The Shaping of Virginia Tech's International Engineering Education Program

Abstract

Virginia Tech's strategic plan recognizes the need for its engineering graduates to have a more global outlook. Today's engineer is more likely than ever to interact with people from a variety of cultures and to be involved with projects that span across continents. The institutional goal of increasing students' global awareness put more focus on establishing an international department at the Dean's level in the College of Engineering. This paper will discuss the development of this office and the administrative efforts to raise the percentage of the university's engineering students going abroad. It will show how to use existing resources such as faculty members that have individually developed international programs that reflect their passions, university level service departments, and student involvement. The faculty resource was drawn upon to create an International Programs Faculty Committee with the charge of setting policy and procedures involving the designation of target countries and the review of program and funding proposals, leveraging existing relationships, and creating new international opportunities. One key question for the faculty committee is: "How can this committee help the College of Engineering Faculty with their international collaborative research efforts?" will be addressed. To further administer this program, a study abroad advisor position was established to facilitate the development of a Student Engineers' Abroad Council and to chair the departmental international contacts committee.

To accomplish the strategic goals several databases were established consisting of alumni working/living abroad, international university contacts, and collaborative overseas company branches. These databases will be used as resources to expand student and faculty global experiences. Databases with grant and scholarships were also populated with step by step processes set up to alleviate the hurdles for engineering students to go abroad. This paper will show guidelines on how an Engineering Education Abroad Fair was organized, measures to energize students and motivate faculty, the preliminary process for developing performance measures and assessment tools, and processes used in getting support from key stakeholders of the university. Next steps will be outlined with a plan of development and implementation to increase the international awareness and opportunities for the engineering student.

Background

Although international programs have been important to the College of Engineering at Virginia Tech for many years, widespread commitment to this area has recently seen a marked increase in the college as well as the university.

The university as a whole has several offices in place which support international programs. The College of Engineering utilizes these resources with the goal of not duplicating the services that they offer. For example, the Education Abroad Office operates under the auspices of the Office of International Research, Education, and Development. Bilateral exchange programs, faculty-led study abroad trips, and other international education experiences are all coordinated through this office. Students can also enroll in international co-ops through Career Services. For international students, faculty, and their dependents, the Cranwell International Center serves as invaluable resource. Here, an abundance of pertinent information can be

found about topics ranging from visas to general orientation to the area. The Cranwell Center also sponsors English conversation programs and an international friendship program to match students to local residents.

Another university-level resource is the Center for European Studies and Architecture (CESA) in Riva San Vitale, Switzerland. In the early 1990s, Virginia Tech purchased an approximately 250 year old villa in this town located in the Italian-speaking Canton of Ticino. A variety of semester- and summer-long study abroad programs are held at or based out of CESA.[1] During the summer of 2002, this included an opportunity for incoming engineering freshmen to complete two required first-year courses through the combination of two weeks of classes on campus in the U.S. with two weeks of learning in Europe. Not only did this give a group of advanced students the chance to get an early start on their college careers, but it also gave them a taste of studying abroad with the hope that they would later take part in a longer program.

Virginia Tech also participates in some organizations that are beneficial to the College of Engineering. For example, the Atlantic Coast Conference International Academic Collaborative (ACC IAC) brings together 12 universities to sponsor international opportunities for students and faculty.[2] An engineering faculty member participated in the faculty development program in Southeast Asia last summer and another is the co-sponsor of a study abroad program in Vietnam beginning in the summer of 2007. Additionally, in spite of this wealth of both internal and external resources, many faculty members work independently to develop partnerships and connections with colleagues and universities abroad.

One key sign that the College of Engineering is committed to its international programs is its focus on Virginia Tech's international strategic plan, which includes the goal of increasing "the number of students engaged in education abroad by 10% per year for seven years."[3] Figure 1 shows the number and destinations of students who had an international experience in 2006 that Engineering's International Programs Office is aware of at this time. International experience refers to a variety of activities, including semester- and year-long study abroad programs, summer study abroad programs (which can include classroom, laboratory, and/or service components), and senior design projects that combine prolonged virtual cooperation with students at a foreign university with approximately week-long trips overseas to collaborate in person. The number of students counted for these experiences is calculated according to the standards of the Institute of International Education's Open Doors Report, which states that, "study abroad is narrowly defined as only those students who received academic credit from a U.S. accredited institution of higher education after they returned from their study abroad experience."[4] Figure 2 indicates the new locations for international engineering opportunities in 2007 and the number of students who are projected to take part in each program at this time.

