

WSU Education Abroad Options in Engineering

Engineering practice is based on sound fundamental and practical knowledge of mathematics, the sciences and liberal arts. Engineering courses prepare students to solve problems in society by quantitatively analyzing alternatives and making decisions guided by economics and an awareness of social and ethical issues. Because there really is no such thing as a “local” company or issue anymore, as an engineer you will need to work effectively on projects and teams that are global in nature. An international experience will provide you with those skills. Every engineering student should consider gaining international experience through study abroad!

Education Abroad can help you...

- Enroll in unique and challenging coursework in engineering around the world.
- Understand engineering issues from an international perspective.
- Strengthen your cross-cultural communication and problem-solving skills.
- Prepare you to work in an increasingly diverse and international workplace.
- Improve your foreign language skills.

Set goals and plan for results:

The process of selecting a study abroad program is similar to selecting your major or minor. Begin planning to study abroad as soon as possible; it is never too early to start! Here’s how:

- Share with your advisor that you are thinking of studying abroad. Enlist his or her help in determining the best time to fit study abroad into your 4-year degree program.
- Give yourself time to research: talk with your professors, advisors in the Education Abroad Office and with students who have studied abroad.
- Set some goals: there are many good study abroad programs, and the best one for you depends on *what you want!*
- Prioritize your goals: consider long term academic and professional goals as well as on-campus degree requirements.
- Prepare academically: you may need to take

- language or other prerequisites for your chosen study abroad program.
- Get all the courses you plan to take abroad pre-approved *before* you go abroad.

What’s Available?

A wide variety of study abroad programs are available to you. You can study in your major, pick up a second language, study the history and culture of a region and, in some cases, complete research on a special topic or participate in an academic internship. The programs below have a proven track record for academic excellence and on-site services and are considered a good fit with WSU’s programs.

Can I afford to study abroad?

Yes! Early planning for study abroad helps you make cost-effective decisions about programs and locations. It also helps you prepare financially by saving and by applying for financial aid and scholarships. Financial Aid does apply to study abroad and your eligibility may increase to cover additional expenses. Most WSU scholarships can be applied to study abroad as well. In addition, many study abroad providers offer scholarships to students on their programs.

What are my next steps?

Attend a Cougs Abroad Advising Session

Learn about education abroad programs and resources by attending a Cougs Abroad Advising Session in the Education Abroad Resource Room, Bryan Hall 105. These 45-minute sessions are offered nine times a week and will help you understand: the various types of programs; WSU requirements; the application process; costs, scholarships and financial aid; and coursework transfer.

Investigate programs

Use the Education Abroad Office’s catalogs, website and advisors to find a program that fits your needs and interests. www.ip.wsu.edu/education_abroad



Talk to your advisor

Contact your major advisor to discuss how study abroad can best fit into your academic plan. Use this Advising Sheet to facilitate the discussion.

Academic Considerations for Engineering

The College of Engineering and Architecture supports education abroad as a beneficial part of your degree. Program requirements for engineering students, however, are numerous. In order to study abroad without delaying your graduation, engineering students are advised to follow these general guidelines.

Academic Fit - Using education abroad coursework to fulfill requirements:

An engineering student studying abroad typically takes two engineering courses and two other courses that allow him/her to learn more about the host culture. When researching study abroad options keep in mind that some universities will be better equipped to provide courses that can be applied to WSU's graduation requirements.

- **General Education:** You may fulfill many general education requirements when studying abroad. To apply study abroad courses toward your GERs, please contact the Director of General Education, Smith Center (CUE) 519D, 335-5699.
- **Basic Science and Math courses:** You may take any of your basic science courses abroad with the approval of your academic advisor.
- **Engineering courses:** Both basic and advanced engineering courses (electives and required courses) may be taken abroad if pre-approved by your advisor.
- **Pre-professional experiences:** It may be possible to do an internship abroad.

How do I determine what courses are available?

