

International Engineering Minor

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Introduction

In our increasingly global economy, it becomes essential that the US engineering and technical workforce clearly understand how engineering is done in other countries. This includes knowledge of and about international standards, overseas markets and the engineering cultures of other countries that give rise to those standards and responds to these markets. Global corporations such as Boeing, Ford, Toyota, Siemens, Sony, Hitachi, GM, IBM, GE, Microsoft and many others boast engineering and technology workforces that operate on an international scope. They have research laboratories, engineering design centers, manufacturing facilities and sales offices all over the world. Advances in communications have helped companies work multinationally, with teams of engineers around the world working together to design and manufacture products.

Such a global economy means that engineering and technology education must provide students with the tools and experience to compete and work in an international market. Although the equations of motion, Ohm's Law and software tools work the same whether in China, Germany, Brazil or the USA, the cultural differences in the engineering work place are much different. The International Engineering minor at the College of Engineering and Computer Science at UCF addresses these issues by exposing the interested students to different cultures and languages - professional, technical as well as social. These provide an insight into how engineering is performed abroad and what ramifications that has on the US economy.

International Engineering Minor

The International Engineering minor provides engineering, computer science and engineering technology students with a structured path for obtaining formal credit for their work towards internationalization on a technical, professional and cultural level. It requires a minimum of one semester abroad, plus coursework taken at UCF in preparation for the experience abroad. The minor has three components:

- Study of language of intended country of study. This includes two semesters (6 to 8 credit hours) of coursework at UCF (or at the partner foreign institution if UCF does not offer courses on that specific language). Alternative requirements exist for students who are already fluent in that language or who are going to a country where English is the primary language.
- Cultural studies of the country you will visit (3 credit hours).
- Technical coursework that applies to your degree at UCF. This portion is the most important and must consist of courses equivalent to those at UCF. Another option is to take an engineering internship abroad with one of our associated industrial partners.

The program is designed to be highly flexible within the above requirements. It is designed around the needs of individual students. Thus, we recommend that you speak with the coordinator for the International Engineering minor in your department to ensure that all academic needs and coursework are satisfied.

Our partnerships with foreign institutions will also bring students from those institutions to UCF for one or two semester stays. This will allow the returning UCF engineering student to continue their international experience and education by collaborating with these students in joint coursework and design projects.

Official Catalog Description:

http://catalog.ucf.edu/preview_program.php?catoid=3&poid=929&returnto=173

What are the benefits?

Many employers that build products worldwide look for engineering and computer science and engineering technology graduates who can function comfortably in an international setting. Studying overseas indicates a willingness to explore new cultures and learn from new experiences.

Many of our students talk about their time abroad as life changing. Traveling to new countries and meeting new people is culturally enriching and exciting.

In today's global economy, international experience is an essential part of higher education. More and more sectors of the economy require working with international corporations, collaborating with foreign teams, or working as member of a multi-national team. To acquire meaningful international experience is one way to prepare for the workforce after graduation. In addition to a strong engineering background, there is a need for engineers with cross-cultural experience and foreign language abilities. This will help them tremendously to get an edge in the competitive job market.

The challenges that come with living in another culture force students to hone their interpersonal and communication skills, increase their sensitivity to other cultures, and become more adaptable, assertive, and independent. The student's decision to spend a semester abroad is very likely to be a very worthwhile investment.

The personal experience and new perspectives that students develop while studying overseas are valued by more and more companies, organizations, and employers who seek new employees who can speak a foreign language, thrive outside their comfort zone, and/or live and work comfortably in a multicultural setting and environment.

Finally, a person who spends a significant amount of time abroad learns about themselves and, through the eyes and minds of others, about their own country. These lessons, in addition to broadening their views on issues ranging from foreign policy to ethics and everything in between, can provide students with tools that will enable them to adapt and succeed in the global marketplace.

We highly encourage all students who are academically capable to engage in an international study abroad experience. The testimonials from students who have done it in the recent past are glowing with praise for this experience, not only from an academic and technical standpoint, but also from a social and cultural view.

Testimonials

"This has been the best three months of my life and I've met so many amazing people. This experience has opened my eyes to the world around me. So far I have visited Paris, Copenhagen, Amsterdam, Budapest, and Kiruna for the northern lights!"

