

## Special Programs

### Center for Teaching and Learning

*Director: Keith Farrington*

The Center for Teaching and Learning (CTL) provides resources to faculty for enhancing the teaching/learning process at Whitman College. Recognizing that excellent teaching maximizes student learning, and further, that there are diverse manifestations of excellent teaching, the Center organizes programs and offers consultations to enhance pedagogy, classroom dynamics, modes of learning, and learning outcomes. All programs are completely voluntary, and include faculty luncheon-discussions about pedagogy, lectures and workshops given by nationally known experts, private consultations about teaching, classroom observations, and seminars for new faculty. The Center is located in Penrose Library and houses a special collection of books and journals devoted to teaching and learning. A Web site for the Center ([http://www.whitman.edu/offices\\_departments/ctl](http://www.whitman.edu/offices_departments/ctl)) lists programs, an electronic newsletter on teaching and learning, and links to sites for enhancing teaching. The director works closely with the CTL Steering Committee to provide programs and set policy.

### Study Abroad

*Adviser: Susan Holme Brick*

An understanding of a culture or region of the world other than one's own is an important part of a liberal arts education and a key to developing leaders in an increasingly interdependent global society. The Study Abroad program at Whitman College is designed to provide a range of opportunities for qualified students to study in Africa, Asia, Europe, Latin America and Oceania.

Information about opportunities for study in foreign countries, including application procedures, eligibility requirements, deadlines and fees, is available from the Study Abroad Office, Memorial Building 204. Students should consult with Susan Holme Brick, Director of International Programs, or the appropriate adviser listed below to determine the suitability of participation in a particular

academic program overseas. Students who wish to apply any credit from overseas study to their Whitman degree need to complete a Study Abroad Leave Application and receive approval for their proposed course of study from the International Studies Planning Committee. Prior approval from Whitman is required to transfer credit from summer studies in a foreign country as well. Deadlines for the submission of Study Abroad Leave applications is February 7 (for fall and full year programs), April 10 (for summer programs) and September 12 (for spring programs) unless stated otherwise below.

Students who intend to pursue overseas study are advised that careful planning is often needed in order to include study abroad as an integrated part of their four-year career at Whitman. For some destinations students will need to have completed at least two years of foreign language work at the college level to qualify. The college requires that students who have not yet completed the intermediate level of the local language enroll in the language during their period abroad.

The programs listed below are affiliated with Whitman College. Academic work undertaken in the affiliated study abroad programs will be recorded on the student's transcript including the grades reported by the program. However, grades from courses taken abroad will not be used in the calculation of semester and cumulative grade-point averages. Students may apply financial aid that they receive through Whitman College to the fees of affiliated study abroad programs.

#### Associated Kyoto Program

*Adviser: Akira Takemoto*

Whitman College, along with fourteen other liberal arts colleges, sponsors the Associated Kyoto Program, a rigorous two-semester program located on the Doshisha University campus in Kyoto, Japan. The program offers intensive Japanese language classes and a wide range of elective courses in Japanese studies taught in English. Prerequisites include one year of Japanese language study and at least one area course, preferably pre-modern Japanese art, history, or literature. The application deadline for 2008-09 is January 18, 2008.

#### Institute for the International Education of Students (IES)

IES conducts fall and spring semester programs

in Beijing, Berlin, Freiberg, London, Nantes, Paris, Rome and Vienna in which students may study with local scholars at the IES Center or enroll in courses at local universities. A direct enrollment option is also available to Whitman students for study at the University of Adelaide in Australia through IES.

### **Intercollegiate Sri Lanka Education**

*Adviser: Jonathan Walters*

In cooperation with eight other liberal arts colleges, Whitman College sponsors the ISLE program, a semester-long academic program in Sri Lanka. Located in Kandy, the center of traditional culture on the island, the academic focus of the program is on Sri Lankan culture, politics, religion, history, gender, the environment and the arts.