2006 Countries	Number of Students
Australia	12
Canada	1
Costa Rica	1
Egypt	7
England	21

European Mining Course (England, Finland, Germany, the Netherlands)	2
France	16
Hungary	1
Italy	1
Korea	1
Spain	2
Total	65

Figure 1: Countries where engineering students traveled abroad in 2006

Countries with New Program	**Projected Number of New Students**
Belize	1
Brazil	12
Denmark	6
Kenya	3
Sweden	4
Vietnam	6
Total	32

Figure 2: New locations for international engineering programs in 2007

Current look of international programs
Structure of office:
The International Programs Office of the College of Engineering (COE) has the Associate Dean as the Director of International Programs who reports directly to the Dean of the College of Engineering. An Engineering International Programs Faculty Committee works with the Associate Dean and reports directly to the Dean. Reporting to the Associate Dean is an Assistant Director and under this position are the Study Abroad Advisor, the Student Engineers' Abroad Council, and a graduate assistant for support. The Study Abroad Advisor has an undergraduate student assistant and a student webmaster to make up the final chain of the international programs office. Figure 3 is a flow chart that depicts the structure of the office.
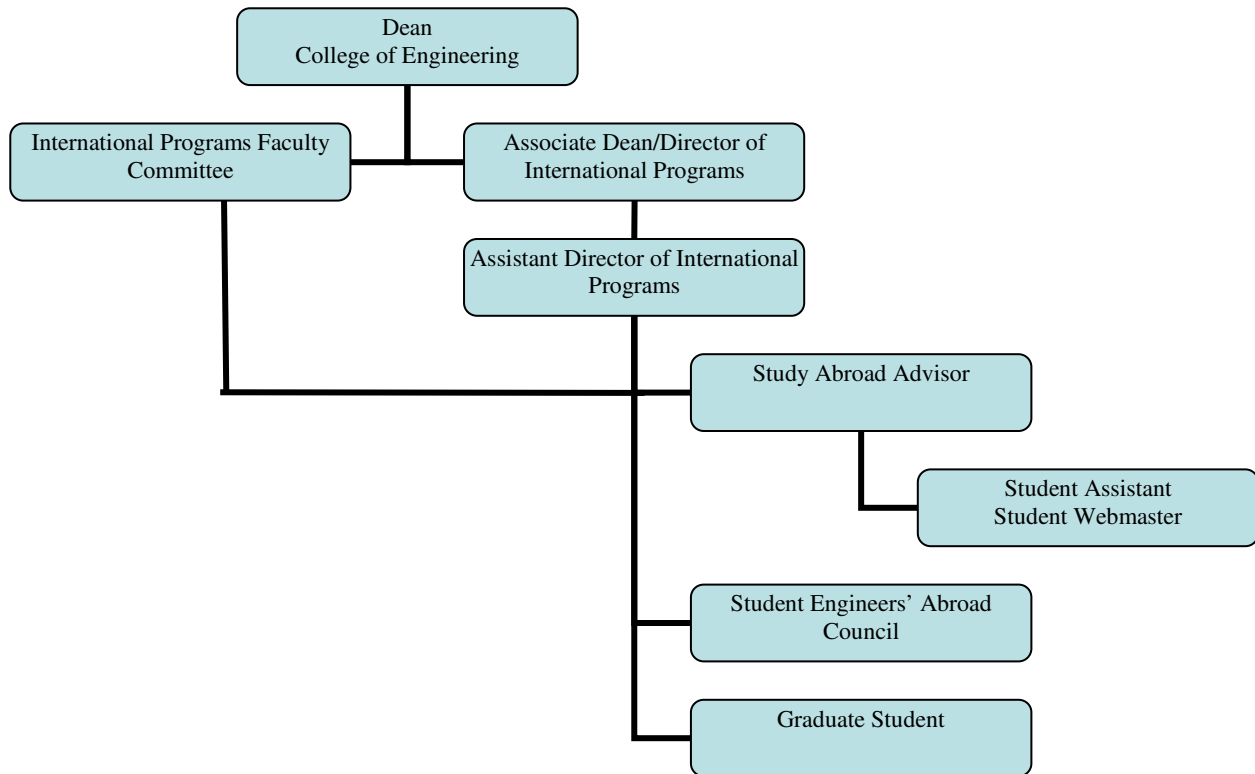
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Figure 3: International Programs Office Organizational Chart

