

AC 2007-1351: A PORTFOLIO OF STUDY ABROAD OPTIONS FOR ENGINEERING STUDENTS TO GAIN INTERNATIONAL EXPERIENCE

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A Portfolio of Study Abroad Options for Engineering Students to Gain International Experience

Abstract

The Bagley College of Engineering at Mississippi State University (MSU) has struggled, like many other schools, to get students to participate in study abroad programs. Also at MSU, again similar to many other institutions, the university and college clearly recognize the need for students to better understand and have some experience in the global environment in which they live and will practice engineering.

In order to expose engineering students to skills and experiences that cannot be taught in the classroom alone, and to develop better leaders and communicators with an understanding of the impact engineers have globally in government and industry, the college recently created the Center for Engineering Student Excellence (CESE). Since a key component of CESE is global awareness, the college is striving to offer a variety of study abroad opportunities in order to make it as convenient as possible for engineering students to fit an international experience into their program of study.

The international opportunities are being developed and managed from a portfolio perspective. Elements in the portfolio are meant to address a variety of dimensions, including amount of time abroad, cost, level of structure and supervision, subject matter of the courses (university core curriculum versus engineering courses), location of the courses (Europe, Asia, the Americas), prerequisites and academic level, language requirements, etc. The college currently offers study abroad opportunities of varying durations from a three week intersession or a six week summer session, up to a full semester or year. New courses and programs are being developed to expand the offerings during each of these time periods.

This paper discusses: (1) the current options available to the students as well as those that are being considered or developed, (2) the research we have conducted to better understand the issues, and (3) the evolving strategy the college is using to get as many engineering students as possible some international experience before they graduate. We view the purpose of this paper as a vehicle to share our experiences, as well as a basis for discussion to learn from others and to identify opportunities for collaboration.

Background

Like many other engineering programs, and most undergraduate education programs in the U.S., it is difficult to get engineering students at Mississippi State University (MSU) to study abroad. The Bagley College of Engineering (BCoE) at MSU has traditionally provided two primary options for students to study abroad - one semester or academic year through the Global Engineering Education Exchange (Global E3) program or six weeks during the summer in Bristol, England. Typically, less than ten students per year participate in these two programs. This represents only 0.6 percent of the College's 1700 undergraduate engineering students. While obviously a low participation rate, this is not uncommon. The Commission on the

Abraham Lincoln Study Abroad Fellowship Program² reports that less than two percent of American university and college students study abroad. The Commission also reports that research and doctoral institutions account for 45 percent of U.S. students abroad, 108 institutions (out of 4200 American colleges and universities) account for 50 percent of all students abroad, and just 8 percent of American students abroad are engineering majors.

MSU is a public, land-grant, doctoral, research university classified as Doctoral/Research-Extensive by the Carnegie Foundation. Enrollment is approximately 16,000 students. The BCoE enrolls approximately 2,300 students, 1,700 of which are undergraduates. The College awards approximately 370 B.S. degrees per year through ten engineering programs (aerospace, biological, chemical, civil, computer, electrical, industrial, mechanical, software, and computer science). Demographically, approximately 12 percent of the BCoE undergraduates are African-American and 18 percent are female. Also, the BCoE ranks in the top 10 percent among U.S. colleges of engineering in research expenditures (~\$50M).

In order to enhance engineering education, the BCoE recently created the Center for Engineering Student Excellence (CESE). The Center's intent is to expose students to skills and experiences that cannot be taught in the classroom alone, and to develop better leaders and communicators with an understanding of the impact engineers have globally in government and industry. Since a significant component of CESE is global awareness, the BCoE is striving to offer a variety of opportunities for engineering students to study abroad. Similarly, increasing the number of engineering students studying abroad is an important element in the BCoE's strategic plan.