### **The Pitzer Botswana Program**

The Pitzer Botswana Program provides students with an opportunity to immerse themselves in both rural and urban life in Botswana by living in several homestays and taking courses related to Botswana and Africa as a whole.

### **The School for Field Studies**

*Adviser: Delbert Hutchison*

Whitman College is a partner member of The School for Field Studies, which offers single semester and summer field-based study abroad programs in five locations worldwide. The academic program at each SFS center focuses on case studies related to a local environmental issue—Marine Resource Management in the Turks and Caicos Islands; Tropical Rainforest Management in Australia; Marine Mammal Conservation and Coastal Ecosystems in Mexico; Sustaining Tropical Ecosystems in Costa Rica; and Wildlife Management in Kenya.

### **School for International Training in India**

Whitman College is affiliated with the SIT program in Delhi, India, a major cosmopolitan center with a rich artistic heritage. Through SIT students study Hindi, Indian arts and culture with local scholars and spend part of their semester living with an Indian host family.

### **St. Andrews University**

Through Whitman's affiliation, qualified students may enroll directly for a single semester or an academic year at St. Andrews University, a Scottish university founded in 1411 and located on the eastern coast of Scotland.

### **Studio Art Centers International, Italy**

The SACI program in Florence, Italy is specifically designed for studio art students who wish to study painting, drawing, sculpture, photography and other arts in one of the world's foremost centers for art and architecture.

### **Syracuse in Italy**

Through Whitman's affiliation with Syracuse University, qualified students may study art history, Italian language, history, politics and other fields of Italian studies in the city of Florence, known for its outstanding Renaissance art and architecture.

### **University of East Anglia**

The University of East Anglia, in Norwich, England, is a comprehensive university of 13,000 students known for its interdisciplinary schools of study.

### **University of Otago**

The University of Otago provides students the opportunity to enroll in a broad range of humanities, social science and science courses with New Zealand undergraduates. Its location on the South Island of New Zealand makes study at the university particularly well suited for students of geology and biology.

### **University of York**

Whitman students may attend the University of York, a comprehensive university of 10,000 students located in the historic city of York.

### **Whitman Summer Studies in China**

This six-week long summer program, administered by Whitman College in cooperation with Yunnan University in Kunming, China, is designed to give students an opportunity to strengthen their conversational Chinese language skills and learn about contemporary Chinese society firsthand. Participants enroll in a four-credit, intensive Chinese language course at the university and a two-credit Seminar in Chinese Studies course taught by the Whitman faculty director of the program (see AsnS 200). Prerequisites include at least two semesters of college Chinese language. Scholarships are available to qualified students from the David Deal China Exchange Endowment. The program is offered every other year and will be offered again summer 2008.

Listed below are additional study abroad programs with which the college maintains relationships. For the purposes of credit transfer and financial aid, these programs are treated like affiliated programs by the college.

### **American University in Cairo**

Qualified students interested in the Middle East may study for a single semester or an academic year at the American University in Cairo in Cairo, Egypt. Course offerings include intensive Arabic language and Middle East Studies courses in English.

### **College Year in Athens**

A broad range of courses in art history, archaeology, classics, and contemporary eastern Mediterranean studies is available through this program in

Athens, Greece. Students may enroll for one semester or an academic year.

### **COPA Argentine Universities Program**

Qualified students of Spanish may enroll in one of three universities in Buenos Aires, Argentina, while living with local families, through the Cooperating Programs in the Americas.

### **COPA Merida, Mexico**

Qualified students of Spanish may enroll at the Autonomous University of Yucatan in Merida, Mexico through the Cooperating Programs in the Americas. Participants take courses in the humanities, social sciences and/or sciences and live with a Mexican host family.

### **Council on International Educational Exchange**

Qualified Whitman students may study through CIEE in either Taiwan or Senegal. The Taiwan program, based at National Chengchi University in Taipei, offers intensive Mandarin Chinese language and a course on Taiwanese society. Whitman recommends two semesters of college-level Mandarin prior to enrolling in the Taiwan program. The Senegal program offers a range of courses in the humanities and social sciences related to Francophone Africa. The Senegal program requires prior study of two semesters of college-level French or equivalent.