Funding model

An important aspect of sustaining our international efforts is establishing the funding model.
The programs are funded using state funds and several small endowments. The state funds are
used to support the student assistants along with the day to day operating expenses of the
office. The endowment funds are used to provide faculty members who are interested in
creating programs focused on undergraduate or graduate students going abroad with small
grants. These can be service oriented programs, credit course programs, summer abroad
programs, or collaborative planning sessions. Endowment funds are also used to pay
membership dues to international coalition programs and to give stipends for international
student organizations and individual students. To meet the COE's strategic plan of increasing
the student engineers going abroad by 10% it is critical for the International Programs Office to
find new funding opportunities. A planning session was held with the International Programs
Office and the College of Engineering Development office to outline how to move the industry
sponsorship initiative forward.

Departmental resources

The COE office has set up a departmental contact person in each of the 12 engineering
departments. This group is used as a source of information to keep informed of all the
different initiatives the engineering faculty are working in the international market. They
funnel statistical information to the office on the number of students going abroad through
study abroad, internship, or smaller time commitment global experiences. It was a big
challenge to find the correct departmental contacts as several departments did not really have
someone set up to do this. It is still a challenge because some of the contact names that were
given to the Dean's office have turned out not to be the person that is really doing the work.

Progress is being made and meetings with the contact person are being arranged to alleviate this problem.

In order to further solidify this source of information, a yearly meeting will be held to make face to face contact with the group and to have an exchange of ideas to improve the quality of this resource. This will help keep the departments abreast of what is happening at the Dean's level and to make the departments realize the key role they play in making all of this happen for their students. The resource will be used to help promote the initiatives of other departments when there is a cross discipline interest thus allowing more students to take part in the opportunities that are being provided through Engineering.

International Programs Faculty Committee
The College of Engineering Dean selected faculty members who were very involved in the international arena as the initial members for the International Programs Faculty Committee. Six of the 12 engineering departments are represented with the intention of having a representative from each department next year.

The faculty committee will focus on:
- Establishing strategic international opportunities
- Considering the creation of an international certificate/degree designation for undergraduates in the engineering departments.
- Creating an international activity promotional poster with the help of their departmental contact to be hung in one of the engineering buildings that has a high visibility from engineering students
- Sponsoring a panel discussion in the fall on "Increasing Research Opportunities through International Collaborations"
- Creating a College of Engineering international award to recognize outstanding work in this field that increases the number of students having global experiences

They will also sponsor a panel discussion with the emphasis on having a National Science Foundation representative come and join the panel. This will provide an opportunity for faculty to ask questions directly to an NSF representative and learn first hand what types of grants are available. This panel will include faculty who have established international programs that new faculty can use as models. There will be challenges to get faculty to attend these discussions and also to fill the panel positions but putting it under the faculty committee charges will have faculty asking faculty to participate. These initiatives will play a key role in answering "How can this committee help the College of Engineering Faculty with their international collaborative research efforts?"

To provide more support to advancing the awareness of international activities in the College the International Program Faculty Committee will be advocates in their respective departments to formally:
- Identify departmental international goals
- Outline how their department will reach their goals
- Identify how internationalization fits into tenure and promotion process

Student Engineers' Abroad Council (SEAC)
The Student Engineers' Abroad Council (SEAC) was established as a way to focus on the student aspect of international programs. Because this was a new venture, the Assistant Director and the Study Abroad Advisor believed that SEAC members should largely be responsible for shaping the Council. Similar groups at other universities were also studied for ideas about how to organize and focus the Council. Iowa State University, for example, has a Society of International Engineers (SIE) that encourages students, particularly engineers, to study abroad. It also works to welcome international students to Iowa State and provides students with leadership opportunities.[5]

As soon as its official name was decided and its ideal membership size was set at between 12 and 15, SEAC's formation was announced and participant recruitment began. An orientation session for freshmen engineering students held during the second week of the fall semester was used as a forum to introduce SEAC to the students and to give them information about how to sign up for the Council by emailing the Study Abroad Advisor. Additionally, other students who were previously known to have an interest in going abroad were asked if they would like to join the group.

