. Hydrologic Science Internship (1-12)
Internship—3-40 hours. Prerequisite: completion of B4 units and consent of instructor. Work experience off and on campus in water science. Internship supervised by a member of the faculty. (P/NP grading only.–I, II, III, (I, II, III)

198. Directed Group Study (1-5)
(P/NP grading on an approval basis.–I, II, III, (I, II, III)

199. Special Study for Advanced Undergraduates (1-5)
Prerequisite: senior standing. (P/NP grading only.–I, II, III, (I, II, III)

Quarter Offered: Fall, Winter, Spring, Summer; 2015-2016 offering in parentheses
Pre-Fall 2011 General Education (GE): AH=Arts and Humanities; SciEng=Science and Engineering; SocSci=Social Sciences; Div=Diversity; Dom=Dominant Ethnicity; WR=Writing Experience
Fall 2011 and on Revised General Education (GE): AH=Arts and Humanities; SE=Science and Engineering; SS=Social Sciences; ACH=American Cultures; DD=Dominant Ethnicity; DL=Oral Skills; GQ=Quantitative; SL=Scientific; VL=Visual; WC=Western Cultures; WE=Writing Experience
Independent Study Program

Information. Chairperson, Committee on Courses of Instruction, A & A Academic Senate Office 530-752-2231

The Independent Study Program provides an opportunity for upper division students to design and pursue a full quarter (12-15 units) of individual study in an area of special interest.

A program qualifying as Independent Study will consist of one or more courses in the 190-199 series. While the theme of such a program may be reasonably broad, a recognizable common thread should unite all the academic work you undertake during an independent study quarter. Regularly offered formal courses will only be acceptable as a part of such a program if they clearly fit its theme and contribute something essential toward the realization of its objectives. The program is not to be considered a way to take more variable-unit courses than normally permitted.

The procedure for enrolling in an Independent Study Program is as follows:

1. Develop, in general terms, a plan of study;
2. Locate a faculty sponsor or panel of sponsors and with their help and approval develop a detailed plan;
3. Complete a project proposal form (obtained from the Academic Senate Office) and submit it to the Academic Senate Committee on Courses of Instruction.

The deadline for applications is the tenth day of the independent study quarter. Regularly offered formal courses will only be acceptable as a part of such a program if they clearly fit its theme and contribute something essential toward the realization of its objectives. The program is not to be considered a way to take more variable-unit courses than normally permitted.

You must report the completion or termination of the project to the Committee on Courses of Instruction.

Individual Major

(Individual Major in this College has been suspended indefinitely.)

Student Proposal. An Individual Major may be organized by a student having a specific academic interest not represented by an established major. Each student wishing an Individual Major should submit a proposal to the Dean’s Office, prior to reaching 120 units, for review by the Student Actions and Individual Majors Subcommittee. This proposal must include:

1. An essay describing the special educational aims of the student, including a statement indicating why the educational objectives cannot be met by existing majors;
2. A list of planned courses;
3. Faculty adviser recommendations. It is critical that students contact a college counselor in the Dean’s Office for consultation and development of the proposal.

Preparatory Subject Matter........ (variable)

Lower division courses basic to the program or needed to satisfy prerequisites for upper division requirements.

Depth Subject Matter ..................45-54

Upper division course work must include:

a) Interrelated courses of 45 upper division units from two or more areas of study;
(b) At least one of the two or more areas of study must be within the College of Agricultural and Environmental Sciences;
(c) At least 30 of the 45 upper division units that are required in the program must be taken from courses provided by the College of Agricultural and Environmental Sciences.

Unrestricted Electives ................. (variable)

Total Units for the Major .............45-54

Master Adviser. Thomas Gordon, Ph.D. (Plant Pathology)

College of Biological Sciences

Program Office. Biology Academic Success Center, 1023 Sciences Laboratory Building, 530-752-0410

Program Requirements:

A.B. and B.S. Major Requirements:

<table>
<thead>
<tr>
<th>Lower Division Course Work</th>
<th>Upper Division Course Work</th>
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</thead>
<tbody>
<tr>
<td>1. College of Biological Sciences, College of Letters and Science</td>
<td>2. Interrelated courses of 45 upper division units from two or more areas of study;</td>
</tr>
<tr>
<td>(at least 30 units from courses provided by the College of Biological Sciences)</td>
<td>(b) At least one of the two or more areas of study must be within the College of Agricultural and Environmental Sciences;</td>
</tr>
<tr>
<td>(variable)</td>
<td>(c) At least 30 of the 45 upper division units that are required in the program must be taken from courses provided by the College of Agricultural and Environmental Sciences.</td>
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</table>

All University, General Education, and College of Biological Sciences Bachelor’s degree requirements.................... (variable)

Total Units for the Degree..................180

Principal Adviser (selected by student).

A faculty member in a department or program in the College of Biological Sciences.

A faculty member in a department or program in the College of Biological Sciences.