-Wyatt Champion, Environmental Engineering

"Studying in Sweden was probably the best experience of my life. Not only did it allow me to travel all over Europe, see and try new things, but it gave me the opportunity to meet people from all over the world who will be life-long friends. Professionally, it has opened door after door. An international school experience makes a remarkable impression on your resume. If there is the slightest bit of interest on your part to participate in this program, don't hesitate. Jump at this opportunity. I promise, you won't regret it."

-Leah Russell, Computer Engineering

"Studying in Jönköping was a great adventure, it opened my eyes to new cultures and really brought me out of my shell. I met people from literally all around the world and got a chance to learn about many different places and cultures. I'm looking forward to traveling around Scandinavia and through the rest of Europe. If you have the chance to study abroad don't let the opportunity pass you by."

-Matt Draper, Computer Engineering

"The best piece of advice I have for all college students is to take advantage of the opportunity to study abroad (and don't worry...it doesn't cost as much as you might think). The time spent in another country was extremely valuable and introduced me to a whole new world, culture and people and is something I will never forget. As a student, I was able to participate in courses related to my major while seeing it from a whole new perspective (more hands on and more international ideas). Studying abroad was an experience that encouraged me to grow out of my personal shell and my cultural cave while expanding my knowledge and ability to show compassion. Honestly, words don't do the experience justice."

-Kimberly Raymond, Civil Engineering

"I can honestly say with the utmost confidence that studying abroad has really changed me as an individual and has also helped me in preparation for the professional working environment. Choosing to study abroad was indeed the best decision of my life; the amount of diversity of cultures is simply mind-boggling as you step into the midst of an entirely foreign country and a rush of new sensations hit you as you truly open your eyes for the first time. Studying abroad really gives you an opportunity to take risks and really push yourself to your limits in trying anything out of the ordinary, something different, perhaps even bizarre, without any kind of stereotype and prejudice. As a result, you get to travel around in exotic and beautiful landscapes, and make new friendships from all over the globe. Some of my closest friends right now are in fact thousands of miles away from me whom I would never have met if I did not choose to study abroad. This invaluable opportunity has also provided me with a great deal of exposure to living and working in another country as well as enabling me to refine my team development skills with others from all over the world."

-Linda Nguyen, Computer Engineering

Am I eligible?

Undergraduate students in engineering, computer science and information technology in the UCF College of Engineering and Computer Science who meet the following requirements are eligible to apply. An application does not guarantee placement in a program.

- A UCF cumulative 2.75 GPA or better
- Completion of a minimum of 60 credit hours prior to the study abroad experience
- Not be in academic or conduct probation

Students interested should contact the study abroad minor coordinator, Maureen Waked at mwaked@ucf.edu, ENG1 107, 407-823-6037

Where can I study?

Our academic partners are carefully chosen for their education and cultural enrichment opportunities that are challenging and rewarding for our students. The safety of our students is paramount and we do all we can to ensure that our students are studying in a safe and supportive environment. Our list of international partners is expanding and currently includes:

RMIT Royal Melbourne Institute of Australia
Griffith University, Australia

Pontifícia Universidad Católica do Rio Grande do Sul, Brazil

Hong Kong Polytechnic University, Hong Kong
CityU, City University of Hong Kong

American University of Cairo, Egypt

Erfurt University of Applied Sciences, Germany
Ilmenau University of Technology, Germany
Westfälische Hochschule (Gelsenkirchen), Germany
Hochschule Bremen Internship, Germany

Dublin Institute of Technology DIT, Ireland

University of Cantabria, Spain
University of Jaen, Spain
IQS, Spain

Jönköping University, Sweden
Malardalen University, Sweden

Zurich University of Applied Sciences, Switzerland

University of Surrey, Guildford, U.K.

John Cabot Univ. Rome, Italy *Provider program*

Where can I do an internship?

Doing a four to six month internship abroad is one interesting and exciting option for students enrolled in the International Engineering Minor program at the UCF CECS. It not only provides a unique insight into the professional technical culture overseas, but could set the stage for future employment opportunities with truly multi-national corporations. Students interested in the limited number of foreign internships available have several companies from which to apply. We are currently looking for partner companies.