SEAC's initial membership settled at 13 participants. These included both graduate and undergraduate students from across the engineering disciplines. The undergraduates ranged from freshmen to seniors. During a university-wide education abroad fair in late September, more than 150 students signed up to join the general membership of SEAC. General members do not attend the regular Council meeting, but are placed on a listserv and receive regular announcements related to international education, primarily in the form of a monthly newsletter. Called "Engineering Escapades Abroad," this was sent to the SEAC general membership by email for the first time in February 2007. It contains information about scholarship and program deadlines, upcoming events, and the benefits of studying or interning abroad. Additionally, it features pictures and very brief essays by students who have previously had international academic experiences. The newsletter is also distributed to all of the engineering departments.

SEAC's purpose is to promote interest in engineering students going abroad. The Council members will annually sponsor an Engineering Education Abroad Fair in late fall to inform their peers of what faculty led programs are available. They will also sponsor a panel discussion in the spring where students who have studied, interned, researched, or worked abroad can share their experiences and answer questions from those that are thinking about engaging in their own overseas activities. This meeting will be used as a general SEAC membership meeting in efforts to engage all the students. SEAC maintains an informative website targeted to both Council and general membership students. It focuses on promoting available grants and scholarships and upcoming events that will give engineering students a better understanding of what it takes to go abroad and the opportunities available to them.

SEAC holds monthly hour-long meetings. During the fall semester, these are chiefly devoted to planning the Engineering Education Abroad Fair. This year SEAC members also designed the Council's logo that is shown in Figure 4. The hardest aspect of this group is getting them to interact at the meetings. It is felt that this lack of interact has to do with the wide diversity

of ages in the group. The one senior member seems to always have input while the freshman sit back and wait. Efforts are being made to provide more opportunities for the students to get together such as a trip to a Japanese restaurant before the end of the fall semester, breaking them up into smaller groups that have tasks associated with their booth at the spring Engineering Technology Showcase, and changing the president of the group for the spring semester. There were several students that were removed from the Council due to lack of meeting attendance or to not showing up at events at which they had volunteered to represent the Council. This will probably be an ongoing issue until the Council has established its guidelines and has a good structure in place for selecting its members. During this spring semester, SEAC will plan the first panel discussion event.

Figure 4: SEAC logo

Engineering Education Abroad Fair
The Engineering Education Abroad Fair serves as a way to market international opportunities to students. Although a smaller version of this event was held previously, the fall of 2006 was the first time the new International Programs Office organized the event with the help of SEAC. The fair was promoted in several ways. SEAC members distributed door prize tickets on campus a couple of days before the event and also displayed flyers in engineering academic buildings and in the residence halls. Engineering faculty announced the fair in the freshman engineering classes and large banners were hung outside of a building which many engineering students frequently pass. Additionally, small cards advertising the fair were placed on tables in several of the popular campus dining halls. The fair was noted on Virginia Tech's general calendar of events and was the feature story on the College of Engineering website for several days in advance. Notices were sent to several engineering listservs.

The Engineering Education Abroad Fair included displays by faculty leading programs abroad, university-level international support office representatives, international student organization members, and College of Engineering support personnel. There was also a speaker's corner where students gave presentations every 30 minutes about their abroad experiences. The challenge here was getting the students attending the fair to take the time to sit and listen to the talks. It was felt that a shorter time might be better next time. In the area of refreshment, the fair had an international cookie tasting station open to all and an international café that served lunch with traditional dishes from three countries for the exhibitors. In addition to its promotional purposes, the fair was also used as a means to increase the general SEAC membership, as is shown in Figure 5. The group gained about 50 new members for a total of approximately 200.

