New Study Abroad Program – Madrid

Rationale

As part of Illinois Wesleyan University’s commitment to study abroad, we are establishing a Study Abroad Madrid program. This program, like the IWU London program, will provide our students with the challenging and rewarding experience of studying abroad while maintaining their close connection to the IWU faculty and to our General Education goals of fostering independence, critical thinking, imagination, social awareness, and sensitivity to others. Specifically, a semester abroad will prepare students for responsible citizenship and leadership in a global community.

The Madrid program will expand the range of opportunities available to students and faculty alike. It is unique because while it follows the General Education format of our London program, it also offers intensive study in Spanish to majors and minors. The Madrid program will be a two-tiered program serving students who wish to pursue General Education study in English (with the exception of their Spanish language class) and majors and minors who wish to pursue advanced-level studies in Spanish. All students, from beginners to advanced speakers, will take a language course and live with a Spanish-speaking family.

Rotating faculty directors, chosen from among interested colleagues throughout the University, will be able to combine program leadership responsibilities with opportunities for personal and professional development unavailable from a semester of teaching on campus. With the assistance of an on-site co-director, the IWU director will also supervise on-site faculty (see below) and oversee student life responsibilities.

Academic Program

Madrid offers a number of unique opportunities for students to continue building their intellectual lives and to become more aware of the greater international community. Like students on the IWU campus, the 25 students attending the Madrid program will be enrolled in four courses. All students will take one course offered by the Illinois Wesleyan faculty member directing the program. That course will vary from year to year, depending on the interests and expertise of the director. In addition, students will take one language course and choose two other courses taught by professors from the Fundacion Ortega y Gasset. Each course will be approved by the IWU faculty director and elected members of the IWU general faculty.

All Madrid program courses will meet the requirements outlined in these General Education categories:

- OCS 220: Studies in the Arts
- OCS 221: Studies in Literature
- OCS 222: Studies in Analysis of Values
Each course will meet twice a week--Monday/Wednesday or Tuesday/Thursday--two hours each time. Professors and students will be able to utilize Madrid resources—for example, the Prado Museum, the Palacio de Diputados (Congress), and the Royal Palace—as classrooms. In addition, the Madrid program will strive for a structured curriculum while also leaving room for exploring unique opportunities that Spain’s intellectual and cultural resources have to offer. During the three-day orientation upon arrival in Toledo, as well as two daytrips during the semester, and two four-day trips, students will travel to locations in the Madrid area and to other parts of Spain and northern Africa to enhance their learning experience.

**Living and Learning Spaces**

Students will be housed with families and two meals will be provided. A small stipend will cover costs for their third meal. Classes will take place at the Fundacion Ortega y Gasset in the heart of Madrid within easy travel distance from their homes.

**Program Cost**

Students enrolled full time at Illinois Wesleyan will pay the same tuition, room and board as if they were on campus. There will be an additional program fee that will cost approximately the same as a May Term travel course and will include the three-day orientation package, all sponsored program trips, cultural activities in Madrid, banquets and a Madrid travel card.

We hope this new program will encourage more and more students to expand their horizons beyond the campus of Illinois Wesleyan and to explore the opportunities Madrid provides. For both academic and personal reasons, an IWU program of study or teaching in Madrid can be an exciting challenge with tremendous rewards.

**Courses**

The OCS rubrics approved in 1999, which conform to the standard General Education categories, will serve as a basis for the course offerings in Madrid. The Illinois Wesleyan University Madrid Program Director will teach one course in his/her area of interest or expertise. Faculty from the Fundacion Ortega y Gasset—all of whom hold doctorates—will teach additional courses. Students will take one course with the IWU faculty member, one language course at the appropriate level depending on the student’s skill, and choose two additional courses from among the other offerings. (Not every category will be offered every semester). All courses will be pre-approved by the Madrid Director in conjunction with the Curriculum Council and will be subject to approval by the faculty. The Off Campus Study rubric used here has already been approved by the faculty for other study abroad programs.
New Minor in Biochemistry

Program requirements:
There are two ways in which one can complete the biochemistry minor. Since courses cannot be double counted for a major and a minor, the two tracks are designed so that both biology or chemistry majors could obtain a biochemistry minor.

Track 1: (Excludes chemistry majors as Chemistry 311 and 312 are major requirements.)
1) Chemistry 311 and Chemistry 312 (Organic chemistry.)
2) Chemistry/Biology 414 and Chemistry 415, (Biochemistry I and II)
3) One of the following: Biology 314 (Microbiology), Biology 330 (Topics in Cell Biology), Biology 412 (Molecular Genetics).

Track 2: (Excludes biology majors as Biology 101 and 102 are major requirements and biology majors usually cannot get credit for Biology 107 and 108)
1) Biology 101 and 102 (General Biology) or Biology 107 and 108 (Human Biology)
2) Chemistry/Biology 414 and Chemistry 415, (Biochemistry I and II)
3) One of the following: Biology 314 (Microbiology), Biology 330 (Topics in Cell Biology), Biology 412 (Molecular Genetics).

