Engineering Study Abroad Advocacy Program

Honors Thesis Action Project

Clara Godsell and Grace Handley

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Thesis Advisor: *Dr. Carter Hamilton, Associate Professor of Mechanical and Manufacturing Engineering*

Thesis Readers: *Sarah Coban, Graduate Assistant in the Office of International Education*

Dr. Douglas Troy, Associate Dean and Professor in the School of Engineering and Applied Science

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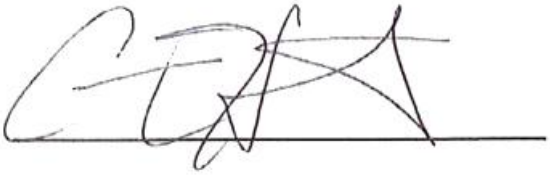
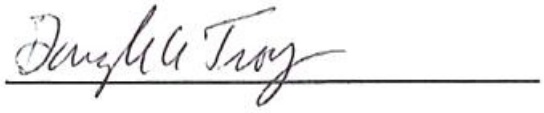
By Clara Godsell and Grace Handley

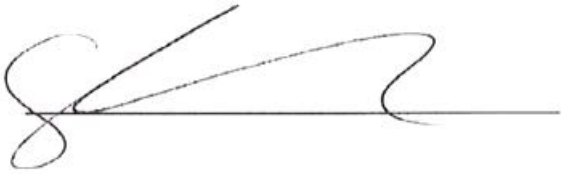
Approved by:



Dr. Carter Hamilton, Associate Professor of Mechanical and Manufacturing Engineering,
Thesis Advisor



Dr. Douglas Troy, Associate Dean Professor in School of Engineering and Applied Science,
Thesis Reader



Sarah Coban, Graduate Assistant in the Office of International Education,
Thesis Reader

Accepted by:

Dr. Carolyn Haynes, Director of Miami University Honors Program

Table of Contents

Introduction

The authors of this thesis are both engineering majors at Miami University. Clara is a senior mechanical engineering major and Grace is a senior chemical engineering major. This project has meant a lot to both Clara and Grace, because they both felt as though they missed the opportunity to study abroad during their four years at Miami. Despite being heavily involved in campus organizations and dedicated to their educational studies, both students feel as though there is a small void in their Miami experience. For this reason, Clara and Grace have worked on this project for the past two years, exemplifying passion and dedication to the advocacy of study abroad.

Over the past two years, this project has morphed entirely. Originally, the project's aim was to create a study abroad program specifically for engineering majors. This program would utilize a Miami engineering professor who would go abroad with the group of students for the semester and teach a lower level/foundation level engineering course (such as technical writing, statics, thermodynamics, etc). This way, the courses would be a Miami University course and the credits earned would be identical to those earned at the Oxford campus. In addition, by teaching foundation level engineering courses, a variety of majors could participate.

After doing more research on the project, Grace and Clara came to the realization that the creation of a brand new program would be both complex and entirely unnecessary. One of the most complex issues in creating a new program is that there are so many financial considerations in making a new study abroad program. Clara and Grace do not have the financial background or expertise to create a financial aspect of a new program on their own and within the time constraints of their thesis. There are currently programs available for engineering majors, in which they would attend a technical university abroad, and take engineering courses that are basically identical to those taught at Miami University. This realization caused a crucial shift in the project. Rather than creating a brand-new program, Clara and Grace would expose engineering students to the programs already available to them. Not only would these students be aware of the study abroad options they have, but also, the opportunities would be encouraged and promoted.

Project Development

The journey began during the fall semester of 2010 in a technical writing course. Clara and Grace discovered their shared passion for studying abroad while working on a feasibility study with another engineering student, Peter Carpenter. It was bothersome to the three students that very few engineering students studied abroad, and those that did took mostly Miami Plan courses while abroad. Students were under the impression that they could not go abroad during their sophomore or junior year and take 200 or 300 level engineering courses during that time. The feasibility study was done to determine if it would be possible to create a study abroad program catered to engineering students, which would solve the previous problems. In addition, the report studied whether engineering students would be interested in such a program and whether faculty would be supportive. The study concluded that it was feasible to create such a program because the student interest level was gaged high enough that the program would be effectively utilized. The engineering

faculty was also supportive of the idea of raising the number of engineering students who study abroad and they were willing to work with Clara and Grace on creating a program.

During the spring semester of 2011, Clara and Grace took a thesis proposal course, Honors 290D, which allowed them to explore potential thesis topics in which they were interested. A few weeks into the course, both students felt as though they wanted to continue exploring their project from the previous semester. Once the instructor approved their thesis partnership, Clara and Grace began working very seriously to construct a brand new study abroad program. However, upon meeting with the Office of International Education, both Clara and Grace were shocked to discover that there are currently countless study abroad programs available for engineering majors. It just takes some time and effort to determine which one is best for each individual. There is a wide range of opportunities, from exchange to co-sponsored programs and from China to England, so it is best for each individual student to determine what works best for them. Grace and Clara then realized that rather than creating one program for all engineers to participate in, it would be much more effective to educate engineering students on the study abroad options available and allow them to cater their study abroad program to their needs. It was decided that instead of creating a new program, Grace and Clara would promote and emphasize the current opportunities for engineering students to study abroad.