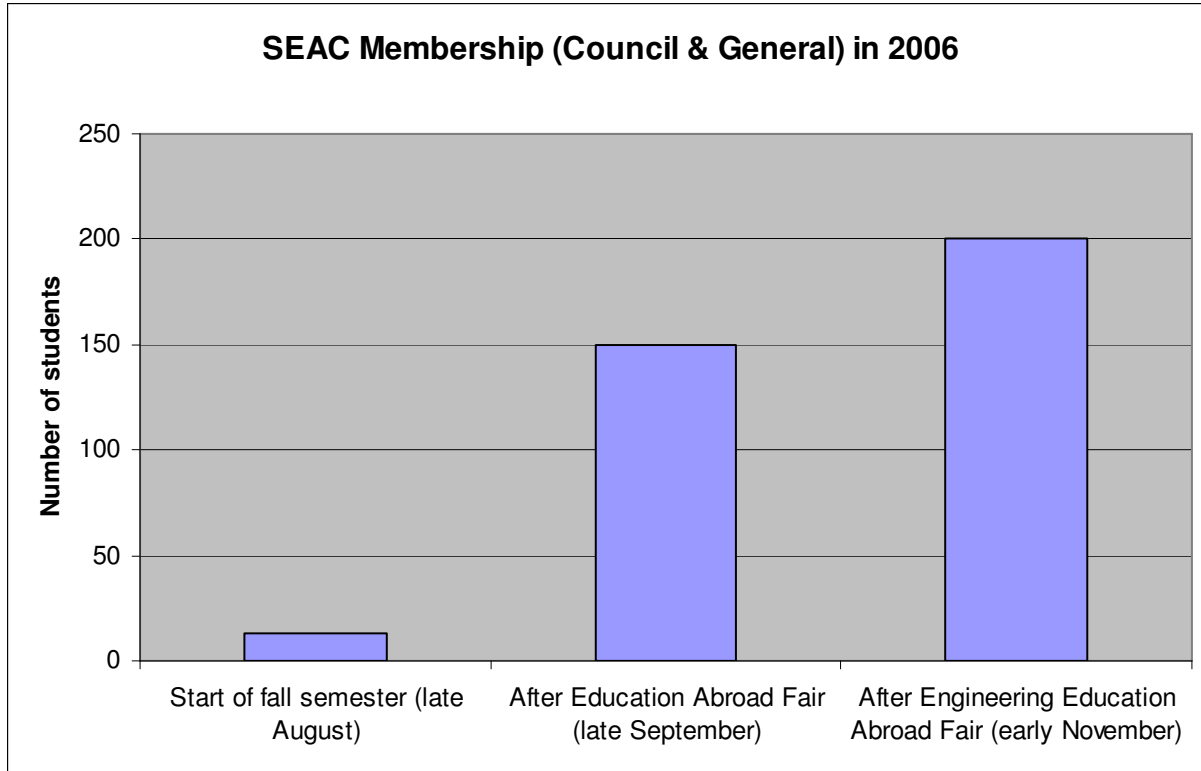## SEAC Membership (Council & General) in 2006

Figure 5 Membership growth chart

The fair had 15 main exhibits. Of the 13 exhibitors who responded to an anonymous exit survey, 10 said they would definitely participate in the fair again next year, 1 said probably, and 2 exhibitors were unsure. Eleven of the respondents felt that the event had been a benefit to their program or office, while 2 were unsure if the event had been worth their time.

More than 175 people attended the fair and of these, 107 completed an exit survey evaluating this year's proceeding and offering suggestions for the future. Ninety-three percent of these respondents said that attending the fair was worth their time. Of those who answered this question and will still be at the university next fall, 73 percent said they will come to the fair next fall and 22.5 percent were unsure. Only 5 percent answered this question negatively. The survey results were also interesting in terms of the distribution of attendees' academic status. Approximately 33 percent were freshman, 26 percent were sophomore, 18 percent were junior, and 14 percent were senior. Other respondents to this question included a graduate student and a faculty member.

Although this year's fair was very successful, changes are already being planned to make next year's event even better. Increasing engineering faculty members' engagement with marketing will be an additional promotional technique. This can be accomplished by requesting that faculty give extra credit or some other incentive to students who attend the fair or indicate some other active interest in considering a global experience. It has also been decided that the event's location needs to be changed in the future. The room used this year was an ideal size and generally fit the needs of the fair quite well, but it was not located in an area with high traffic by engineering students. Therefore, students simply passing by could not be encouraged

to briefly stop in and see if anything caught their interest. This has proven to be a big challenge since large rooms in the academic building area are mainly set up in classroom setting with desks and do not lend themselves to be rearranged with tables for booth displays.