### **Fundación José Ortega y Gasset in Toledo**

Sponsored by the University of Minnesota, this program in historic Toledo, Spain, offers courses in Spanish literature, history, art history and other disciplines for international undergraduates.

### **Kansai Gaidai University**

Kansai Gaidai is an international-oriented university in Hirakata, Japan with an Asian Studies Program specifically designed for international students who wish to study Japanese language and take Japanese area studies courses in English.

### **Middlebury in Spain**

Through Middlebury College qualified Whitman students may study in one of three locations in Spain — the Middlebury College's School in Spain (Sede Prim) in Madrid; Universidad Carlos III in Getafe; or Universidad de Cordoba in Cordoba. The two university options give students the opportunity to study alongside their Spanish peers, while the School in Madrid is designed exclusively for U.S. study abroad students.

### **National University of Ireland at Galway**

Qualified students may study humanities and social sciences alongside Irish students at the National University of Ireland in Galway through Butler

University's Institute for Study Abroad. Galway is a congenial university town on the coast of western Ireland, where traditional Irish culture still flourishes.

### **University of Costa Rica**

Through agreement with the University of Kansas, Whitman students may enroll directly at the University of Costa Rica, a comprehensive university in San Jose, Costa Rica.

The college also maintains a list of overseas programs that are not affiliated with Whitman but are approved for credit. Work completed on non-affiliated study abroad programs is treated as transfer credit, and no grades are entered on the student's Whitman College record.

### **Domestic Off-Campus Study Programs**

*Advisers: Michelle Janning (Fall); Helen Kim (Spring); and Susan Holme Brick*

Approximately one semester of academic credit is awarded for completion of any of three programs of off-campus study and internship.

**The Washington Semester Program** is under the aegis of The American University of Washington, D.C. There are several specific programs for which credit transfer is likely: IT-Telecom Policy, Gender and Politics, International Business and Trade, Security vs. Liberty, Transforming Communities, American Politics, Public Law, Foreign Policy, Economic Policy, Justice, The Arts, Peace and Conflict Resolution, and International Environment and Development. Each of these programs consists of seminars, an internship, and a research project.

**The Chicago Urban Studies Program** is sponsored by the Associated Colleges of the Midwest. It comprises a core course on urban problems, a seminar on a specific urban issue, an independent study project, and an internship involving three or four afternoons of work per week.

**The Philadelphia Center**, sponsored by the Great Lakes Colleges Association, offers a seminar examining urban life and patterns of interaction, an additional urban study seminar, and an internship with professionals in a super-

vised placement.

## **Environmental Studies: Whitman College Semester in the West**

*Adviser: Phil Brick*

Semester in the West is a field study program in environmental studies, focusing on ecological, social, and political issues confronting the American West. For a full semester, we will travel the West, focusing on issues such as grizzly bear and wolf reintroduction plans, management of national parks and monuments, the booming economy and culture of Las Vegas, environmental justice in New Mexico, and many more. Along the way, we will meet activists, writers, environmentalists, loggers, ranchers, miners, labor organizers, local politicians, land managers, historians, political scientists, geographers, foresters, economists, farmers, Native Americans, biologists, ecologists, and cowboys. As we travel, we will read what others have written about the West, and we will do much of our own writing. We will explore the ecology of the region, from the grasslands of Hells Canyon to the deserts of Arizona and New Mexico.

Semester in the West is a program for Whitman College students only. Students of sophomore status or higher are eligible to apply. Offered Fall 2008.

## **Whitman in China Program**

*Adviser: Shu-chu Wei-Peng*

Whitman in China provides an opportunity for six Whitman College alumni to spend a year at Yunnan University in Kunming, Shantou University in Shantou, or Northwestern Polytechnical University in Xi'an, People's Republic of China, teaching English or serving as an English language intern at the university level. Those selected will be paid a modest salary for their services and given free housing by the Chinese universities. Round-trip air travel from Seattle to Kunming, Xi'an, or Shantou will also be provided. No Whitman College credit is granted for participation in this program. A minimum of one year of study in the Chinese language is strongly recommended.