Find out more about study abroad programs by visiting the Education Abroad Office, contacting the program sponsor, and visiting the host university's web site. In organizing your coursework abroad it is important to be flexible in your course selection for several reasons:

- Information about courses open to study abroad students is not always readily available and correspondence with the host university's international programs office or specific

- engineering departments may be necessary. This can be a lengthy process.
 - While advisors often find that a course description is sufficient for pre-approval, in some cases advisors may need to see a more detailed syllabus before pre-approving a course. In some cases detailed course information may be difficult or impossible to obtain prior to departure.
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Timing - Fitting your education abroad experience into your 4-year academic program:

With enough planning, engineering students can study abroad almost any semester. While it may appear easier to just earn GERs and electives abroad, the College of Engineering and Architecture encourages students to incorporate one or more engineering courses into their study abroad program to gain a different perspective and not delay graduation.

Freshman:

- Start planning for your study abroad experience during your first semester.
- Determine the best time to study abroad. A summer program will have the least impact on your academic schedule at WSU, but a semester or year-long program appeals to many students because it allows them to really benefit from the experience of living in another culture.
- Understand that all of the courses you hope to use for program requirements *must be approved by your advisor before studying abroad.*

Sophomore:

- This year you can study abroad to fulfill general education requirements, basic science and math courses, and lower level engineering courses *that you have pre-approved* by your academic advisor.

Junior:

- Junior year is a great time to study abroad for a semester or a year.
- You can take engineering requirements or electives *that you have pre-approved* by your academic advisor.

Senior:

- Careful planning is required to go abroad as a senior.
- Typically, it is not possible to take capstone courses such as senior design and some lab courses abroad.
- Meet with your advisor immediately to find out which of your remaining classes must be taken at WSU and which classes could be taken abroad.

Australia

University of Adelaide

Adelaide

The University of Adelaide is one of Australia's oldest, most prestigious universities. As one of the top universities in Australia, the University of Adelaide offers a broad range of courses in many departments, including extensive opportunities in engineering, medicine, and information technology. There is a high expectation that students will put in a significant amount of independent study in addition to classroom, laboratory, and tutorial hours.

Sponsor: WSU Education Abroad Office -- Exchange

University of Melbourne

Melbourne

IES believes that studying abroad should be an opportunity available to students of all disciplines. Although it is often challenging for Engineering students to study abroad because of the highly-specialized and specific courses the majors require, IES strives to provide access to the courses students need in order to help them have an unforgettable international experience. Students will find an exciting and challenging enrollment option at the University of Melbourne. There is a high expectation that students will put in a significant amount of independent study in addition to classroom, laboratory, and tutorial hours.

Sponsor: IES (Institute for the International Education of Students)
www.IESabroad.org

University of Newcastle

Newcastle

The University of Newcastle is a comprehensive research university situated on the East Coast of Australia about 1.5 hours train ride north of Sydney. The university has 23,000 students, of which 2,500 are international students, a quarter of which are study abroad students. The university has a strong research focus and usually ranks among the top few schools in the country in federal funding. As a result, Newcastle has been included as an "Associate" of the elite "Group of Eight" Australian universities. The engineering programs were established many

years ago, originally to establish the local steelmaking industry, and all are strong programs with impressive rigor in the coursework. There are 3200 students in the College of Engineering and Built Environment, distributed among three schools: Engineering, Electrical Engineering and Computer Science, and Built Environment. College research programs amount to \$13 million per year, about 30% of the Newcastle total. Students from any of the WSU engineering programs would find a good fit at Newcastle, assuming they can take a couple of engineering courses that meet their WSU program needs while there. There would be a particularly good fit for WSU ChE, CE, EnvirE, and ME students because of similarities in emphasis and size of these programs.

Sponsor: **AustraLearn**
www.australearn.org

Semester at Sea:

SAS offers a global curriculum to the undergraduate experience. Classroom courses in anthropology, business, communications, geography, history, political science, psychology, religious studies, sociology and more are combined with field experiences to examine and compare global crisis issues, such as the environment, population, foreign policy relationships and economics. Starting with the closely integrated environment aboard a ship, students quickly become aware of their own culture and its contrast with others around the world. They see firsthand how interdependent societies are today, and begin to understand how we must all coexist. A typical semester voyage includes stops in Brazil, South Africa, Mauritius, India, Vietnam, Hong Kong, China and Japan.
www.semesteratsea.com

University of Queensland

Brisbane

A leader among Australia's Universities, the University of Queensland is a large, comprehensive, research-intensive institution of international standing. Among the many programs offered at the University of Queensland are the competitive programs in engineering. The university offers a large choice of engineering programs that include a distinct variety of majors and double majors in both established and newly emerging areas of engineering. The engineering program allows students to study on various levels, and therefore, enables them to develop their understanding of



basic science and engineering principles in relation to engineering problems of commercial importance.