Research Process

The research completed in the fall of 2010 gave them extensive background knowledge on different kinds of study abroad programs, about schools that offer unique study abroad programs, and about the potential benefits to engineering students who study abroad. The second major phase of research was done when their project became an action-based thesis project. In this phase, the research methods focused on learning about the kinds of study abroad programs offered at Miami and how those programs apply to Miami's engineering students.

Technical Writing Research

During their technical writing class, Clara and Grace were charged with the task of producing a research-based feasibility report. The project not only had to be something the students were interested in, but also a project that would help the greater good or the students' peers. After deciding on a project topic, Clara and Grace decided that it would make the most sense to pull research from an area where they were most familiar, their fellow engineering students and the School of Engineering and Applied Science faculty. After all, the project would be focused on creating a new study abroad program for those students themselves and students like them in years to come. The first step of the research phase also involved observations done on other schools in the United States that are known for their engineering study abroad programs. By looking at what Georgia Tech, Virginia Tech, and other top schools are currently offering, Clara and Grace believed that they would be able to determine what Miami University could also offer as their study abroad opportunities for engineering students. In addition to American institutions, some foreign universities were studied. However, Clara and Grace decided to limit their program search to English speaking countries because the School of Engineering and Applied

Science does not currently have a foreign language requirement in the curriculum. Although the Miami University campus in Luxembourg teaches in English and has a few applicable courses to engineering majors, the course offerings are not as broad as a technical university would be. For this reason, Clara and Grace investigated schools in Australia, England, and Ireland. All of these countries offer ample cultural opportunities for students in addition to the technical skills that they might obtain. For example, Australia has many indigenous tribes that for thousands of years have engineered simple ways to stay alive in the bush. Studying these technologies could offer students a new viewpoint that could only be found on that continent. England and Ireland also have rich histories that could show contrasts between medieval engineering thought processes and modern techniques.

It was also during this class that Clara and Grace conducted primary research from their engineering peers. The primary research consisted of student questionnaires and interviews that helped their group gauge attitudes regarding the feasibility of a new study abroad program. The main purpose of the student surveys was to find out whether or not there is a demand for an engineering-specific study abroad program. In addition to determining interest and demand, the group also wanted to see when students would want to go abroad. Through interviews of key faculty members, the group received guidance about creating a potential program and was also able to assess the faculty's willingness to see a new study abroad program developed. Furthermore, by interviewing other professors, the group acquired information that professors had experienced first-hand when teaching overseas. Their experiences with the students, host universities, and any challenges they faced were valuable for our project. Interviews held with faculty in the Office of International Education gave the group insight into what people are required to sign off on a program before it could be offered to the students. It was determined that in order to insure quality programs, many details must be considered and worked out. By talking with Dr. David Keitges, the Director of the Office of International Education, and Ms. Cheryl Young, the Director of Extended & Global Studies, the group incorporated the specific criteria of study abroad program approvals into the assessment of feasibility.

After the first major phase of primary and secondary research was completed, the group had to interpret the research and data. This step was crucial because it provided a basis for the logistics of a new study abroad program (including how much students are willing to pay, where they were willing to travel, etc.). Also, the conclusions drawn from interviews were important because they forecasted the support level from administrators.

Thesis Project Research

After concluding that it was more feasible to create an advocacy program for the engineering study abroad opportunities than to create a brand new program, Clara and Grace began collecting as much information about those opportunities as possible. They met with faculty in the Office of International Education several more times to ensure that they had as much information as they deemed would be helpful to include in their advocacy program. Although Clara and Grace recognize that there are many engineering programs offered all over the world, they decided they would still want to focus on English-speaking countries, namely Australia, England, Ireland, and Scotland. They made this decision based on their previous reasoning from their feasibility study: that engineering students at Miami University are not required to take foreign language courses and will probably not want to focus on foreign language

courses while abroad. This was also confirmed by Clara and Grace's survey of current engineering students during their technical writing course. Out of a list of many countries, Australia, England, and Ireland proved to be the most popular locations for a study abroad program for the students who took the survey. These three countries proved to be good choices because when Clara and Grace met with Sarah Coban in the Office of International Education, she confirmed that those countries have a plethora of opportunities for engineering students to study abroad. She also encouraged Clara and Grace to explore Scotland because of its similarities in study abroad programs to the three that Clara and Grace were already considering.

During this part of the research, Clara and Grace were also interested in learning more about transfer courses and how specific engineering classes could transfer back to Miami. They discovered that because each university has such a wide range of offered courses that vary in course length, credit hour, and content, the transfer credits would have to be determined on an individual student and an individual university basis. Transfer credits typically depend on the accreditation of the university they are coming from and the components of the class itself. Therefore, Clara and Grace determined that it would be best to advise each student looking to study abroad to meet with someone in the Office of International Education to work out a plan to get abroad credits to transfer to Miami. Most programs will allow for reasonable transfers, but Clara and Grace did not want to oversimplify the transfer process in case it led any future students astray in their study abroad search.

By the end of the research phase, Clara and Grace had reviewed numerous packets of information about the study abroad programs offered in Australia, England, Ireland, and Scotland. Then, Clara and Grace worked diligently to condense the information about those programs into appealing and marketable documents, tables, and presentations.