While the BCoE believes global awareness and study abroad are important elements of engineering education, they are also a key part of ABET. Through study abroad students have the opportunity to directly observe the global impact of their engineering education. This directly addresses ABET outcome h – “the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental and social context.”¹

Research on Study Abroad Issues

In order to increase the number of engineering students studying abroad, the College has researched programs at other institutions. The objectives of the research were to learn what other universities are doing and to identify possible partners where our students could participate in their programs. The research has been done both formally through web searches and print media and informally through personal contacts at conferences and professional meetings. Much of the information is being captured in a database. However, this has been found to be a rather daunting task. Our initial effort focused on regional engineering schools and is being expanded to include US and foreign universities that are members of Global E3.

One thing we have found is that engineering focused programs are difficult to uncover via the internet. It is extremely time consuming to investigate many of the college of engineering websites in search of their international programs. Once found, the information is often outdated or not very descriptive. Other than the Global E3 website, we have found no clearinghouse on engineering study abroad programs.

Portfolio Approach

In this paper we focus on study abroad programs, realizing that our broader goal of raising the global awareness and literacy of engineering students through academically-based programs can be met in other ways: (1) studying international issues through engineering and non-engineering courses on campus, (2) working abroad via internships or cooperative education, and (3) service learning (e.g., Engineers Without Borders, Engineering World Heath). Therefore, we only consider a portfolio of study abroad options and not the broader portfolio of global awareness opportunities.

As mentioned above, the BCoE has traditionally offered two study abroad opportunities, a six-week summer program in England and a semester or year abroad through the Global E3 program. These programs, which are described in more detail in subsequent sections, are at opposite ends of a spectrum of types of study abroad programs. This spectrum is defined by a set of attributes that characterize study abroad programs. We use these attributes to strategically develop additional opportunities for our students. We believe the broader and more diverse the portfolio, the better chance we have of getting students to participate.

In planning our expansion of programs available to students in the BCoE, we consider the following program attributes from a college of engineering perspective. These attributes became apparent as we researched other programs to look for ideas and partners.

1. ownership: who has direct responsibility for the program in terms of content, recruiting, logistics, etc.
 - a. internal: college of engineering or department
 - b. external: another unit on campus, another academic institution, consortium or umbrella organization
2. focus: engineering theory, engineering application, research, cultural understanding, language proficiency
3. content: basic engineering, specific engineering discipline, non engineering (e.g. humanities, social science, fine arts), hybrid.
4. duration (length of time abroad): short (2-3 weeks), medium (6-8 weeks), long (semester or year).
5. location: Americas, Europe, Asia
6. language: completely English speaking, English instruction in a non-English speaking country, foreign language immersion.
7. funding: applicability of financial aid, availability of fellowships and scholarships, subsidies (e.g. industry sponsorship, tuition reduction)
8. extent of travel: single location, base with organized excursions, extensive (“on the move”)
9. management: direct (individual, faculty, or guide) or indirect (facilitator)

Several other attributes could be included in the list; however, for the following reasons, we have chosen not to include them. Cost is obviously an important attribute and is either a perceived or real barrier for many students. However, we did not include it in the list above because it is

driven by many of the other attributes. Academic level (or pre-requisites) is another possible attribute. We have not included this in the general list because we assume the programs are primarily for undergraduate students that have at least successfully completed their first year of college studies.

Different types of programs will obviously appeal to different types of students (and their parents). We believe that since we have a diverse student body, we need a diverse set of programs to meet their interests. In order to substantiate that hypothesis, we are developing a survey instrument that will be administered to incoming engineering students to help us to better understand their interests. We briefly describe the survey in a later section of this paper. If our hypothesis is true, that we need a diverse set of programs to increase global literacy, then we face a significant resource challenge in terms of developing and administering a broad portfolio.

One obvious strategy is to collaborate by joining consortia and partnering with other engineering schools. We certainly have used this approach and are actively seeking other collaborative opportunities. However, we believe it is also necessary to have at least some internally owned programs to provide opportunities for faculty to have control and pride of ownership. Faculty buy-in is a critical factor for success. If faculty encourage students to participate in study abroad programs through comments in class, advising, and professional organizations, students are more likely to become involved. Internally-owned programs provide opportunities for faculty to travel with students and build their support.