## Combined Plans

### Engineering and Computer Science

*Adviser: Robert Fontenot*

Whitman College is associated with Caltech, the Fu Foundation School of Engineering and Applied Science at Columbia University, the Duke University School of Engineering, the School of Engineering and Applied Science at Washington University in St. Louis, and the University of Washington School of Engineering in combined programs for liberal education in engineering and computer science. In addition, in consultation with the 3-2 Engineering and Computer Science Program adviser, students can arrange individual programs combining liberal education with study in engineering or computer science at other ABET-accredited departments of engineering and computer science.

Typically the combined plans require five years of study. The first three years are spent at Whitman College, and the last two years are spent at the engineering school, where the student completes courses in computer science or one of the branches of engineering. At the University of Washington and at non-affiliated institutions, more than two years may be necessary to complete the second phase of the combined plan program. Students who transfer to Whitman as candidates for the combined plan must complete a minimum of two years in residence at Whitman and satisfy appropriate modifications of the requirements outlined below. In the combined plan, two degrees are awarded upon successful completion of the program: the degree of Bachelor of Arts, with major in Natural and Mathematical Sciences or NMS, by Whitman College and the degree of Bachelor of Science, with major in computer science or a field of engineering, by the transfer institution. The requirements for the combined plan are given below in the section titled **NMS Major Requirements**. Also note the information in the section titled **Notes and Cautions**.

The combined plans in liberal arts and engineering or computer science require careful scheduling. Students who are interested in chemical, mineral, metallurgical, or biomedical engineering should take Chemistry 140 (or 125, 126, 135, and 136) and calculus during their first year. Students who are interested in

other branches of engineering or in computer science should take Physics 155 and 156 and calculus during their first year. Also, students should consult with Mr. Fontenot in their first year at Whitman and regularly thereafter to ensure that they are making proper progress in the program.

Students must declare an NMS major before the end of their fourth semester in residence at Whitman in order to be eligible to transfer to another institution to complete the program. (Transfer students must declare an NMS major before the end of their second semester in residence at Whitman.) Students will have Mr. Fontenot as major adviser but may need to consult with professors in science departments.

### NMS Major Requirements

The NMS major, intended only for students in the 3-2 Engineering and Computer Science Program, has the following requirements.

- (1) Earn at least 93 credits and spend three years at Whitman (62 credits and two years for transfer students) with a Whitman GPA of at least 2.0.
- (2) Complete the Whitman General Studies Program before transferring to another institution.
- (3) Complete the mathematics and science courses in lists (I) and (II) below, with a cumulative GPA at Whitman in these courses of at least 2.0 and no course grade below C-.
  - (I) Mathematics 167, 225, 235, 236, 244, and 300; Physics 155 and 156; Chemistry 140, or all of the courses Chemistry 125, 126, 135, and 136.
  - (II) One of the following three sequences, chosen with the consent of the 3-2 Engineering and Computer Science Program adviser:
    - (a) Physics 245, 246, 255, and 256;
    - (b) Chemistry 245, 246, and 250;
    - (c) Mathematics 260, 270, and 358.

Normally, students interested in a branch of engineering closely related to physics choose (a); students interested in chemical engineering choose (b); students interested in computer science choose (c); and students interested in biomedical engineering choose either (a) or (b), depending on the intended subfield and

transfer institution.

Additional mathematics and/or science courses are recommended. For example, Mathematics 367 offers techniques useful in most fields of engineering; Physics 335 is an essential prerequisite for students interested in electrical engineering; and statics (at another college or university) and Physics 347 are important prerequisites for students interested in civil or mechanical engineering.

- (4) Complete the requirements for a degree in computer science or a field engineering at one of the affiliated institutions — Caltech, Columbia University, Duke University, Washington University in St. Louis, and the University of Washington — or in any other ABET-accredited program in the United States.