See Appendices A through D for copies of these tables, presentations, advertisements, and flyers.

Project Methods

Feasibility study

The feasibility study gave Grace and Clara the push to continue working on the project during their remaining three semesters. As a part of the feasibility study, Grace and Clara created a course map, which indicated the courses that overlapped across the engineering majors offered at Miami (see Appendix A). This course mapping system would be used to determine which courses should be offered with the new program to maximize the engineering majors that could utilize the program. After interviewing faculty and surveying students, Grace and Clara felt that the need for such a program was present. Students wanted to go abroad, but did not feel as though they could, and professors wanted to encourage students to go abroad.

Initial project idea

With the information from the feasibility study, Grace and Clara decided to continue working on the program via a thesis action project. During their Honors 290D course, Developing an Advanced Honors Project, they continued pursuing the idea of implementing a new program. Clara and Grace asked Dr. Carter Hamilton to be their thesis mentor, as he currently takes engineering students to Poland as a summer study abroad experience. Grace and Clara knew that Dr. Hamilton was familiar with the logistics behind study abroad programs and recognized that he was passionate about encouraging students to go abroad.

At this point, Grace and Clara planned to use faculty support from Dr. Hamilton and his colleagues to find a professor to go abroad. They then met with Ms. Sarah McNitt, a representative in the Office of International Education. During this meeting, they were informed that many overseas engineering programs were already available to students at Miami University. These programs are organized through larger study abroad providers, such as Arcadia or Australearn. Engineering students can work with a representative from the Office of International Education to choose a technical /engineering school abroad and sign up for courses equivalent to those that they would be taking at Miami.

Final project

With this information, the thesis project transformed into what it is now. Grace and Clara concluded that although there are semester-long study abroad programs available to engineering students, these programs are not well advertised. The thesis project became an advocacy program, created to encourage engineering students to study abroad and to educate them on the opportunities available to them.

With the formulation of their mission statement, Clara and Grace began developing an advocacy program. First, they met with Sarah Coban, a Graduate Assistant in the Office of International Education. During this meeting, Clara and Grace discussed with Sarah the new direction for their project. Sarah gave Grace and Clara printed information on schools in Scotland, Ireland, England, Wales, and Australia and guided them on how to determine which schools featured engineering programs. For the rest of the semester, Clara and Grace met every Monday to work on researching the different schools, creating qualitative selection criteria, and compiling the information. The selection criteria for each school was based on the variety of engineering programs it offered, the cost, the number of students attending, and the location. The types of engineering programs offered at each school would determine which engineering students at Miami could participate in the program. It was important to Grace and Clara to try to reach out to every engineering major at Miami by ensuring that all majors were represented in the universities being presented. Cost was also a large influence on the schools that were featured, because from a student-perspective, it would be less appealing to study abroad if tuition, housing, and fees were significantly more expensive. In an effort to give a range of types of schools, Grace and Clara also chose schools with a variety of student population sizes. The final selection criterion was the school's location. It was predicted that the results of the advocacy program would be more successful if the study abroad experience seemed more appealing during the presentations.

Based on the qualitative selection criteria, nine universities were selected to be featured in the advocacy program. The program was made up of a few different components, but the main goal was to encourage engineering students to study abroad. Information gathered about each of the schools was organized in a Prezi presentation, which was shown to first year engineering students (see Appendix B for this presentation). In addition, most of the same information was also formatted into a TV advertisement (see Appendix C). This advertisement was posted on the flat screen TVs in Benton. Anyone passing by the TVs could stop and read the information about studying abroad, and then contact the Office of International Education (whose phone number was included on the slide). The information was also summarized in brochures (see Appendix D). These brochures were posted around the engineering building for students to take. All of these forms of communication had a basic message saying that engineers can in fact study abroad. They were all also aesthetically pleasing and eye-catching so that students were most likely to notice them or read them. These three components of the advocacy program allowed Clara and Grace to get their voices heard about studying abroad. The advertisements and presentation reached just about every first year engineering student, hopefully impressing upon them that they should start planning early to go abroad. The brochure and presentation also included Grace and Clara's suggestions on the semester to study abroad (sophomore year or first semester of junior year) so that students could have a feel for the specific timeline of when to apply to go abroad.

Presentations to First-year Engineering courses

The first form of advocacy was a presentation shown to first-year engineering students. Clara and Grace visited the engineering classes that second semester first-year engineering students take. This presentation gave information about each of the featured universities in England, Ireland, Scotland, and Australia. Specifically, the presentation outlined the size, cost, location, application deadlines, required GPA, and engineering programs offered at each school. In addition, the presentation allowed Grace and Clara to share their journey with the project and the mission statement of their thesis. The aim of these presentations was to impress upon the students that they can go abroad in the next few years, to encourage them to start planning their study abroad trip early, and to share the exciting options available to them. By showing them their options, the process of planning the trip is already started for these students. Even if the students do not want to participate in any of the programs outlined in the presentation, they at least know who to contact for help planning their own study abroad experience. This advocacy program has been completed for this semester by Grace and Clara, but in theory, it will be done each year in the future. The set-up for the future program will be much like what took place this semester, in that the presentations will occur towards the end of spring semester and the brochures and TV ads will be posted around the same time.