The key components of a successful Education Abroad Fair include:
- Reserving a location early enough to include detailed information in all marketing materials
- Getting required permissions from university offices for advertising activities well in advance
- Communicating with faculty members and other participants on a regular basis to establish what support they need from you and what commitment you need from them
- Making sure all volunteers know exactly when, where, and what they will be doing
- Having a central location, food, and door prize drawings as means by which to increase attendance
- Utilizing an exit survey to obtain feedback on the event from attendees and having a prize drawing associated with completing the form to increase the number of people participating

Collaboration data source

An international database was found to be a need to provide a resource of readily available information for faculty members as well as students. This database was designed using Visual Basic and Access, Figure 6. It will be linked to a website that will allow a faculty member to update his or her information when they complete an international activity. The database allows the searches on a person's name, by country, or by department affiliation. This allows the searcher to print out a report of all the professors that have an affiliate in a particular country or can give an idea of the number of students that have had global experiences in faculty led programs related to a specific country or professor.

It can assist the faculty in locating other faculty across disciplines in engineering who can collaborate and avoid duplicating efforts.

Figure 6: Front page of Engineering International Collaboration database for faculty input

The first initial populating process was handled by a student assistant after the Assistant Director spoke with department heads to let them know she would be emailing them a message to send to their faculty requesting this information. Some faculty chose to respond to this email and thus gave the initial input for the database. It will be an ongoing challenge to get the content for this database. This office is constantly learning on a day to day basis of what another faculty has done or is doing in another country. We haven't come up with a sure way to be able to capture everything that is happening internationally on the Virginia Tech engineering campus because the office has to rely on the faculty to keep us informed and they are busy. Figure 7 shows the input form.

Figure 7: Data entry page for Engineering International Collaboration database

Several strategies were reviewed in order to obtain additional information. There is already in existence a research proposal database, a university wide database for international travel, and general word of mouth to identify what someone might be doing in the global market. The university database was not accessible and would not be a source as the controller's office would not permit use of the information. The research proposal database was as it says strictly research work done and leaving out two important areas – faculty led programs that were not funded except by the individual student taking part in the program, research collaboration with a professor from an international university, or international conference presentations. Spreading by word of mouth is very helpful but does take time. All of these could play a role in increasing our engineering students' global experience.

At this time the International Programs Office will rely on faculty to update their information in the database with the goal of linking the database to an electronic faculty activity report in the future. This will be an ongoing project and one that is hoped the faculty will update when they have new international experiences to report or at least send the International Programs Office the update to input.

Figure 8 shows the search page for the database.

Figure 8: Search page for the Engineering International Collaboration database

You are able to search on any of the fields in blue at this time and work will be done to adjust search criteria as needs arise. Figure 9 shows a screen report for a search on a particular department.

Figure 9: Results page, department specific search

The international alumni database will be used to make contacts with the College's past students who can assist in helping to place current students at the industry they are working at, or could provide a source of friendship to study abroad students in their country at the time, or possibly even provide financial assistance to current students wanting to go abroad.

Successes for the first year
Looking back to see what has been accomplished since August, 2006 small steps can be listed toward making this International Programs Office reach its goals.
In the areas of the office structure:
- Hiring of a study abroad advisor
- Establishing an Assistant Director for International Programs
- Establishing an International Programs Faculty Committee
- Assigning a student assistant to work in the international programs side and hiring a student webmaster for this area
- Using the resources of a graduate student to research what others were doing in the field of international programs
In the areas of projects:
- Establishing a Student Engineers' Abroad Council (SEAC)
- SEAC sponsoring an Engineering Education Abroad Fair
- Making site visits to area universities
- Establishing and implementing a Call for Proposals for small grants
- Designing an Engineering International Collaboration Faculty Database