### Notes and Cautions

- (1) Four of the five affiliated institutions (but not the University of Washington) require that students seeking admission secure a recommendation from the 3-2 program adviser. Even with a recommendation from the 3-2 program adviser, admission to some of the affiliated institutions is not guaranteed. Under normal circumstances, to secure a recommendation from the 3-2 program adviser at Whitman and to be admitted to any of the five affiliated programs, students need cumulative and mathematics-science GPAs of at least 3.0. Washington University in St. Louis and Columbia University normally accept students who are recommended by the 3-2 program adviser at Whitman, take the prerequisite mathematics and science courses, satisfy the general education and credit requirements set by their institutions, and meet these 3.0 GPA standards.
- (2) Some institutions have higher (than 2.0) overall and mathematics-science GPA requirements for transfer admission and/or additional course, credit, or general education requirements. Here are three examples. (I) Along with additional requirements that depend on the intended major program, Columbia University requires that students spend

“approximately” three years at Whitman, complete 97 (not 93) credits at Whitman, and take the equivalents of Economics 107 and English 110 (or 210). (II) Washington University requires students to complete a three-credit or four-credit humanities or social science course numbered 300 or above. (III) Caltech requires all 3-2 program students to take Physics 245, 246, 255, and 256. This includes, for example, students planning to study chemical engineering who would also be expected to take Chemistry 245, 246, and 250. (See Requirement (3) above.)

- (3) Students receive a Whitman College degree, with an NMS major, after completing requirements (1) through (4) above and, in particular, after receiving a B.S. degree with major in computer science or a field of engineering from an affiliated institution or from a non-affiliated but ABET-accredited program. Completing a degree in a non-affiliated program or at the University of Washington may take more than two years.
- (4) If a Whitman student does not receive a B. S. degree from a transfer institution, he or she must satisfy the requirements for a Whitman College major other than NMS. Students, in consultation with their premajor advisers and the 3-2 Engineering and Computer Science Program adviser, may need to keep this possibility in mind as they schedule courses at Whitman.

### Law

*Adviser: Patrick Frierson (Philosophy)*

Whitman College is associated with Columbia University in an accelerated, interdisciplinary program that allows students to obtain a bachelor's degree from Whitman and a *juris doctor* degree from Columbia after successful completion of a combined program requiring six years rather than seven.

After spending three years in residence at Whitman in any of the liberal arts, the student will enroll not only in law courses at Columbia but also, after the first year of regular law courses, in other professional or graduate-level

courses selected in consultation with Whitman College.

Columbia is one of the nation's most selective law schools. The program is thus designed for students with high academic credentials, combined with qualities of leadership and maturity that show promise for outstanding professional service.

Requirements for satisfactory completion of the bachelor's degree portion of this combined program are determined by Whitman. Requirements which should be completed during the first three years in order to qualify as an applicant are set forth in guidelines available in the office of the pre-law advisers. It is important to study these requirements, as well as those of the student's contemplated field of major study, as early in the years at Whitman as possible. Planning is essential and needs to be started either late in the first year or early in the sophomore year.

Students must formally communicate their interest in being considered for the *Whitman-Columbia Program in Accelerated Inter-disciplinary Legal Education* early in the first semester of their junior year by notifying the pre-law advisers. In the spring of his or her junior year, each candidate for nomination to the program submits to the Whitman College Pre-Law Committee a letter of application, a copy of their transcript, their scores on the Law School Admissions Test (note that students will need to register for the February LSAT in early January) and letters of recommendation from two faculty members. In addition, the candidate undergoes an interview by the Committee. During the process, the Pre-Law Committee will consult with Columbia Law School. If the candidate is successful, the nomination is formally forwarded to Columbia which will, in turn, send application materials to the nominee. Acceptance at Columbia will depend upon a number of factors, of which scores on the LSAT and grade-point average are but partial criteria.