TV advertisements in SEAS

The TV advertisements were posted on the flat screen TVs in Benton Hall. These gave very brief information on engineering study abroad programs and promoted the study abroad experience. The focus of the advertisement was to show engineering students that they can in fact, study abroad. It also showed the four locations that were focused on, Australia, England, Ireland, and Scotland, and the programs available to engineers in those countries. The advertisement was meant to be simple, to the

point, aesthetically pleasing, and eye-catching with its pictures and color scheme. At the bottom of the advertisement, the phone number for the Office of International Education was posted, and the students were encouraged to contact them.

Bulletin Board Brochures

The brochures were created to reach out to any students who did not see the presentation, such as 2nd-year engineering students. Although these students have less time to plan a study abroad trip, it is still very feasible that they can participate in one. Other students that could be reached with these brochures were prospective engineering students considering Miami University (who were touring the facilities or visiting a sibling), along with any students who were absent during the presentations given in class. The brochures go slightly more in depth than the TV advertisements, outlining the cost, size, and engineering programs for each university. Although these gave less information than the presentation, they were very helpful in advertising the idea of going abroad, along with giving engineering students the tools necessary to plan their study abroad experience.

Outcomes

There were several measurable outcomes from this thesis project and advocacy program. Overall, Clara and Grace believe that there is evidence that their advocacy program is serving its purpose in informing engineering students of their many opportunities to study abroad. They also believe that it will make a noticeable impact on the amount of engineering students who study abroad in the next few years, assuming there is continued advocacy for these study abroad programs.

Feedback from Advocacy Program

Feedback from Students Directly

During presentations, Clara and Grace immediately noticed that they were catching the attention of some interested students. Due to the appropriately brief length of the presentation, they were both able to hold the attention of the students and encourage interaction from them. During a presentation to a small class, Clara and Grace asked the students how many were interested in studying abroad. There were about 10 hands raised, which impressed Clara and Grace because of the small class size. During a later presentation to the CPE 102 class, which had about 50 students in it, Clara and Grace were even more impressed with the response to the same question. At the end of the presentation, after Clara and Grace had presented all of the study abroad programs they had researched, they asked how many students want to study abroad before graduating. Almost every student, about 95%, in the class raised their hand. This was very exciting because Clara and Grace truly felt like their presentation had engaged the students and will prompt some of them to explore their interests in studying abroad.

Sarah Coban recently informed Clara and Grace that since their program has been put into place, more students have been coming to meet with the Office of International Education (and requested to meet with her) about studying abroad as an engineering major. Specifically, she said she already has two appointments planned in the next week for engineering students. One of these students specifically

mentioned Grace and Clara's presentation when scheduling her appointment. This is strong evidence that the advocacy program encouraged students to start thinking about studying abroad. In fact, after Clara and Grace's first presentation to the MME 102 class, a student in the class emailed Clara asking for more information from our presentation and about how to start his study abroad planning. In his email, this student, Jake McCullough, stated "I was in MME 102 when I heard a presentation given by two senior students about studying abroad and I became interested. When I found out there are Universities that offer engineering classes instead of just Miami Plan classes, it peaked my interest... I have a friend that is also interested." This email was exciting because it showed that Clara and Grace were in fact accomplishing the original mission of their thesis. Even if these students do not decide to study abroad at one of the schools that Clara and Grace researched and presented, their program is still going to help increase study abroad participation of engineering students.

Feedback from Collaborating Professors

Clara and Grace have had strong support from the faculty they have worked with throughout this project, both in the School of Engineering and Applied Science and in the Office of International Education. Their support grew most when their project changed from the creation of a new study abroad program to the creation of an advocacy program. This was because the faculty, mainly in the Office of International Education, knew that there were already a lot of great programs in place that were not being used as they should be. The staff also knew how difficult it would be for Clara and Grace to create a whole new program in the time they had remaining before graduation. Therefore, they were pleased to see the work Clara and Grace planned to do to advertise current programs available. Also, when Clara and Grace presented their program to engineering students, the professors in charge of those classes were very receptive to their ideas. The presentations were done for classes in each department of the School of Engineering and Applied Science and the professors in each department were equally as willing to let them present and to get the students in the class involved with the presentation. The professors helped Clara and Grace interact with the students, asked questions about study abroad programs themselves, and overall made the presentations more beneficial to the students.

English 313 Student Group's Work

Currently, there is a group of students from an English 313 class that is working on a feasibility study to test the possibility of installing a semester abroad program into the engineering curriculum. These students share a similar goal with Clara and Grace of getting more engineering students to study abroad. While Grace and Clara did not learn of this group and their initiative until late in their thesis project, they believe that the group's goal further implies the need for this advocacy program. The English 313 students also believe that current engineering students are not aware of the opportunities available to them and that there could be a stronger effort to push more engineering students to study abroad.