Contact Maureen Waked at mwaked@ucf.edu, ENG1 107, 407-823-6037

How do I apply?

Students in the International Engineering Minor should work in conjunction with the study abroad advisor in the College of Engineering and Computer Science minor's advisors and the [UCF Abroad Office](#) to understand and complete the timeline of important tasks in order to prepare for their study abroad experience.

1. Meet with a CECS minor advisor.
2. Officially declare the minor by submitting the Minor Declaration.
3. Select the country and institution that best meets your academic and personal needs.
4. Obtain departmental course approvals.
5. Apply to the UCF Study Abroad Program.
6. Apply to the foreign institution previously selected. Review that institution's policies, procedures, and deadlines.
7. Obtain passport and the required visas.
8. Take language courses and any coursework at UCF to meet any requirements prior to the semester to be spent abroad.

Contact Maureen Waked at mwaked@ucf.edu, ENG1 107, 407-823-6037

How much does it cost?

The cost of a study abroad experience is not trivial. However, with preparation and advance planning, it need not be sufficient reason to avoid embarking on this rich experience. In general, we say that the cost of living abroad is roughly equivalent to living off campus at UCF. However, with the loss of value of the US dollar in recent months, this may no longer be true. Furthermore, this does not take into consideration the cost of air fare, which has been steadily rising lately in response to higher fuel costs, or the cost of any travel that the student may undertake to visit other areas of the region, either during the study abroad period or afterwards. Lastly, it should be mentioned that some of our study abroad destinations are more expensive than others. If expense is a critical issue (and it almost always is), then the student should take this into consideration when selecting a partner institution at which to study.

There are things a student can do to partially mitigate the cost of this experience. There are sources of [financial assistance](#). Additionally, we have worked hard to identify potential partners for paid internships abroad of which students can take advantage. While this list is relatively small at this time, we are working hard to expand this list of industrial partners and expect this list to grow over the next few years to provide our students with practical technical experience as well as a means to subsidize their experience overseas.

With the varying value of the dollar, the exact costs can be difficult to predict with any certainty.

However, some things we do know:

Students will be registering and paying tuition at UCF. Therefore, any financial aid they may already have (i.e., Bright Futures, merit-based scholarships, outside financed scholarships or financial aid, etc.) would be processed as if you were at UCF.

There is a fixed fee of \$350 for applying to the Study Abroad program.

Those attending universities in smaller cities will find the living costs to be more in line with those in Orlando than those attending universities in large cities of first world countries.

Cost of living in the large cities can be mitigated for by making living arrangements early so as to live on a university housing where it is less expensive.

Airfares also vary with destination cost of jet fuel and time of year. However, one should generally budget between \$500 to \$1,000 for Latin America, \$1,000 to \$1,500 for Europe and \$1,500 to \$2,000 for Asia.

Cost of passport \$145 and visa (yes, a visa is necessary in most cases because of the duration of the stay), is between \$200 and \$500.

It is unlikely that you will need or want a car while overseas. Therefore, the cost of gasoline abroad, while considerably more expensive than in the US, will be largely irrelevant to your expenses.

Cost Estimates and Financial Aid

The cost involved in studying abroad can be found on the individual brochure pages of the programs offered on the [UCF Abroad website](#) . Keep in mind that it is difficult to provide an exact estimate because of several variables, such as the exchange rate, the specific location of interest and the individual student's spending habits. Financial Aid Resources

When is the best time to go?

The ideal time to study abroad is the second semester in your junior year. Going abroad in other years is possible, but may limit the variety of coursework available to you. Studying abroad in your final semester before graduation is denied as transcripts from abroad do not arrived in time to have your grades recorded and certified for graduation.

Frequently Asked Questions

Safety?

The safety of our students is our foremost consideration. While no one can fully guarantee the safety of our students, we make sure that the social and political climate in the area in which our students will be living and studying is conducive to doing so safely. Our procedure to ensure safety includes monitoring of the U.S. Department of State travel warnings and advisories, regular consultations with onsite resident program coordinators and through communication with responsible officials in host universities. Additionally, the institutions and the country where we send our students is vetted before signing any exchange agreement. Furthermore, the UCF Abroad office holds pre-departure orientation for students just before they leave for overseas.