Sponsor: IFSA-Butler (Institute for Study Abroad – Butler University)

www.ifsa-butler.org

University of Tasmania

Hobart

The Engineering programs emphasize courses, research and internships in various fields, including electrical, mechanical, chemical, software, civil and environmental engineering. Students can also take courses in the sciences, mathematics, humanities, management, languages and other disciplines.

Sponsor: KEI(Knowledge Exchange Institute)

www.KEIabroad.org

University of Western Australia

Crawley, Perth

As the oldest university in Western Australia, the University of Western Australia has earned an international reputation for academic excellence. The engineering programs located at the University of Western Australia are among the most notable across the country. The programs in engineering offer students challenging opportunities to work on a number of creative industry-based projects as well as being given the opportunity to work with guest lecturers from global organizations. Students are required to demonstrate their ability to understand and apply theories as well as given critical analysis regarding various ideas and arguments. The strong links between the University of Western Australia and the engineering profession present students with excellent career prospects.

Sponsor: IFSA-Butler (Institute for Study Abroad – Butler University)

www.ifsa-butler.org

University of Wollongong

Wollongong

The University of Wollongong is a comprehensive research university situated on the East Coast of Australia, about an hour train ride south of Sydney. The University of Wollongong has about 18,000 students, of which 4,600 are international students, and 5,000 are post-graduate students. Within engineering, the university is noted for its strong research programs in telecommunications, manufacturing, and materials. The campus is very attractive, with many green areas and small lakes, as

well as attractive buildings, and is located within walking distance of good surfing beaches.

Wollongong's engineering degrees are four year Bachelors of Engineering programs in CE, EE, CompE, ME, MiningE, Mechatronics, and EnvirE. They try to relate their programs to local industry, which includes steelmaking, construction, mining, agriculture, tourism, and manufacturing. They have a particularly strong Formulae SAE competition group, and they were world champions in Detroit in 2003 – the first non-US team to win in 20 years.

Wollongong has strong faculty, good lab and teaching facilities, good relations with local industry, and outstanding student activities. The CE and EnvirE programs are also strong, emphasizing construction and mining, a good fit for WSU students. There is no ChE program at Wollongong.

Sponsor: AustraLearn

www.australearn.org

Chile

Universidad de Chile

Santiago

IES believes that studying abroad should be an opportunity available to students of all disciplines. Although it is often challenging for Engineering students to study abroad because of the highly-specialized and specific courses the majors require, IES strives to provide access to the courses students need in order to help them have an unforgettable international experience. The Universidad de Chile sponsors an interdisciplinary research program in Space Studies, and is internationally respected as an engineering institution. Courses are offered in ChemE, Civile, ElectricalE, EnvironmentalE, and MechanicalE. Students attending the university through IES will stay in homestays, and will participate in IES language and culture courses to ensure their full immersion into the Spanish language. All coursework is in Spanish, making this program an excellent option for any engineering student who wishes to graduate with strong foreign language skills.

Sponsor: IES (Institute for the International Education of Students)

www.IESabroad.org



Denmark

Denmark Technical University

Lyngby

The Denmark Technical University is Denmark's leading center for engineering education and research. DTU also operates at an international level in a wide array of fields such as biotechnology, communications technology, nanotechnology and the development of technologies for sustainable energy. DTU is located just 10 kilometers north of Copenhagen in Lyngby, so the charm and city life of Copenhagen is just minutes away by train.

Sponsor: WSU Education Abroad Office Exchange

Ecuador

Universidad San Francisco de Quito

Quito

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Sponsor: IES (Institute for the International Education of Students)

www.IESabroad.org

England

City University

London

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students to study abroad because of the highly-specialized and specific courses the majors require, IES strives to provide access to the courses students need in order to help them have an unforgettable international experience. City University has academic roots in industry and technology, reflected in its contemporary commitment to such disciplines as Business and Engineering. The Engineering program at City University is offered for the academic year only, and students will receive approximately 28 credits.