Personal Learning Curves

Clara

Even before coming to college, Clara always expected to study abroad. After living in Paris, France for two years of her childhood, and travelling all over Europe during high school, it was just a part of her life. After her first year, Clara began taking her engineering core classes. Like most other engineering students, she fell into the assumption that she was unable to study abroad during her junior year due to the 300 level engineering courses she had to take. It became a matter of whether she would be willing to graduate a semester late just so that she could go abroad. With tuition fees and housing costs, she decided it would be best to graduate in four years rather than study abroad. Little did she know, she didn't have to decide between the two.

During her junior year, Clara greatly regretted the fact that she hadn't studied abroad. So when the opportunity presented itself for her to study abroad during the summer between her junior and senior years, she didn't hesitate. She was able to both take her senior capstone for engineering and go to Lincoln, England. Although her study abroad experience wasn't a semester-long trip, it further convinced her how important it is to experience a new culture, place, and even education system. Although her study abroad experience was one of her favorite college memories, it could have been more economically efficient and culturally immersive if it had been during the school year rather than the summer. This experience was eye-opening, and it was the extra push she needed to continue working on this thesis project. It became extraordinarily more important for her to encourage others to take advantage of the semester study abroad opportunities out there, even though she had missed out on them.

With the fuel from her study abroad experience, this project became more of a passion than just schoolwork. Another turning point for Clara during this process was her discovery of Miami's study abroad mission. Miami has the goal for at least 50% of its students study abroad during their undergraduate education. This emphasis from the school to study abroad was more encouragement that Clara and Grace had chosen a really important thesis topic. As of now, a very small amount of engineering majors study abroad during their time at Miami. To think that this could change due to an advocacy program was truly exciting for Clara. This type of inspiration gave Clara even more drive to reach out to her fellow students. It became increasingly important for the School of Engineering and Applied Science to help Miami reach this goal.

Another huge learning experience Clara had was in discovering the resourcefulness of the Office of International Education. Not only was the staff helpful and knowledgeable, but they had an obvious passion for the study abroad experience. The meetings Clara and Grace had with Sarah Coban, Sarah McNitt, and David Keitges were simultaneously informational and inspirational. It was exciting to talk to someone who cared about this as much as they did, and the information gathered during these meetings gave Grace and Clara the information necessary to turn their project in a completely new direction towards the advocacy of current opportunities.

Grace

For Grace, the experience of working on this action-based thesis project was a great culmination of her project experience throughout her undergraduate career at Miami. She had been exposed to many problem-solving projects in her engineering classes, but none that served as much of the general public as this one or that stretched across multiple facets of her education. Therefore, it was a great experience to learn how to apply her knowledge of working on projects from the past to this project that Grace and Clara believe will actually make a difference in the engineers at Miami.

One of the biggest areas of personal growth during this project was in analyzing and interpreting all of the research that was required along the way. Clara and Grace had to complete both primary and secondary research throughout their technical writing and thesis project. They also had to learn how to interpret that research and how the research would impact the direction of their project. This was especially apparent when, at the end of Clara and Grace's work on the project in their technical writing class, they learned that there were already many of engineering programs available for students. After doing research on those programs and realizing that they were exactly the kind of program that Clara and Grace wanted to plan, Clara and Grace had to reevaluate their thesis project. Instead of creating a new program, they decided to make an advocacy program to advertise some of the current study abroad opportunities. While it was difficult to leave the original idea that Clara and Grace were so passionate about, they learned how important it was to consider the needs of their audience. Their audience, engineering students at Miami, do not need a brand new study abroad program. They need to know about all of the fantastic opportunities that are already in use and will provide all of the desired benefits of studying abroad. Grace believes that this experience will be valuable because she plans on working on many major projects in her engineering career(s) later in life. She will without a doubt have to work on projects that require her to reevaluate goals and change directions of the project. This thesis project was great preparation for her to know how to do so.

Another beneficial aspect of working on this project was learning how to collaborate with professionals in many different compartments and to consider all of their input simultaneously. At the start of this thesis, Clara and Grace were only working with a few peers and teachers on this project. As the project developed, they saw the need to set up meetings with faculty in the school of Engineering and Applied Science, Office of International Education, and the Honors department. This was important because it taught Clara and Grace how to better use the resources available to become as knowledgeable about studying abroad as possible. This skill will be valuable in later careers as well because it will help Grace to know when to communicate with her peers and other professionals on her project work. Working with those who have more expertise in a topic will inevitably improve the quality of one's work.

Future Work and Recommendations

In the future, Clara and Grace would like to see other engineering students at Miami take over as the leads for this advocacy program. While Clara and Grace hope to reach out to most of the underclass engineering majors currently at Miami, they know that it will take several years to get a study abroad trend started in the School of Engineering and Applied Science. Miami University is promoting study abroad opportunities more and more each year, and Grace and Clara believe that there is untapped

potential within the students in the School of Engineering and Applied Science to add to the number of Miami students studying abroad. Realistically, they do not think there will ever be a time when 50% of engineering students study abroad, which is the percentage Miami is hoping for across the student population. This is due to the rigor of an engineering curriculum and the desire many engineering students have to remain on Oxford's campus to make sure they complete that curriculum. However, Clara and Grace are confident that more continued advocacy for available programs will raise the amount of engineering students who study abroad, which will add to the overall percentage of study abroad students at Miami. Clara and Grace would like future students to continue to present to engineering 102 classes and other groups of underclassmen engineers so that they are reached before the ideal time for them to study abroad. Ideally, this advocacy program will be presented to future students during their preliminary visits to Miami, before even committing to come to the school. Clara and Grace believe that because Miami has such a big push for studying abroad but is also known to have rigorous engineering curricula, this program will help incoming freshmen see that it is feasible to study abroad and still graduate on time from Miami. Advertising the options available will not only help recruit students who were very concerned with studying abroad during college, but also potentially help recruit students into the School of Engineering and Applied Science. There are so many unique and intriguing study abroad opportunities available just for engineers that Clara and Grace believe they could really help to draw more students into an engineering major upon coming to Miami.