What about health insurance coverage?

The University has purchased a [Travel Accident and Sickness](#) policy to cover students traveling overseas for UCF-sponsored educational purposes. In order for coverage to be effective for your trip, UCF Enterprise Risk Management is requiring all such students to register travel.

Student Travel Registration

UCF office of [Health and Safety](#) supports faculty, staff and students who seek to travel internationally. The university recognizes the importance of international collaboration and encourages the UCF community towards gaining a global perspective. UCF faculty, staff and students who intend to travel internationally to a restricted country however, as defined by the [U.S. Department of State](#), need to be aware of the risks associated with their travel. A travel approval process has been implemented at UCF to mitigate risks that may occur while a traveler is overseas. In addition, a safety plan will be implemented should the need

Where will I live?

Most likely students will have the choice of three different living arrangements:

- Student dorms: This is the most typical. Most partner institutions will set aside space in their student dorms for international students. This allows our students to better mix in with the local

student population as well as other international students.

- Apartment: On some occasions, a student will rent their own apartment. Partner institution can provide assistance for them to find such living arrangements, but this is not common. More typically, the foreign institution has apartments that they use as extensions to the dorms and will assign our students to these apartments. This is not unlike the UCF affiliated apartment housing complexes in around the UCF campus.

Will I have a car abroad?

While it is certainly possible for our students to purchase and drive cars abroad in most countries where our partner institutions are located (although not all), we highly recommend against it. Driving in other countries is different from driving in the US. Some of our partner countries drive on the left hand side (England, Australia, New Zealand, Japan, Ireland and others). Furthermore, we are not familiar with insurance issues related to driving. On the other hand, public transportation in most of our partner countries is excellent and inexpensive.

Will a student receive grades for courses taken abroad?

Yes, of course. Our students will enroll in classes here at UCF and pay tuition at UCF as they would normally. This simplifies the logistics because the student will not need to transfer the classes and credits taken overseas, and avoid the bureaucracy typically involved with such transfers of credits. This also allows the student to use whatever financial assistance they would normally get (Bright Futures, scholarships, etc.). Part of the agreements UCF has with our foreign partner institutions is that they allow our students into their classes with a tuition waiver, and treat them like any other student. The abroad transcript is converted to a US scale and recorded on the student's record by the academic department.

What if the student does not successfully complete a course?

It is same as failing a course here in the main campus. Students will have to retake the course.

Tips for living abroad:

- Cultural Shock
 - When one goes abroad one experiences new cultures, people, food, music and probably a new language. All of the novelty combined with the lack of things and people with which one might be familiar might cause some anxiety and stress. This type of anxiety is called cultural shock. The vast majority of people quickly overcome cultural shock and gain from it. Not only will the cross-cultural adjustment help in his or her learning and development in a new country, it will make the experience more rewarding and interesting.
- Discrimination
 - Nowhere in the world is 100% free of racism and discrimination. You can face racism or discrimination abroad just like they can face racism or discrimination for whatever reason in their home country. However, many times students that go foreign countries find out that in some places people are more accepting of different races and cultures than in their communities at home. Don't let the possibility of racism or discrimination stop you from many benefits of studying abroad.

Useful Links

American Youth Hostels

<http://www.hiusa.org/index.shtml>

Birth Certificates

<http://www.vitalcheck.com>

Center for Disease Control

<https://wwwnc.cdc.gov/travel>

City Guides & Entertainment Listings

<http://www.timeout.com>

Currency Exchange Rates

<http://www.xe.com/ucc>

Destination Info, Health Info, Question & Answer Bulletin Board

<http://www.lonelyplanet.com>

Federal Aviation Administration

<http://www.faa.gov>

Get a Passport

<https://travel.state.gov/content/travel.html>

International Maps

<http://www.theodora.com/maps>

UCF Abroad Office

<https://studyabroad.ucf.edu>

Register with the U.S. Consulate

<https://travelregistration.state.gov>

Travel Guidebook Information

<http://www.travel.roughguides.com>

U.S. Department of State Travel Info

<http://travel.state.gov>

US State Department - Services - Consular Affairs

<http://travel.state.gov>

US Department of State - Websites of US Embassies, Consulates, and Diplomatic Missions

<http://www.usembassy.gov>