### **Forestry and Environmental Management**

*Advisers: Robert Carson, Heidi Dobson*

Whitman College has an association with the Nicholas School of the Environment and Earth Sciences at Duke University, Durham,

North Carolina.

The Cooperative College Program is designed to coordinate the education of students at Whitman College with graduate programs in the broad area of resources and environment offered at Duke University. Participating students are accepted into either of two degree programs, the Master of Forestry (M.F.) or the Master of Environmental Management (M.E.M.). The cooperative program is designed to accommodate students after three years of study at Whitman or upon graduation from Whitman. Duke requires applicants to take the Graduate Record Exam (general test without any advanced subject tests) in October or December of the year prior to the desired year of entrance. Those students who complete the necessary qualifications and who choose to enter Duke after three years may qualify for one of the professional master's degrees with four semesters at Duke, in which at least 48 credits are earned. Upon completion of the requirements of the Duke program, the student will be awarded the B.A. degree in the appropriate field by Whitman College.

A third option is also available in which a student may enter one of the above two degree programs plus the School of Business; three years of study for concurrent degrees at Duke will earn the Master of Business Administration (M.B.A.) degree in addition to the M.F. or M.E.M.

The major for the Whitman degree will be biology or geology, depending on the courses taken at Whitman.

The specific requirements to be completed at Whitman College are as follows:

1. For the biology major, the following courses are required: a minimum of 22 credits of biology to include Biology 111, 112, 205, 215 or 277, plus a minimum of 7 additional credits in courses above the 200 level; Chemistry 125, 126, 135, 136, or 140; Economics 107 or 109; Geology 210 (or 110 or 120); Mathematics 125, a statistics course (chosen from Mathematics 128, Psychology 210, or Sociology 208). In addition, the following courses are recommended: Mathematics 167; Economics 307; a year of physics.
2. For the geology major, the following courses are required: a minimum of 22 credits of geology to include Geology 210 (or 110 or 120), 220, 350 and at least 10 additional credits in courses numbered above 300;

Biology 111, 112; Chemistry 125, 126, 135, 136, or 140; Economics 107 or 109; Mathematics 125, a statistics course (chosen from Mathematics 128, Psychology 210, or Sociology 208). In addition, the following courses are strongly recommended: Biology 215 or 277, Mathematics 167, Economics 307, and a year of physics.

3. Duke University has the following additional prerequisite: "A working knowledge of microcomputers for word processing and analysis."
4. Students must have a minimum of two years of residence at Whitman and have completed a minimum of 94 credits before entering Duke; the student must also satisfy the Core and distribution requirement of the General Studies Program.
5. Students who wish to participate in this program as a 3-2 candidate must obtain a recommendation from the Duke/Whitman 3-2 Committee. However, Duke University reserves the right to make the final decision regarding acceptability of the student for admission.

### International Studies

*Advisors: Michelle Janning (Fall); Helen Kim (Spring)*

A 3-2 agreement with the Monterey Institute of International Studies allows Whitman students to complete the bulk of their undergraduate education in our liberal arts environment and then complete pre-professional work at MIIS.

Students apply for entry to the 3-2 program at the beginning of the first semester of their junior year and are considered eligible if they have completed a minimum of 62 credits, of which at least 30 were earned in residence at Whitman, with a GPA of 3.3 or better in both the major and overall. Competency in a second language is expected. By the end of the junior year, students will have completed a total of 93 credits, of which 54 were earned in residence at Whitman; all general studies requirements and the second language requirements have been met; most requirements for the major (as determined by the major department in question) have been completed; and the 3.3 GPA requirement has been met in both the major and overall. Major departments are permitted to waive up to 8 credits in the major where they feel that MIIS offers comparable or suitable courses. Successful students will receive a

Whitman B.A. upon receipt of any master's degree at MIIS.

