

Study Abroad for Credit

GLOBAL ENGINEERING CONCENTRATION IN MECHANICAL ENGINEERING

This concentration allows students to **BROADEN THEIR EXPERIENCE OF OTHER CULTURES** while simultaneously progressing towards qualification as a professional engineer.

The ability to understand other cultural perspectives is significantly enhanced by living within another culture and such an experience will both **IMPROVE THE EMPLOYABILITY** and effectiveness of engineering graduates in the global economy.

The concentration allows students to spend at least a semester studying in an overseas institution, taking credit-bearing courses provided by the host institution as part of their elective choices. To support this concentration, relationships have been established with initiatives in **FRANCE, TAIWAN, GERMANY, KOREA,** and the UK.

To complete a BSME with the global engineering concentration, students must complete the requirements for the B.S. degree in mechanical engineering, including 12 credits overseas.



Korea



KOREA UNIVERSITY

Korea University is one of the great private universities in Korea. It is situated in the capital, Seoul, and has many brand new facilities for students. Many restaurants are right next to the campus. Recently, Korea University has been recognized for outstanding achievement in internationalization. For instance, many classes are taught in English in the department of mechanical engineering.

Seoul is a city of infinite discoveries. The ancient capital of an ancient land, Seoul is a city where the traditional and the cutting-edge exist side-by-side in perfect harmony. It's a dynamic city that never sleeps, and the list of things to do is endless, from sampling the outstanding cuisine served in the city's excellent restaurants to climbing the rock faces that overlook the city. Come to Seoul, and learn why so many travelers fall in love with this fast-paced but fascinating city.

SEMESTER-LEVEL PROGRAM SCHEDULE

SENIOR ELECTIVE DESIGN (3 credits)

- MECH 324 Design and Management
- MECH 451 Design and Management
- MECH 324 Design of Thermo-fluid System

REMAINING SENIOR ELECTIVES (9 credits) *Any ME senior elective type classes from KU. Examples:*

- MECH 484 Robotics
- MECH 472 Optical Engineering
- MECH 460 Production Engineering
- MECH 457 Numerical Analysis

Interested students are encouraged to attend classes in the spring of their senior year.



SAMPLE ACCOMODATIONS

- CJ International House: single with bath \$1,450/semester†
- CJ International House: double with bath \$1,140/semester†
- Anam 2: triple with community bath \$560/semester†

EXTRACURRICULAR ACTIVITIES

Hiking in the mountains around Seoul, enjoying the night life of a major Asian city, or visiting sites around the city with many walking tours will enthrall any visitor. These include the residence of Queen Sunjeonghyo, traditional Hanok experiences, Park Yeong-hyo's mansion, Amsadong prehistoric settlement, Yeonsangun tomb, and Seolleung.

MORE INFORMATION

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Scotland



UNIVERSITY OF EDINBURGH

The University of Edinburgh is one of Europe's outstanding universities with a great tradition from its establishment in 1582. Many great scholars have attended the university including such giants as Charles Darwin and Sir Arthur Conan Doyle. With respect to engineering, there is William John Macquorn Rankine who proposed the Rankine cycle (principally used in the operation of steam power plants).

Despite this history, the mechanical engineering facilities are very modern allowing the faculty and students to pursue research topics varying from wave energy to microfabrication.

SEMESTER-LEVEL PROGRAM SCHEDULE

SENIOR ELECTIVE DESIGN (3 credits)

U 03889 Sustainable Energy Group Design Project

REMAINING SENIOR ELECTIVES (9 credits) Examples:

- U 01107 Manufacturing Technology
- U 01175 Engineering for Renewable Energy
- U 03468 Polymers and Composite Materials
- U 04255 Wind Energy
- U 04256 Marine Energy

Interested students are encouraged to attend classes in the spring of their senior year.



SAMPLE ACCOMODATIONS

With over 2,000 single rooms for undergraduate students, Pollock Hall is a large accommodation site but within walking distance of the university precincts and the city center. Over half the rooms at Pollock have en-suite (private) bathrooms. Breakfast and evening meals are provided every weekday, with brunch and evening meals at weekends.

University flats have over 2,000 self-catered rooms for undergraduates, and many are conveniently located very close to the university and also the centre of Edinburgh. Flats are in a mixture of modern, purpose-built developments and older, renovated buildings, all specially designed with students in mind.

Room and board with utilities and Internet \$3,500/semester†

EXTRACURRICULAR ACTIVITIES

The city of Edinburgh, whose downtown is a short bus ride from the university's engineering buildings, is listed as a World Heritage Site. In addition, for students seeking leisure activities the city has a terrific night life with many activities for young adults. Students can explore the countryside with fantastic walking tours, exciting mountaineering, sailing on the Firth of Forth, swimming in the olympic-size pool at Pollock Hall, and in the summer enjoying the world-renowned Edinburgh Festival that lasts for three weeks in August and September.

MORE INFORMATION

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Taiwan



NATIONAL TSING HUA UNIVERSITY

The National Tsing Hua University has a long and proud history. NTHU has developed from an institute focusing on nuclear science and technology to that of a comprehensive research university offering degree programs ranging from the baccalaureate to the doctorate in science, technology, engineering, humanities and social sciences, as well as management. NTHU has been consistently ranked as one of the premier universities in Taiwan and is widely recognized as the best incubator for future leaders in industry as well as academia. It located in Hsinchu, Taiwan, and is well connected by public transportation to Taipei about 45 miles away.