Currently, the BCoE provides the following five diverse study abroad programs to its students. In the subsequent sections, we briefly discuss each program and future plans in terms of the aforementioned study abroad program attributes.

1. Burke Summer Study Abroad Program
2. Semester or Year Abroad through Global E3
3. Intersession courses
4. MSU Umbrella Consortia
5. Referrals (primarily summer programs)

Burke Six-week Summer Study at University of Bristol

The first study abroad program in the BCoE is a six-week summer program, in partnership with Clemson University. Students take two courses in four weeks at the University of Bristol; the remaining two weeks is for independent travel in Europe. The Dean of Engineering brought this program to MSU in 1999 as an extension of the program he started at Clemson University. Fred Burke, an MSU engineering alumnus, and his wife Sara, endowed the program in 2002.

The focus of the program is to provide both engineering and humanities classes in an environment that promotes cultural understanding. Students earn six hours of degree credit for two courses: History of Technology and a technical elective, either Computer-Aided Design and Manufacturing or Digital Signal Processing. The courses are taught by University of Bristol faculty; however, a faculty member from Clemson and MSU accompany the students. Even though students are accompanied by faculty, the faculty do not teach; therefore, the program is considered to be guide managed. The classes are created especially for the two groups of

American students; i.e., there are no British students in the class. However, our students stay with host families in Bristol. This provides an excellent way for the students to become immersed in the culture.

While the program involves a partnership between two colleges of engineering, in terms of the ownership attribute, it can be considered an internal program. For example, both colleges do their own recruiting, handle much of their own logistics, and set their own price. There is very good collaboration between the two partner schools in terms of content, schedule, etc. The Engineering Programs Abroad (EPA) located in London, England administers the Bristol part of the program (e.g. arranges transportation, housing, and excursions). A member of the aerospace engineering faculty at the University of Bristol coordinates all of the academic matters (e.g., class schedules, topics, guest lecturers, field trips, and grades).

The program is conducted in the second summer school session. The students spend four weeks in class in Bristol, then have two weeks for independent travel in Europe. In terms of the program attributes defined earlier, the Bristol program is a combination of a guide and individual managed program. Typically, students are encouraged to participate in this program after their sophomore year when the calculus sequence has been completed. Students enroll in classes at MSU as if they were normal summer school classes. Therefore they are eligible for most forms of financial support. The instructors of record at the University of Bristol assign the grades and forward them to MSU to be put on the students' transcripts.

In addition to tuition, students pay a program cost, approximately \$4,500, that includes round trip transportation from MSU, coach & luggage handling in UK, travel insurance, Bristol fees (home stay with two meals), Shakespeare play at the Globe Theater in London, weekend excursions, site visits for the history paper, and a BritRail pass. Other costs associated with the program include other meals, travel and entertainment in the UK, and the two-week independent travel. The Burke endowment supports the accompanying MSU faculty's costs (the program administrators in England locate a place for the faculty member to stay), competitive fellowships for students going on the trip, and prize money for competitions. Fellowships are awarded based on need, academic excellence, extracurricular activities, and potential to benefit from traveling and studying abroad. Students must apply to participate in the program and submit a separate application for a fellowship.

During the Spring semester, the BCoE's international programs coordinator holds a series of workshops for the students and accompanying faculty member. This provides an opportunity for everyone to become acquainted and discuss the program activities and requirements, logistics, travel guidelines, independent travel planning, etc. Students are encouraged to participate in three competitions after the experience: a photograph contest, a story contest and a journal contest. Those who want to participate can submit a photograph taken during their travel, a story about an interesting event that happened to them, and/or a journal written about their experience. The monetary awards are \$150, \$100, and \$50.

A total of 99 MSU students have participated in the Bristol program. On average, 11 students per year participate in the Bristol program from MSU. The lowest level of participation was in 2003 and 2005 with five MSU students. The largest enrollment was in 1999 with 16 MSU students. In

2004 the program was cancelled due to low enrollment at both MSU and Clemson, coupled with organizational and personnel issues at the University of Bristol.