- Creating an International Web site

In the areas of student support:
- Providing travel stipends for the ME Engineering Solar Power Design Team to travel to Kenya to work on their project to provide off-grid electricity to a medical clinic
- Providing travel stipends for the MSE Engineering Design team to travel to Sweden to collaborate with their international design team partners
- Providing funding for undergraduate and graduate students to take part in faculty led summer programs to Vietnam and Brazil
- Giving consultations to over 11 students interested in a global experience for the next semester or summer in the short four months this office has taken over international responsibilities
- Having 200 students participate on the general SEAC membership
- Supporting the IAESTE student chapter with funds for the internship program

Challenges and Road Blocks

There were many challenges and some have been previously mentioned and others are summarized here. A solution has been found for some but others are just road blocks that we will have to find another way around to get it accomplished.
- Funding – there are more proposals received than funds presently and efforts will need to be made to get industry sponsors with 2% budget cuts coming this next fiscal year
- Faculty experience database content – faculty have the information but do not take the time to respond to request for their international activities
- Alumni contacts – university and college alumni office will not share their contact information and limit your request to send an email to the alumni to one every so many years
- Events – finding the perfect room for the fair did not mean that it was in the perfect location and thus efforts to find a new location with a room that will accommodate a booth type setting has not been successful at this time
- Spreading the word – it takes time to get people aware of the student group, our office and the international opportunities especially in the timeframe the strategic plan has set for increasing the percentage
- Student council – establishing a good working rapport in the council itself will take time and efforts need to be made to set some guidelines for selecting members on the council
- Departmental contacts – trying to locate the right contact for each of the 12 engineering departments continues to be a problem until you finally just by chance ask the right person.
- Setting up contacts for industry and other universities – this will take time to establish a working relationship with target universities and industries
- Transition of international programs to the College of Engineering Dean's office – documentation of what had happened in the past was a large part by word of mouth and it was very difficult getting a starting point making it a rough transition for our office
- Internships – trying to arrange internship opportunities for students with industry seem to be met with companies saying that their international offices hire from that area and very seldom offer internships to American students.

Next Steps

One of the most exciting things about developing international programs in engineering is the sense that there is always room to grow. Ongoing or upcoming initiatives include the following.

For undergraduate and graduate students:

- The formation of buddy and mentoring program
- A focus on global service learning
- General efforts to increase international awareness among engineering students, including the establishment of a photo contest
- Performance measures and assessment

For the expansion of international faculty research:

- The improvement and expansion of the international database
- Faculty/Industry focused receptions

For the international programs office structure:

- Increasing the International Programs Faculty Committee to have a member from each department
- Establish an industry advisory planning board to assist in the design of the international programs office

With the conviction that something more than simply telling students about opportunities abroad or saying that international students are welcome at the university is needed, the buddy and mentoring program will be created. This program will pair incoming international students and study abroad alumni with other engineering students who want to learn about another culture or who are planning their own global experiences. When students are matched, considerations will include their geographic area of interest, majors, and academic status (e.g., junior, 1st year graduate student, etc). The expectation is that through the facilitation of these relationships, participants in the buddy and mentoring program will become more globally aware and culturally-savvy; the hope is that they will become friends.

More specifically, potential study or internship abroad students will be able to pick up a few phrases of another language, get advice about what foods to taste, and generally learn about the everyday life they can expect overseas. International students will benefit from the interaction with individuals who can help them adjust to the U.S. in general and the College of Engineering in particular. Finally, study abroad alumni will have the chance to share their international memories and experiences while encouraging their peers to undertake similar programs. Other institutions, such as the University of Michigan, have similar programs. The International Buddy Program in Michigan's College of Engineering helps incoming international students adjust to their new environment and allows current students to increase their understanding of a different culture.[6]

SEAC members and those belonging to the general SEAC membership will be among the first participants in both of these programs. The Cranwell International Center will also be consulted to recruit international students to the program.

Another area that will receive increased focus is global service learning. Budding engineers at both the undergraduate and graduate level have a rare opportunity in that they are learning skills that can be of great practical use to people the world over. Why not combine students' obtainment of experience abroad with opportunities for them to apply what they have learned in a way that helps others?

Engineers without Borders (EWB) USA is a student group at that is open to students from any discipline. According to their website, the Virginia Tech chapter "is a member of EWB-USA, which partners with disadvantaged communities to improve their quality of life through implementation of environmentally equitable, and economically sustainable engineering projects. The Organization also works toward developing internationally responsible engineering students by providing education, encouragement, and experience." This is the type of mission that engineering's International Programs Office would like to encourage.