### Oceanography

*Advisers: Paul H. Yancey, Robert Carson*

Whitman College is associated with the School of Oceanography of the University of Washington in a program for liberal education in biological or geological oceanography. The plan requires five years of study; the first three years are spent at Whitman College and the last two years at the University of Washington, where the student takes courses in oceanography and biology or geology. Students who transfer to Whitman College as candidates for the combined plan must complete a minimum of two years in residence at Whitman College and complete appropriate modifications of the requirements outlined below. In the combined plan, two degrees are awarded upon successful completion: the degree of Bachelor of Arts by Whitman College and the degree of Bachelor of Science in Oceanography by the University of Washington. The degree from Whitman College will be in biology or geology, depending on the courses taken as specified below.

Students who are recommended by Whitman will enter the admissions process of the University of Washington. In order to secure a recommendation from Whitman, a student must satisfy the following requirements during his or her three years at Whitman:

- (a) Earn at least 94 credits and spend three years at Whitman (62 credits and two years for transfer students) with a Whitman GPA of at least 3.0.
- (b) Complete the Core, required of all first-year students attending Whitman.
- (c) Complete the General Studies Distribution Requirements at Whitman.
- (d) Complete certain mathematics and sciences courses including those listed below, with a cumulative GPA at Whitman in these courses of at least 3.0.

This plan requires careful scheduling. Students must declare one of these majors by the end of their fourth semester in residence at Whitman College (transfer students must declare at the end of their second semester in residence at Whitman College). It is strongly recommended that interested students consult

with one of the program advisers starting in their first year, then consult regularly thereafter to ensure that they are making proper progress in the program.

### **Required Math and Science Courses**

(1) Biology-Oceanography majors must complete Chemistry 125, 126, 135, 136 (or 140), 245; Mathematics 125, 126, 225, 235, 236; Geology 110; Biology 111, 112, 205, 277 or 215, 309, 310, and 488. A year of physics (eight semester credits) is also required, which may be satisfied with Whitman's Physics 155, 156, or the University of Washington's Physics 121, 122, 123. At the University of Washington in their fourth and fifth years, students must take at least eight semester-equivalent credits of upper-division biology electives, and three semester-equivalent credits of independent research; and they must take the Biology Graduate Record Examination and attain a score sufficient to satisfy Whitman's requirements.

(2) Geology-Oceanography majors must complete Chemistry 125, 135, 126, 136, or 140; Mathematics 125, 126, 225, 235, 236; Biology 111, 112; Geology 110, 320, 350, 358, 360, and four or more credits in courses numbered above 300. A year of physics (eight semester credits) is also required, which may be satisfied with Whitman's Physics 155, 156 or the University of Washington's Physics 121, 122, 123. At the University of Washington in their fourth and fifth years, students must take at least 12 semester-equivalent credits of upper-division geology electives; and they must take the geology department written major examination and attain a score sufficient to satisfy Whitman's requirements.

### **Teacher Education**

*Adviser: Kay Fenimore-Smith*

#### **University of Puget Sound Cooperative**

**4-1 Program:** Whitman College is associated with the University of Puget Sound School of Education in a cooperative 4-1 Master of Arts in Teaching (MAT) certification program. Upon completion of a Whitman baccalaureate degree, students who have applied to the program and met program requirements are admitted to the School of Education for a fifth year of study culminating in a Masters of Arts in Teaching degree and a Washington State Teaching Certificate.

Whitman also maintains contact with other Northwest colleges that offer MAT programs. See education department faculty for more information.

### **Malheur Field Station**

*Adviser: Robert Carson*

The Malheur Field Station is located on the Malheur National Wildlife Refuge south of Burns, Oregon. The station is owned by The Great Basin Society, and the educational program for the station is advised by a consortium of private and state colleges and universities in Oregon and Washington. Whitman College is a consortium member. The station's summer education program consists of courses lasting from one to three weeks. All courses are field oriented and range from diverse zoology and botany offerings to geology, archaeology, and environmental photography programs. Each course carries 1 to 4 semester hours of credit. The curriculum draws students from all areas of the liberal arts and is an attractive complement to environmental, geological, biological, and ecological programs.