Also, in continuing this advocacy program, it would be ideal if the next students in charge would develop more ways to reach out to current students. Clara and Grace got a good start with a presentation, TV advertisement, and brochure. However, there is much more that could be done to reach out to Miami students and to keep them updated on new and exciting opportunities. For example, a webpage designed specifically for engineering study abroad opportunities would be an ideal way for current students to learn as much as they need about studying abroad and about different program options. Currently, the Office of International Education at Miami has a webpage that caters to all students looking to study abroad. However, this is not an ideal webpage for an engineer because most students that study abroad are not studying engineering. Instead, a webpage specific to engineering programs would directly relate to these students and would be more beneficial. It would also be ideal to have this webpage linked to the School of Engineering and Applied Science website and the Office of International Education website. Along with an informational website, Clara and Grace believe there are ways to use social networking sites to reach out to students interested in studying abroad. A facebook or twitter account that periodically updates its followers with new or interesting programs could reach out to students who are less inclined to do the research on their own.

Overall, Grace and Clara believe that they have just begun to tap into the realm of possibilities for engineers to study abroad. From their original idea to create a new program, to their research on all of the currently offered programs, to their personal interactions with students and faculty interested in getting more students to study abroad, they have realized that there is a need for continued study abroad advocacy. Advocating study abroad opportunities has had tremendous results for the Office of International Education in getting more Miami students in general to study abroad. Clara and Grace believe that although the programs have to be advocated differently for engineering majors, it will still

have as great of an impact on the target audience. In the future, they hope to see other engineering students who are passionate about the benefits of studying abroad continue to work to appeal to this audience. Based on the positive feedback that Clara and Grace have already received from their work with this thesis project, they expect that there will be an increase in future engineers who will consider themselves “world travelers” and who will be better individuals, students, and engineers because of it.

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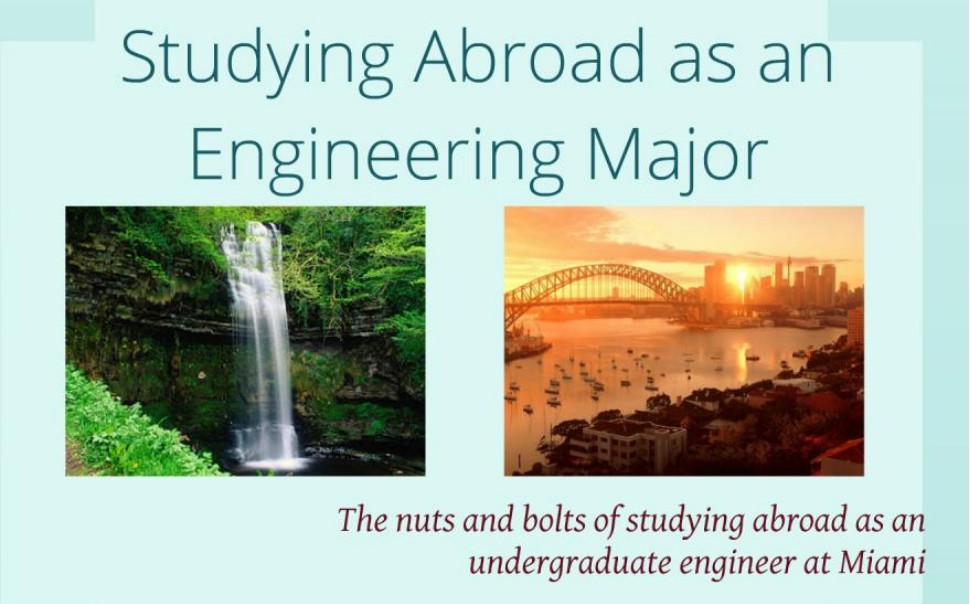
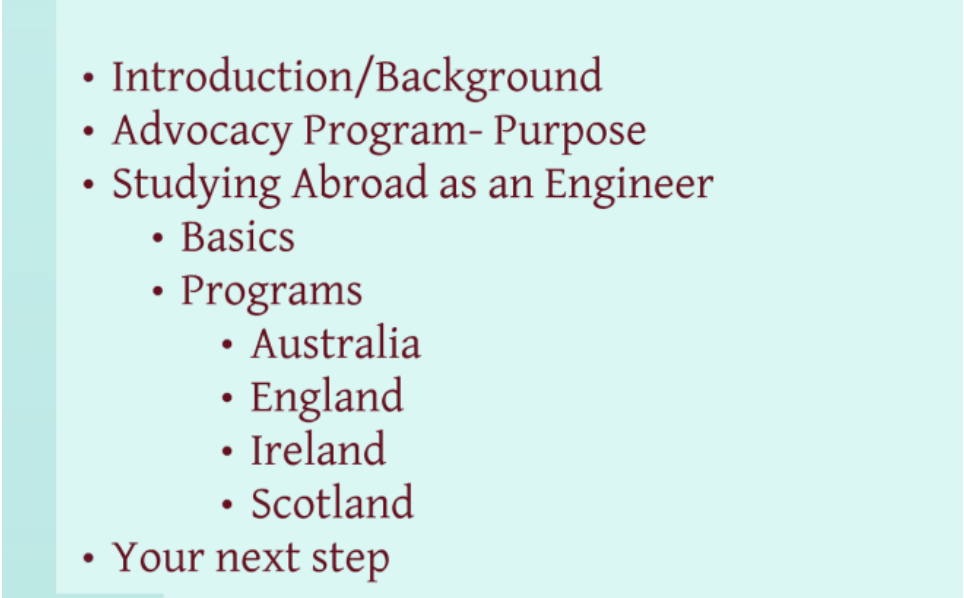
Appendix A: Sample Course Map