Service learning can also take place as part of study abroad programs. For example, during the summers of 2007 and 2008, Dr. Anthony Songer of the Department of Civil and Environmental Engineering will lead students on a six-week trip to Vietnam. This project has been developed jointly with Wake Forest University and is partially supported by the ACC International Academic Collaboration, which was described earlier. Courses will be offered in sociology, East Asian studies, and civil and environmental engineering. Crucially, all students on this program will assist in the building of a two-room primary school that will be able to withstand annual flooding.

In addition to promoting the development of a service component in more study abroad programs, the International Programs Office also plans to support efforts to increase cognizance about international service in students' required senior design projects. Several senior design projects already include impressive aspects of international collaboration. For example, a team from the Department of Aerospace and Ocean Engineering has worked with students from Loughborough University in England on several award-winning aviation designs over the past several years. Another team in Industrial and Systems Engineering collaborates with students from École des Mines de Nantes in France. These outstanding teams need to be continued and their spirit and strong track records need to be used to bolster new projects such as the previously mentioned one out of Mechanical Engineering that is working to deliver solar power to a medical clinic in Kenya. Design teams engaged in international and service activities can apply to the International Programs Faculty Committee for small grants.

As efforts are made to increase the number of international service learning projects, the International Programs Office will also work to help students with funding for these projects. In addition to the small grants for which student groups can already apply, possible fundraisers are being considered. One idea is to assist the students in holding a sale of fair trade items on campus or in the community. Several fair trade organizations encourage this method of raising money and increasing people's awareness of fair trade issues. The students would need to buy products such as coffee, chocolate, or handicrafts in bulk at wholesale rates, and then resell them at a profit.

Steps will also continuously be taken to generally increase the international awareness of and opportunities for engineering students. A photo contest will be launched in fall 2007 for engineering students who have studied or interned abroad. In addition to other prizes, there will be a students' choice award selected by attendees at the Engineering Education Abroad Fair. SEAC and its general membership will also be encouraged to attend the international street fair held in downtown Blacksburg in the late spring, as well as the Dance of Nations which showcases the talents of students from a plethora of cultural backgrounds during the fall semester.

Performance measures and assessment tools
This area will be developed throughout the summer months before the start of the second year. This is critical so that the metrics can be established while the data is still available and that benchmarks can be set. The graduate assistant in the 2007 spring semester will spend time researching how global/international experience is measured/counted and from the resources of information gathered throughout the first year establish the metrics and set the target range. Various assessment tools will be reviewed along with resources of the university units to develop a definitive assessment plan.

Another aspect of the continued expansion of faculty members' global research collaborations is the improvement of the international database's scope. As already noted, the database currently contains information about faculty members' international university contacts and overseas corporate connections. To be as useful as possible, the data contained here will be comprehensively updated on a regular basis. Furthermore, the international interests and activities of staff members will be added to the database. The international alumni database will be designed and populated and efforts will be made to ensure that former study abroad students, SEAC members, and SEAC general members are tracked and occasionally contacted with requests to support current study abroad students.

Summary
There have been some important successes in the first year with the College putting an emphasis on international programs by developing an Assistant Director of International Programs position, hiring a Study Abroad Advisor, and establishing the International Programs Faculty Committee. Another success was the start up of the Student Engineers' Abroad Council that sponsored the fall Engineering Education Abroad Fair attended by over 170 engineering students anxious to learn about international opportunities. It also provided the opportunity to attract many students in joining the Student Engineers' Abroad Council general membership. This membership gives a base for student collaboration and allows critical information on international opportunities to get to the students who are interested immediately.

The future will involve increasing the international experience numbers, developing an award for faculty involved internationally, increasing the awareness of the International Programs Office, establishing an industry advisory planning board, and continuing to develop the engineering international collaboration database that will benefit faculty and students alike.

The International Programs Office will continue to operate in a non duplication of services in order to provide services to the engineering faculty and student population. There will be a continued effort to search out all campus wide services in order to form collaborations and to be able to guide faculty and students to make more international experiences evolve.

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