All students who participate in the program are asked to assess the program in detail. The overall feedback from the students has consistently been very positive.

Global Engineering Education Exchange (Global E3)

The second study abroad program adopted in the BCoE was Global E3; the first student participated in 2001. This is an example of an externally “owned” program since Global E3 is a consortium of leading universities around the world that provides opportunities for students at member institutions to receive academic credit for courses taken at an overseas institution. Global E3 is administered in the United States by the Institute of International Education (IIE) and consists of approximately 30 ABET-accredited American member universities and more than 50 overseas members in 17 countries. This includes a consortium of western European universities and selected individual institutions in Asia, central and eastern Europe, and Latin America. Students apply to study at their choice of consortium institutions through IIE. IIE works with each consortium university to best match student and university interests.

The focus of the program is allow students to study engineering abroad, for a semester or year (typically in their junior year), and become immersed in a local culture. Some overseas universities offer classes in English; however, a goal of the program is to improve students’ language proficiency. While students participate in this program individually, compared to the Bristol program where students are a part of a group, it is considered a facilitator-managed program. Students in this program are required to work with an MSU advisor to plan their coursework abroad that includes a suggested set of courses as well as alternative classes in case any of the desired classes are not available. Students typically take a mix of basic and discipline-specific engineering classes and culturally-oriented courses including language. Oftentimes academic schedules at the home and host institutions are not aligned and require some planning and flexibility. For example, the Fall semester at the host institution may not end until January. If most of the work in January involves exams, then the home institution can proctor the exam so the student can attend the full Spring semester at the home institution. Although there are support personnel for the Global E3 program available at the host schools to help the student, no faculty advisor accompanies the student and the student typically travels alone. Students in this program need to be highly independent.

Students enroll in comparable classes at MSU while they are abroad and pay tuition to MSU, not the overseas university. As a result, most financial support is still available to the student. In addition, several organizations including some countries, NSF, and ABB (a GE3 sponsor) offer competitive fellowships for this program; the fellowship applications are handled through IIE. Students must pay for their transportation and room and board. The host institutions typically offer reasonably priced accommodations; however, costs vary widely depending on the country. The application must be completed early in the semester prior to the one the student will be studying abroad.

Since this is an exchange program we are required to balance students studying at MSU and MSU students studying abroad. Typically we have more students wanting to attend MSU than we do MSU students wishing to study abroad. Seven MSU engineering students have participated in this program since 2001 studying at Monash University in Australia, University College of Swansea in the United Kingdom, Hong Kong University, Nanyang Technological University in Singapore, Institute National Polytechnique in France and Tohoku University in Japan. The BCoE at MSU has hosted nine international students through this program; students have been from: Institute National des Sciences Appliqués de Lyon, Ecole des Mines de Nantes, Institute Supérieure d'Electronique de Paris, Université Technologique de Troyes, EPF Ecoles d'Ingénieurs, Université de Technologie de Compiègne, Institute National Polytechnique de Grenoble (INPG) and Ecole National Superieure de Mécanique et d'Aérotechnique.

Intersession Programs

Beginning in January 2006 MSU experimented with a shorter academic term, referred to as the intersession. In 2006 this period was two weeks in early January between the fall and spring semesters. Beginning in 2007 the intersession will be three weeks in May, after the spring semester, but before summer school. The BCoE offers very few regular academic classes in this intersession period, but has chosen to use this format to expand its study abroad options with shorter, and hopefully less expensive, options for students.

The objective of the intersession courses are to provide short, well structured opportunities to travel and study abroad with a focus on engineering and global issues. The intent is to provide students with some limited international experience that hopefully breaks some barriers and leads to further internationally-oriented studies and longer times abroad. The students and faculty advisors in the program travel together at all times. This aspect appeals to parents and students who are not comfortable with being on their own overseas. The courses are custom designed for studying engineering abroad and are highly dependent upon the accompanying faculty members' interests and expertise. Therefore, in terms of program attributes, they are considered internally owned with widely varying focus, content, and location, as should be obvious from the course descriptions provided below. The courses do have several attributes in common: they are three credit hours, target a class size of 15 students led by two faculty members, involve considerable field work, extensive travel (tend to be "on the move"), and a high degree of faculty involvement and management.