	Majors				
Course	Mechanical	Manufacturing	Chemical	Electrical and Computer	Management
Engineering Economics	CR	CR	-	-	-
Statics	CR	CR	CR	CR	CR
Linear Circuits	CR	CR	-	CR	CR
Intro to Java Programming	TE	TE	-	-	-
Fluid Mechanics	CR	CR	CR	-	-
Computer-Aided Experimentation	CR	CR	-	-	CR
Thermodynamics	CR	-	CR	-	-

Key:
CR = Course Requirement
TE = Technical Elective
Second year course
Third year course

Appendix B: Study Abroad Advocacy Presentation





Introduction

- Our experiences
- High interest in studying abroad among engineering peers
- Supposed lack of engineering study abroad programs (other than summer programs)
- Lack of knowledge about many opportunities to study abroad – more than summer programs
- University and SEAS support of study abroad programs


Engineering Study Abroad Programs


Australia

University of Melbourne

- Sponsor program: Australearn
- Location: Melbourne, Victoria
- Campus enrollment: 43,000 (12,000 international students)
- Req'd GPA: 3.0/4.0
- Application deadlines: Nov 15th for Feb start, April 15th for July start
- Supported engineering majors: Biomedical, Chemical, Computer, Electrical, Environmental, Manufacturing, Mechanical
- Tuition and housing: $22,055

University of Queensland

- Location: Brisbane, Queensland
- City population: 1.7 million
- Campus enrollment: 43,731 (10,465 international students)
- Req'd GPA: 3.0/4.0
- Application deadlines: Nov 15th for Feb start, April 15th for July start
- Supported engineering majors: Biomedical, Chemical, Computer, Electrical, Environmental, Manufacturing, Mechanical
- Tuition and housing: $19,640

University of New South Wales

- Location: Sydney, New South Wales
- City population: 4.5 million
- Campus enrollment: 50,000 (11,600 international students)
- Req'd GPA: 3.0/4.0
- Application deadlines: Nov 15th for Feb start, April 15th for July start
- Supported engineering majors: Biomedical, Chemical, Computer, Electrical, Environmental, Manufacturing, Mechanical
- Tuition and housing: $19,645

City University

- Sponsor program: Arcadia
- Location: London
- Application deadline: Fall- April 20th, Spring- Oct 15th, Academic year- April 20th
- GPA req- 3.0/4.0;
- Campus enrollment: 12,000
- Program fee (includes housing): $16,980
- Supported engineering majors: Chemical, Electrical, Environmental, Mechanical

University College London

- Location: Bloomsbury
- Application deadline: Fall- April 1st, Spring- September 30th, Academic year- April 1st
- GPA req- 3.3/4.0
- Campus enrollment: 18,000 (6,000 international students)
- Supported engineering majors: Chemical, Computer, Electrical, Environmental, Mechanical
- Program fee (includes housing): $22,300

National University of Ireland, Maynooth

- Sponsor program: Arcadia
- Location: Maynooth
- Application deadline: Fall- April 20th, Spring- Oct 15th, Academic year- April 20th
- GPA req- 3.0/4.0
- Campus enrollment: 8,800
- Program fee: $16,650
- Supported engineering majors: Computer Science and Software, Computer, Electronic, General Engineering

University of Limerick

- Sponsor program: Arcadia
- Location: Limerick
- Application deadline: Fall- April 20th, Spring- Oct 15th, Academic year- April 20th
- GPA req- 2.9/4.0
- Campus enrollment: 17,000
- Program fee: $15,200
- Supported engineering majors: Biomedical, Chemical and Biochemical, Computer, Mechanical

Queen's University Belfast

- Sponsor program: Arcadia
- Location: Belfast
- Application deadline: Fall- April 20th, Spring- Oct 15th, Academic year- April 20th
- GPA req- 3.0/4.0
- Campus enrollment: 17,000
- Program fee: $16,420
- Supported engineering majors: Chemical, Computer Science, Electrical, Environmental, Manufacturing, Mechanical