Interest in the program
The biochemistry minor option is for those students who want an emphasis in studies at the interface of biology and chemistry. This interdisciplinary field has become increasingly important in the past twenty years, and now many liberal arts colleges offer formal biochemistry programs (a major, a minor and/or a concentration). A number of students at IWU have expressed an interest in a formal biochemistry program. Additionally, many prospective students ask about a program in biochemistry. We are clearly at a disadvantage in recruiting these students because we do not have a program when many of our competitors do. Finally, it should be pointed out that many biology majors currently obtain a chemistry minor by taking Chemistry 414 and 415 (Biochemistry I and II). In the past two years, approximately 15 students have obtained a chemistry minor in this way. We are revising the chemistry minor so that broader subject mastery is required to obtain a chemistry minor (see accompanying proposal). At the same time, we believe it is appropriate to create a biochemistry minor that requires courses that focus on the molecular aspects of biology.

Basis for the program requirements:
The students should have exposure to both biochemistry and biology at the molecular level. This would include taking two semesters of biochemistry, as well as an upper-level biology class that focuses on the molecular aspects of biology. This combination of courses would be extremely beneficial for anyone intending to pursue graduate studies in biochemistry or molecular biology. The second track is essentially what would be necessary for a chemistry major to fulfill the biochemistry option of an American Chemical Society (ACS) certified chemistry degree. (We do not currently have the biochemistry option certification, but will apply to the ACS to get this option within the next couple of years.) The ACS degree requirement program describes a curriculum that fulfills the biochemistry option as:
"Beyond the introductory level, three semester hours of biology, which contains cell biology, microbiology or genetics; six semester hours of biochemistry, which has organic chemistry as a prerequisite and one semester of a laboratory in biochemical methods."

Many other schools offer a minor (or for schools that do not offer minors, a concentration) in biochemistry. The schools that offer a minor (Wittenberg University for example) have similar requirements to what we are proposing.

Staffing and resources
We do not anticipate any additional staffing or resources will be necessary for the addition of the Biochemistry minor. All the classes required for the minor are currently offered each year, although implementation of the minor requires the addition of a laboratory component to Chemistry 414. See accompanying proposals for changes in the Biochemistry classes for more details.
Chemistry Minor Revision

Current Requirements:

Option 1
Chemistry 201 (General Chemistry I) (Fall)
Chemistry 202 (General Chemistry II) (Spring)
Chemistry 311 (Organic Chemistry I) (Fall)
Chemistry 312 (Organic Chemistry II) (Spring)

And one of the following:
Chemistry 301 (Quantitative Analysis) (Fall)
Chemistry 321 (Physical Chemistry I) (Fall)
Chemistry 415 with lab (Biochemistry II)

Option 2
Chemistry 201 (General Chemistry I) (Fall)
Chemistry 202 (General Chemistry II) (Spring)
Chemistry 311 (Organic Chemistry I) (Fall)
Chemistry 312 (Organic Chemistry II) (Spring)

And Two of the following:
Chemistry 323 (Physical Chemistry/Quantum Mechanics) occasionally
Chemistry 413 (Advanced Organic Chemistry) (Spring)
Chemistry 414 (Biochemistry I) (Fall)
Chemistry 415 without lab (Biochemistry II)
Chemistry 432 (Advanced Inorganic Chemistry) (Fall)
Chemistry 470 (Special Topics in Chemistry) (occasionally)

Proposed Requirements:

We propose to change the requirements for the chemistry minor. The new proposed minor sequence will be:

Chemistry 201 (General Chemistry I) (Fall)
Chemistry 202 (General Chemistry II) (Spring)
Chemistry 311 (Organic Chemistry I) (Fall)
Chemistry 312 (Organic Chemistry II) (Spring)
Chemistry 301 (Quantitative Analysis) (Fall) or Chemistry 321 (Physical Chemistry I) (Fall)

And Two of the following:
Chemistry 322 (Physical Chemistry) (Spring)
Chemistry 323 (Physical Chemistry/Quantum Mechanics, cross listed as Physics 407) (Occasionally)
Chemistry 413 (Advanced Organic Chemistry) Spring
Chemistry 414 (Biochemistry I) (Fall)
Chemistry 415 (Biochemistry II) (Spring)
Chemistry 432 (Advanced Inorganic Chemistry) (Fall)
Chemistry 470 (Special Topics in Chemistry) (Occasionally)

Rationale:

According to the guidelines recommended by the American Chemical Society, students obtaining a minor in chemistry must be exposed to laboratory experience in at least two different areas from the following: analytical, biochemistry, inorganic, organic and physical chemistry. At present, a minor can be obtained by taking a laboratory course in just one of these fields. We believe that the revised minor sequence will provide
a broader knowledge base to students wishing to minor in chemistry. The revised minor does not change any course offerings or staffing needs since all the courses are already being offered by the department. No new library resources will be needed either.