

## GLOBAL ENGINEERING TREK – SUPPLEMENTARY DOCUMENT:

### PLANNING YOUR NEXT 3 YEARS OF GLOBAL ENGINEERING AT NORTHWESTERN

At the McCormick Global Initiatives Office, we categorize 4 different kinds of global opportunities for engineering undergraduates: **(1) STUDY ABROAD, (2) RESEARCH ABROAD, (3) INTERNSHIPS ABROAD, (4) PROJECTS ABROAD.** For all these opportunities, it is highly recommended that you get one to three quarters of foreign language instruction in the country you are visiting, or if the country speaks English, at least one quarter of foreign language of a neighboring culture. Language is not required, but how will you make friends, buy groceries, ask directions, or navigate a train station? Students who return abroad consistently lament: “In retrospect, I wish I would have taken more language before going!” An overview of [Global and Research Opportunities](#) can be found here.

**(1) STUDY ABROAD** is what most students think of when someone mentions going abroad as an undergraduate, though it is only one of four different types opportunities, described below. Study Abroad involves going to a foreign university or international academic program for as little as five weeks for some programs, and as much as a full year for others, to earn academic transfer credit. Grades don’t transfer, but you must get a “C” or above. (Think of it like AP high school credit, the credits transfer but the grades do not). Most freshmen don’t realize that you can take ENGINEERING courses abroad. If you go abroad as an engineer for only one quarter, there are three ideal times to go: Spring Junior year, Fall Senior year, or Fall of the fifth year of BS/MS or Co-op program. A list of all study abroad programs that also teach engineering courses can be found here: [Engineering Abroad Programs, McCormick Global Initiatives](#). We particularly like to promote exchange programs, since for every NU student who goes abroad, one foreign student from that institution will come to campus here: [Hong Kong University of Science and Technology \(HKUST\)](#), [Shanghai Jiao Tong University \(SJTU\)](#), [ETH- Zurich](#), [Tel Aviv University \(TAU\)](#), [Technische Universität München \(TUM\)](#), [University College London \(UCL\)](#), [Pontificia Universidad Católica de Chile \(PUC\)](#), [Stellenbosch University](#), [National University of Singapore \(NUS\)](#), and [Koç University\\*](#). For exchange programs, you simply pay the NU tuition for that quarter (including any financial aid package you may have), and show up at the partner university and start taking classes there. Some programs are run by Northwestern but take place abroad: [Energy Technology & Policy: Wanxiang Fellows Program](#) and [Global Healthcare Technologies](#). Any program not explicitly linked above, can be found with the [Study Abroad Locator](#). Once you decide to go abroad, here are some [Tips for Engineers](#) as you plan your effort.

**(2) RESEARCH ABROAD** is often performed in the summer between Junior and Senior year but can also be conducted between Sophomore and Junior years. To conduct research abroad, however, you need to have at least three to six months of experience working in a research group at Northwestern. So step #1 is to find a research advisor in your major and get into the lab as soon as possible. You can earn 399 course credit for conducting research, or you can research in your spare time (possibly with pay – ask your advisor once you’ve worked with her/ him for at least a month.) You can apply for undergraduate summer research funding to conduct research abroad through the Provost’s office [Summer Undergraduate Research Grants](#) (\$3,500 per summer) and through the [McCormick Summer Research Awards](#) (\$5,000 per summer). Note that you can apply for both, but you will only be awarded with one.

Fellowship agencies in the US as well as in foreign countries can also support your research experience abroad. Opportunities for research in [Germany and Switzerland can be found here](#). Contact the [Office of Fellowships](#) and consult the following document on [Fellowship Support for Scientists & Engineers](#).

**(3) INTERSHIPS ABROAD** can be identified by working with the [Engineering Career Development Office](#). You can conduct a summer internship, or if you are a co-op student, you can conduct one or more of your co-op periods abroad. Note that many engineering companies have offices in several countries. This means, for example, that you can intern with General Motors in Wisconsin for one quarter, and then spend a summer abroad in Munich, Germany at General Motors' renewable energy headquarters. If you think you have to choose between EITHER doing an internship in the US OR studying abroad for a summer, why not get the best of both experiences and intern abroad? Note that internships abroad are frequently in English, but college-level training in the language of the country makes you far more attractive to employers.

**(4) PROJECTS ABROAD** involve work that can either earn academic credit, be a paid internship, or might be performed with no financial support, but can be listed as "service learning" in your resumes and transcript. Often this work involves visiting a developing country, typically with a small team of undergraduates who have different skills to help a community solve a problem, under the guidance of a local organization that has a longstanding relationship with Northwestern. The Global Engagement Studies Institute ([GESI](#)) at the Buffett Institute is the best example of a program for academic credit, and examples of McCormick students' GESI experiences can be found here: [Wendy Roldan](#), [Michael Hopkins](#). While abroad, students live in homestays and gain professional experience through internships with grassroots organizations, addressing issues such as public health, education, women's empowerment, and the environment. There are also paid [Community-Based Research Fellowships](#) (\$6,000), the [Buffett International Summer Internship Grant Program](#) (\$6,000), [Supplemental Research/Travel Grants](#) (\$2,000), and the [Davis Projects for Peace](#) (\$10,000 awards to enable undergraduates to design grassroots projects to address global social issues).