University of Edinburgh

- Location: Edinburgh
- Application deadline: Fall- April 20th, Spring- Oct 15th, Academic year- April 20th
- GPA req- 3.0/4.0
- Campus enrollment: 30,000
- Program fee (including housing): $16,580
- Supported engineering majors: Computer Science, Chemical, Environmental, Electrical, Mechanical

- Introduction/Background
- Advocacy Program- Purpose
- Studying Abroad as an Engineer
  - Basics
  - Programs
    - Australia
    - England
    - Ireland
    - Scotland
- Your next step

Recommendations

- You CAN study abroad as an engineering major!
- Start planning early!
- Consider studying abroad during your 2nd or early in 3rd year
- Get into contact with the Office of International Education
  - Sarah Coban – Graduate Assistant – cobanse@muohio.edu
- Our contact information
  - Clara Godsell – Mechanical – godselce@muohio.edu
  - Grace Handley – Chemical -- handlegr@muohio.edu

QUESTIONS?

Appendix C: Study Abroad Advocacy TV Advertisement

Figure 1. Study Abroad TV Screen Advertisement

Appendix D: Study Abroad Advocacy Brochure

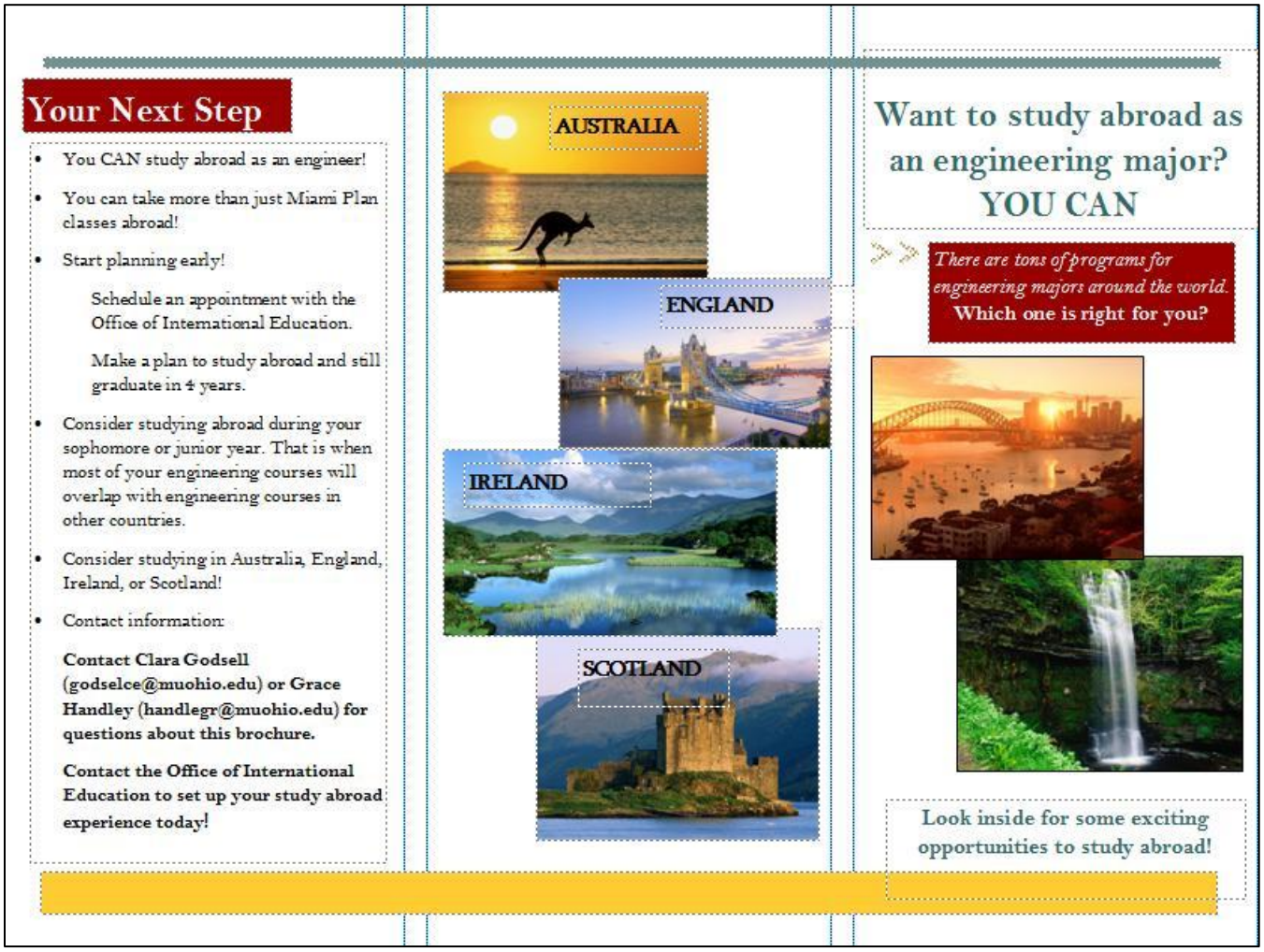


Figure 2. Study Abroad Brochure Front and Back

Figure 3. Study Abroad Brochure Inside