SEMESTER-LEVEL PROGRAM SCHEDULE

The Department of Power Mechanical Engineering (PME) offers English-based courses, such as thermal and fluid science, mechanics of materials, kinematics of machinery, manufacturing process, electric circuits and microelectronics, etc. They also emphasize mechatronics, signal processing, nano-micro systems, energy, and precision machines. Taking mechatronics as an example, courses include:

PME 320800	Control System II
PME 320500	Electrical Machinery
PME 321200	Electromagnetics
PME 321000	Linear Algebra & Linear Dynamical System Synthesis

All PME courses listed above are equivalent to 3-credit ME courses. Interested students are encouraged to attend classes in the spring semester of their senior year.



SAMPLE ACCOMODATIONS

Foreign students have priority in the allocation of on-campus dormitories. For undergraduates, 4-person rooms are available. Foreign students can submit applications to Student Housing Office with the help of Division of General Student Affairs. Housing notification will be sent to you prior to arrival. Students can apply for rooms with air-conditioning (at a higher price) if needed.

4-person room with air-conditioner	\$172-\$266/semester†
Single room with air-conditioner (Shiue/Ru Chai Dormitory).	\$700/semester†

EXTRACURRICULAR ACTIVITIES

Taipei, the country's vibrant capital, is a cosmopolitan city yet remains steeped in Chinese, Japanese, and native Taiwanese cultures. The nostalgic town of Chiufen, on the northeast coast, boasts impressive waterfalls, fine beaches, hot springs, and peaceful countryside. The Yehliu (literally "Wild Willows") promontories along the northern coast have been etched into all manner of artistic shapes by the weather and erosion. South of Taipei, the mountainous retreat of Wulai is famous for its Atayal aboriginal performances and its hot springs. Jihyueh Tan ("Sun Moon Lake") is enfolded in mountains and tropical foliage, with sunny skies, turquoise waters, jade-green hills, and drifting mountain mists.

MORE INFORMATION

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France

ÉCOLE CATHOLIQUE D'ART ET MÉTIERS



École Catholique d'Art et Métiers (ECAM) is a school of engineering for undergraduate and graduate students with a focus on mechanical, electrical/electronic, and automation engineering. Founded in 1900 in Reims, it has been established in Lyon since 1940. A member of the National Conference of "Grandes Ecoles" and accredited by the government, it has been sanctioned by the National Commission of Engineering Qualifications.

Students are required to enroll for a minimum of 3 credits that will count as non-design electives for ME majors. They will perform an independent study research project guided by a Mechanical Engineering professor.

Selection is based on an applicant's academic performance, progress in his/her major, and adaptability to the French education system. Preference will be given to students who have achieved junior standing by fall semester. Some working knowledge of French is required.



ACCOMODATIONS

Students will be housed on-campus in residence halls. A security deposit is required but will be refunded provided no damage/problems occur. Meals can be taken at the university cafeteria Monday through Friday.

MORE INFORMATION

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Germany

RWTH-AACHEN



The MSU/RWTH-Aachen Exchange Program provides an outstanding opportunity for students to earn 5 credits of independent study in a German research lab, explore industrial activities, and experience German culture and lifestyle. All students must have at least German 101 or the equivalent before departure.

Students will enroll for 9 credits, including 4 credits of German language (GRM 102 and higher), offered at the student's appropriate level. Students will also enroll in ME 490 for one credit during spring semester in the same area that will be pursued at the RWTH. This one-credit experience will provide a "running start" for their research work in Aachen.

This on-campus experience will be with the same MSU faculty member who will evaluate and assign the grade for the summer ME 490 report. Students will work with a RWTH host researcher who will evaluate the report of the summer research and give their assessment to the responsible MSU faculty member. This will maximize the student's learning opportunity and to optimally contribute to the research efforts of the RWTH hosts.



ACCOMODATIONS

Suitable housing will be prearranged for students in cooperation with the RWTH and may include living in dormitories, fraternities, or in private rooms.

MORE INFORMATION

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Overseas Study

Follow these steps to a great experience . . .

- ✓ Check out your interests in the schools overseas.
- ✓ See your advisor.
- ✓ Check out opinions from your friends.
- ✓ Look at what courses are offered overseas (12 credits must be obtained as part of a study abroad experience.*)
 - ▶ **SENIOR ELECTIVE DESIGN (3 credits)**

A design-intensive experience performed as part of a team at the host institution that involves the synthesis of engineering fundamentals and elements of business, management, and marketing. Assessment should involve both written and oral presentations.
 - ▶ **REMAINING SENIOR ELECTIVES (9 credits)**

Mechanical Engineering courses to be selected by the student with the approval of their advisor and endorsed by the Department Chair or his/her nominee. The courses will be equivalent in content and level to those offered as Senior Electives within the Mechanical Engineering program at Michigan State University. Any reasonable combination of not more than five courses will be selected to be the equivalent of nine credits.
- ✓ Register for your chosen program.
- ✓ Arrange your housing.
- ✓ Check airplane schedules and buy your ticket.
- ✓ Get on the plane.
- ✓ Have a wonderful Overseas Experience!
- ✓ Earn 12 credits in mechanical engineering.
- ✓ Fly home.
- ✓ Help us recruit students to travel overseas the next semester!

* All courses will be conducted at an institution of equivalent standing to Michigan State University and usually in English. Credits must be gained in courses provided and taught by the host institution. Credit and grade equivalence will be set by the ME Department Chair or his/her nominee.

† Costs were correct at time of publication but may change due to currency shifts or local changes in pricing.