Sponsor: IES (Institute for the International Education of Students)

www.IESabroad.org

University of Leeds

Leeds

API offers a strong Engineering program at University of Leeds. During the academic year, students directly enroll in courses at the university and take classes alongside Irish and British students. Students will be carefully evaluated to ensure that they have the appropriate academic background for the classes chosen.

Sponsor: API (Academic Programs International)

www.academicintl.com

University of Westminister

London

The CIEE Study Center at the University of Westminister in London, England is appropriate for students from a variety of disciplines who are well prepared academically for direct matriculation and desire full integration with British and other international students. Specifically, the University of Westminister is ideal for students who would like to pursue an internship while abroad and/or have an interesting a wide range of fields, including electronic engineering. The CIEE program at the University of Westminister has two main goals: to provide a rigorous and creative academic experience in London, and to provide a critical, in-depth appreciation of London through cultural and leisure activities. These goals are achieved by offering courses through direct matriculation and planned activities coordinated by CIEE throughout the semester. The University of Westminister engineering courses include: computer engineering, digital communications, engineering, media technology, and many other courses.

Sponsor: CIEE

www.ciee.org



France

University of Nantes

Nantes

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Sponsor: IES (Institute for the International Education of Students)
www.IESabroad.org

Iceland

Renewable Energy, Technology, & Resource Economics

*Reykjavik; Akureyi;
West Fjords*

SIT has designed several programs with engineering students in mind. These summer programs provide hands on experience and firsthand knowledge. The program in Iceland focuses on renewable energy. Iceland is a world leader in renewable energy development. Students begin by meeting with politicians and industry leaders to discuss the national energy agenda of Iceland. They then meet with leading engineers and physicists while visiting major development sites. Finally, they work with a local community to help them develop an energy plan. Students in this program also take a two credit course in the Icelandic language to develop an appreciation of the culture.

Sponsor: SIT (The School for International

Training)
www.sit.edu/studyabroad

Ireland

Griffith College

Dublin

The Engineering programs emphasize courses, research and internships in various fields, including electrical, mechanical, chemical, software, civil and environmental engineering. Students can also take courses in the sciences, mathematics, humanities, management, languages and other disciplines.

Requirements: Software Engineering Only
Sponsor: KEI(Knowledge Exchange Institute)
www.KEIabroad.org

National University of Ireland

Galway

API offers a strong Engineering program at National University of Ireland. During the academic year, students directly enroll in courses at the university and take classes alongside Irish and British students. Students will be carefully evaluated to ensure that they have the appropriate academic background for the classes chosen.

Sponsor: API (Academic Programs International)
www.academicintl.com

Trinity College Dublin Honors Program

Dublin

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Sponsor: IES (The Institute for the International Education of Students)
www.IESabroad.org



University College Cork

Cork

API offers a strong Engineering program at University College Cork. During the academic year, students directly enroll in courses at the university and take classes alongside Irish and British students. Students will be carefully evaluated to ensure that they have the appropriate academic background for the classes chosen.

Sponsor: API (Academic Programs International)
www.academicintl.com

University of Limerick

Limerick

API offers a strong Engineering program at the University of Limerick. During the academic year, students directly enroll in courses at the university and take classes alongside Irish and British students. Students will be carefully evaluated to ensure that they have the appropriate academic background for the classes chosen.

Sponsor: API (Academic Programs International)
www.academicintl.com

Jordan

Appropriate Technology & Sustainable Development

Amman

SIT has designed several programs with engineering students in mind. These summer programs provide hands on experience and firsthand knowledge. Explore region-specific examples of appropriate technologies and their applications to sustainable development. This program looks at contemporary local and regional issues relating to the realities of arid countries, how the supply of resources affects regional dynamics, and the organizations and efforts underway to resolve these issues. Students in this program also take a two credit course in local Arabic and participate in a short homestay with rural Bedouin families to facilitate cultural exchange.