Engineering Practice in Europe

In January 2006 the authors offered the first intersession course, a two-week field-study course, entitled "Engineering Practice in Europe." As the name implies the focus of the course was on engineering application and practice. It provided students with a two-week introduction to the engineering industry and educational institutions in France. Field study visits to educational institutions, research laboratories, and production facilities provided direct exposure to key engineering technologies and dialogue with engineering and management professionals. These visits also provided the opportunity to examine cultural differences and to better understand the global economic model that drives most enterprises.

During the two-week trip we visited five engineering companies (Airbus, Alstom Power Turbines, Eurocopter, Schneider Electric, United Parcel Service) and three universities (Institut National Polytechnique de Grenoble (INPG), Institut National Sciences Appliquées – Toulouse (INSA), EPF Ecoles d'Ingénieurs (EPF)). This allowed us to visit a broad area of France. Students were required to read and write a report on Friedman's *The World is Flat*³ as well as several other assignments designed to familiarize themselves with the institutions and areas that we were visiting. For example, pairs of students were assigned to each company and university that we visited. Immediately preceding the visit to each location, the students assigned to the companies and universities in that site would brief the rest of the group on the company or university they had studied.

Our target was students early in their university studies so that this course would act as a springboard for them to take internationally-focused courses and/or participate in a longer study abroad program. While that was not the case – all of the applicants were upper division students – at least the global awareness and literacy of these students were considerably improved. In fact, nearly all of the students indicated they felt they had regrettably missed not studying abroad while at MSU, but this course helped offset that regret as well as break the barriers that might have prevented them from working/studying abroad in the future. Fourteen students (6 juniors, 6 seniors, 1 MS and 1 PhD) applied and all were accepted. The group was composed of 9 male and 5 female students; they were from 7 engineering disciplines, with 6 students from mechanical engineering. Two of the students were African-American. The 14 students were accompanied by two MSU engineering faculty. This course is discussed in more detail in Greenwood & Reese³.

The program cost for the course was a very inexpensive \$2,000 plus tuition -- this included all transportation, lodging, and most meals. Travel in France was via train. There were several reasons for the low cost: air travel was very inexpensive right after the holidays, each of our industry and university hosts provided at least one meal, some of the industry hosts provided transportation between the hotel and their facilities (renting minibuses are expensive), and INPG arranged for our students to stay with their students, thus saving several nights of hotel bills. Also, only one faculty member's travel cost was charged to the program; the other faculty was an administrator and the cost was covered from other funds.

A set of assessment questions was developed to gather feedback from the students regarding the experience. An example of the quantitative feedback was as follows: Contribution to your engineering education – mean rating of 80% good to excellent; Contribution to your personal development – mean rating of 100% good to excellent; Overall course rating – mean rating of 100% good to excellent.

European & American Interaction in Context

For the May 2007 intersession we have planned a European trip that focuses on cultural understanding and is less engineering oriented. The course, entitled “European & American Interaction in Context,” will be team-taught with one faculty member from engineering and one from the foreign languages department. The course includes history, culture, art and architecture, language, music, literature and technology, all in a European/American context.

The European regions selected for the immersion are The Benelux Countries, also known as the “low countries,” The Moselle Valley, the Middle Rhine Valley, and Paris, France (and its environs). The trip will include extensive time in the field visiting sites of significant historical, cultural, and technological interest. The estimated cost is considerably higher than the first intersession trip with a program cost of approximately \$5,000. The increase in cost is due to the trip being a week longer, transportation will be via three rented vans, two faculty and one graduate student travel costs must be covered from the program cost, and there are no subsidies from host industries or universities.