Sponsor: SIT (The School for International Training)
www.sit.edu/studyabroad

Montserrat (British Overseas Territory of)

Disaster, Identity, and Reconstruction

Montserrat; Antigua

SIT has designed several programs with engineering students in mind. These summer programs provide hands on experience and firsthand knowledge. Montserrat was ravaged by Hurricane Hugo and its capital city was destroyed by a volcanic eruption that has continued for a decade. With the constant reality of catastrophe at the back of everyone's mind, Montserratians are quite aware of the need for appropriate responses for disaster. This study program explores the meaning of disaster and the impact it has on identity, disaster management, and reconstruction.

Sponsor: SIT (The School for International Training)
www.sit.edu/studyabroad

Wales

University of Wales, Swansea

Swansea

The School of Engineering is one of the finest in the UK, continually amongst the top three British universities. The School's aim is to actively engage in world-class research and teaching, assuring students that the education they receive is of the very highest quality. The School of Engineering at Swansea is recognized internationally for its teaching, research and contribution to the economic wealth of the region. With four world-class research centers, four accredited Centers of Excellence, and a sustained investment program to provide outstanding resources and facilities for teaching, the School offers a superb environment in which to study.

Sponsor: WSU Education Abroad Office Exchange



Lexia Study Abroad

A study abroad program for honors students: Lexia has the experience and structure to provide a unique and challenging overseas study option for your students.

Rigor in Academic Schedule: Our programs are broken down into four sections: 90-120 hours of intensive language, a comprehensive Area Studies and Culture core course, an integrated research methods seminar, and culminating in an independent Field Research Project (often started earlier in the program).

A research element: Lexia's Field Research Project provides students the opportunity to pursue a topic of great interest to them, thus allowing them to initiate a more ample inquiry, which may eventually become a part of an honors thesis. While overseas, students are able to vigorously investigate a research topic, which is facilitated both by an on-site resident director and/or academic advisor.

Interdisciplinary by Nature: As the Field Research Project is the highlight and hallmark of our program, students of all majors are well suited to undertake all Lexia programs. However, they will be directed to focus their research specifically in their area of academic interest. For engineering and science majors, the model is for applied experiential learning in a new and foreign country. By utilizing the students' background in their individual field of study, they are able to conduct research, often alongside professionals, on related issues in their host site, providing for valuable field-based experiences.

A focus on cultural immersion: We believe that studying abroad should entail far more than students simply continuing their education overseas. On Lexia's programs, we ask students to redefine how they approach learning by using the opportunity of academic study to truly engage life in another place. Our faculty work to ensure students develop critical skills in the context of another culture in addition to academic accomplishments.

We offer programming in: Argentina, China, Czech Republic, England, France, Germany, Hungary, Italy, Poland, Romania, South Africa, Spain, Thailand, and Turkey.

www.lexiaintl.org

New Zealand

University of Auckland

Auckland

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Sponsor: IES (Institute for the International Education of Students)

www.IESabroad.org

University of Canterbury

Christchurch

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Sponsor: IES (Institute for the International Education of Students)

www.IESabroad.org



Russia

Moscow State University *Moscow*

The Engineering programs emphasize courses, research and internships in various fields, including electrical, mechanical, chemical, software, civil and environmental engineering. Students can also take courses in the sciences, mathematics, humanities, management, languages and other disciplines.

Sponsor: KEI(Knowledge Exchange Institute)

www.KElabroad.org

South Africa

Stellenbosch University *Stellenbosch*

The CIEE Study Center at Stellenbosch University in South Africa provides students with a range of academic and intellectual experiences that enable them to witness and take part in the complex process of transformation in South Africa. Students will study alongside South African students while taking Stellenbosch University courses and engage in the community through personalized volunteer opportunities. CIEE participants are required to undertake a full program of courses, including all assignments and written examinations. Teaching methods at the university normally involve a mixture of lectures, tutorials, seminars, and, in the sciences, laboratory classes. The system is geared toward the scholar who is motivated, self-sufficient, and deeply interested in the subject matter. Engineering courses at Stellenbosch University are available at the Faculty of Engineering through the Department of Mechanical Engineering.

Sponsor: CIEE

www.ciee.org