Engineering Practice in Asia

For the May 2008 intersession, we plan to expand our offerings to two courses. The first course will be similar to the first intersession course that we offered in January 2007 in that it focuses on engineering practice. However, for this course we will travel to Asia. While plans are still very preliminary at this time, we plan to visit companies and universities in Korea, Japan, and/or Taiwan. We hope to keep the program cost below \$5,000.

Engineering in Classical and Medieval Times

The other course planned for May 2008 focuses on engineering and architecture. The course will be led by one engineering and one architecture faculty members. They will study the engineering and architecture of classical and medieval buildings in Italy and France. Again, we hope to keep the program cost below \$5,000.

MSU Umbrella Programs

MSU is a member of the International Studies Abroad organization. This professional service organization provides study abroad opportunities in 10 countries, primarily in Europe and the Americas, that range from a month to a year in duration. The courses span a variety of academic areas, including engineering, technology, and computer science. There are a mix of courses offered in English and in the language of the host country. The BCoE has little experience with this program.

MSU is also a member of the Cooperative Center for Study Abroad. It is a consortium of 26 colleges and universities that develops and administers summer and winter study abroad programs in a variety of countries in the Americas, Europe, and Asia. Classes are typically three credit hours and are taught by faculty from institutions that are members of the consortium. Students register for courses through their home institution. The BCoE has little experience with this program either.

Referrals

As a result of our active participation in the Global E3 program and various conferences, e.g. ASEE Global Colloquium on Engineering Education and the Colloquium on International Engineering Education, we have developed relationships with other institutions that makes it

possible for us to offer a variety of other programs to our students. All have limited enrollment, require applications for admission, and tuition and fees are paid to the host university. Students are required to work with an MSU advisor to plan their coursework abroad and get agreement of what courses will be accepted for transfer.

We provide a few examples of the programs. The Munich University of Applied Sciences offers a summer program in Mechanical and Automotive Engineering. The Engineering College of Copenhagen offers an Innovation and Entrepreneurship Semester. Institut National Polytechnique de Grenoble (INPG) offers a variety of general and specialized engineering courses during the summer. They also provide an optional intensive French language course. Through our partnership with Clemson University, BCoE student can participate in Clemson's summer program in environmental science and international studies in Trier, Germany. Through a recent agreement, BCoE students also have the opportunity to spend a summer studying a Kyungpook National University in Korea. MSU also has an agreement with the University of Swansea, although this is primarily aimed at exchange of graduate students and faculty on joint research projects.

Strategies for Increasing Student Involvement

The addition of the intersession programs which are of shorter duration and which typically cost less has helped to increase student interest in these programs. In addition, we have developed several strategies to make students more aware of these opportunities and increase the level of involvement. In 2005 the BCoE combined all of its enhancement activities under the umbrella of a Center for Engineering Student Excellence. This has allowed us to advertise all of the activities more broadly to current and prospective students. We have developed a brochure describing these programs that is part of an information packet sent to prospective students. In addition, the college's web site has a link to the center activities displayed prominently on the main page (see the CESE logo on the bottom left at www.bagley.msstate.edu).

Each year in order to increase awareness and participation in the programs we hold an information session in October or November where information about the different opportunities is covered. In order to increase interest in attendance at this session we offer a drawing for a \$500 scholarship to a student who attends this session and subsequently participates in the study abroad program. We have found that having these sessions in the late fall semester allows students to discuss these options with their parents when they are at home over the semester break. This year we held our fall informational session in conjunction with our 10th anniversary of study abroad celebration. For this event, we invited all past participants in all of our study abroad programs to a reunion dinner on campus. In addition to our fall informational sessions, we hold similar meetings early in the spring semester.

The BCoE has begun to reach out to other engineering schools in the state and region to solicit participation by their students in our programs. While this outreach started late last year, we did get one computer science student from the University of Alabama to join the 2006 Bristol program.

Beginning in 2005 we have paid 25% of the academic-year salary of a senior faculty member to serve as the coordinator for these programs. In addition to coordinating the various programs, this person also visits annually with our freshman engineering courses as well as various student professional organizations to increase awareness of the program. In the fall 2006 we also had the coordinator make a presentation to the college's department heads and undergraduate coordinators immediately prior to the spring registration period so that they would be familiar with the opportunities when advising students. In order to better understand student interests and concerns regarding study abroad, we developed the survey shown in Figure 1 to administer to the various groups in the spring 2007 semester. Results from this survey will be used to guide the development of any additional programs or to refine the programs that are already offered.

We are also investigating the possibility of creating an international certificate program for engineering students. This program would be directed towards international issues and would have a study abroad component. In addition, students would take 18 hours of coursework focused on international issues. Twelve of these hours would be satisfied through a focused selection of already required humanity and social science electives.

Conclusions

Table 1 categorizes the programs discussed above into several of the portfolio attributes that were defined at the beginning of the paper. The shaded cells represent internally "owned" programs; i.e., programs developed and managed within the BCoE. The college has tended to develop short courses internally and use programs at other institutions and available through consortia to meet longer duration program needs. Also, the focus has been in Europe, but is moving to include Asia.

Content	Europe			Asia			Americas		
	Short	Medium	Long	Short	Medium	Long	Short	Medium	Long
Basic engineering	Intersession 2006	INPG	Copenhagen	Intersession 2008	Kyungpook				
Specific engineering discipline		Munich							
Non engineering	Intersession 2007	ISA					ISA	ISA	ISA
Hybrid	Intersession 2008	Bristol	Global E3			Global E3			

Table 1 – Study Abroad Program Summary

Although it is too early to tell if the addition of the extra study abroad opportunities will increase the number of MSU engineering students who participate in these types of experiences, our initial experience seems to be positive. Enrollment in the spring 2006 intersession course did not detract from the summer 2006 University of Bristol experience as far as we are able to determine. Attendance at our fall 2006 information session was strong with students expressing enthusiasm for both opportunities available in the Maymester and the summer Bristol program. We will continue to monitor the participation and try and determine other ways of overcoming students' reticence to participate in these opportunities.

Student Interest Survey International Programs

Demographic information, for statistical purposes only: (circle one response in each category)

- Gender: Male, Female
- Ethnicity: American Indian, Asian, Black, Hispanic, White, Other _____
- Academic Classification: Freshman, Sophomore, Junior, Senior, Graduate
- Major: Aerospace, Biological, Chemical, Civil, Computer Science, Electrical & Computer, Industrial, Mechanical, Other _____

For questions 1-3, use the following scale:

No interest	Below average interest	Average interest	Above average interest	Strong interest
1	2	3	4	5

1. Based on the above scale, how interested are you in studying or working abroad? ____
2. After having heard the presentation, using the above scale, identify how interested are you in the following types of international programs and their duration:

Type of program abroad:

- ___ study
- ___ intern
- ___ service learning

Duration of program abroad:

- ___ intersession (3 weeks in May)
- ___ summer session
- ___ semester
- ___ year

3. Based on the above scale, what is your interest in each of the following regions:
 - ___ Mexico, Central and South America
 - ___ United Kingdom (England, Wales, Scotland, Northern Ireland)
 - ___ Western Europe (Austria, Belgium, France, Germany, Monaco, Netherlands, Switzerland, Spain, Portugal, Italy)
 - ___ Eastern Europe (e.g. Hungary, Poland, Czech Republic)
 - ___ Pacific Rim (Hong Kong, Japan, South Korea)
 - ___ Russia
 - ___ Africa
 - ___ China
 - ___ India
 - ___ Australasia (Australia, New Zealand)
4. If you are interested in a BCoE international program, identify up to 3 key barriers that would prevent you from participating in a program. Indicate the most important barrier as 1, next most important as 2, etc. If there are no barriers, check None. If you are not interested in any of the programs, check Not Interested.

___ Financial	___ Time	___ None (no barriers)
___ Language	___ Safety	___ Not interested
___ Classes	___ Away from home, family	
5. Have you ever traveled abroad? If so, where?
6. Other comments/questions (write on the back)

Figure 1 – International Program Interest Survey

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