MEMORANDUM

TO: Darryll Pines
    Dean, A. James Clark School of Engineering

FROM: Elizabeth Beise
        Associate Provost for Academic Planning and Programs

SUBJECT: Proposal to Modify the Curriculum of the Minor in International Engineering
        (PCC log no. 11015)

At its meeting on November 4, 2011, the Senate Committee on Programs, Curricula and Courses approved your proposal to modify the curriculum of the Minor in International Engineering. A copy of the approved proposal is attached.

The change is effective Spring 2012. The School should ensure that the change is fully described in the Undergraduate Catalog and in all relevant descriptive materials, and that all advisors are informed.

MDC/

Enclosure

cc: David Salness, Chair, Senate PCC Committee
    Sarah Bauder, Office of Student Financial Aid
    Reka Montfort, University Senate
    Erin Howard, Office of Information Technology
    Donna Williams, Institutional Research & Planning
    Anne Turkos, University Archives
    Linda Yokoi, Office of the Registrar
    Robert Gaines, Undergraduate Studies
    William Fourney, A. James Clark School of Engineering
THE UNIVERSITY OF MARYLAND, COLLEGE PARK
PROGRAM/CURRICULUM/UNIT PROPOSAL

• Please email the rest of the proposal as an MSWord attachment to pcc-submissions@umd.edu.

• Please submit the signed form to the Office of the Associate Provost for Academic Planning and Programs, 1119 Main Administration Building, Campus.

College/School: A. James Clark School of Engineering
Please also add College/School Unit Code-First 8 digits: 01203200
Unit Codes can be found at: https://hypprod.umd.edu/Html_Reports/units.htm

Department/Program: ENGR-Dean-Undergraduate Recruitment & Special Programs
Please also add Department/Program Unit Code-Last 7 digits: 1320109

Type of Action (choose one):

x Curriculum change (including informal specializations)  □ New academic degree/award program
□ Renaming of program or formal Area of Concentration □ New Professional Studies award iteration
□ Addition/deletion of formal Area of Concentration □ New Minor
□ Suspend/delete program □ Other

Italics indicate that the proposed program action must be presented to the full University Senate for consideration.

Summary of Proposed Action:

The A. James Clark School of Engineering is requesting approval to transition its existing Minor in International Engineering (MIE) to the new Global Studies Minor Program, as approved by the Dean of Undergraduate Studies and the Provost. The Clark School requests PCC approval for two changes to the MIE curriculum change including:
1. reducing the maximum credits for the minor from 24 to 18, and
2. changing the elective requirements to include a “signature course” requirement selected from a pre-approved list of courses (see section II) from the other Global Studies minors.

APPROVAL SIGNATURES - Please print name, sign, and date. Use additional lines for multi-unit programs.

1. Department Committee Chair

2. Department Chair

3. College/School PCC Chair

4. Dean

5. Dean of the Graduate School (if required)

6. Chair, Senate PCC

7. University Senate Chair (if required)

8. Senior Vice President and Provost

Please print name, sign, and date. Use additional lines for multi-unit programs.
Minor in International Engineering  
PCC Proposal for Curriculum Change

The A. James Clark School of Engineering is requesting approval to transition its existing Minor in International Engineering (MIE) to the new Global Studies Minor Program, as approved by the Dean of Undergraduate Studies and the Provost. The Clark School requests PCC approval for two changes to the MIE curriculum change including:

1. reducing the maximum credits for the minor from 24 to 18, and
2. changing the elective requirements to include a “signature course” requirement selected from a pre-approved list of courses (see section II) from the other Global Studies minors.

As requested by the Office of Undergraduate Studies, all minors under the Global Studies Minor Program are required to offer program curriculum for a total of 15 to 18 credits. To accommodate that requirement, the MIE maximum credit limit is being reduced from 24 to 18.

The Clark School hereby acknowledges that students enrolled in the program prior to the effective date of the curriculum change may complete their program under the old requirements if they wish. If students prefer to continue the current (old) program requirements, the Director of International and Leadership Programs will make available a list of approved courses that will count towards the elective requirements, as has been done in the past. The director will document the final minor course selection in the student advising system (i.e., Degree Navigator) and clear the students for the MIE in the graduation clearance process.

As requested by the Office of the Associate Provost for Academic Planning and Programs, this proposal includes:

1. current (old) MIE program requirements,
2. proposed (new) MIE requirements, and
3. a sample program under the proposed (new) requirements.

I. Current (old) MIE program requirements

The Minor in International Engineering prepares engineering students to practice engineering in a global economy by contributing to a greater understanding of the impact of engineering solutions in global, economic, environmental, and societal contexts. The requirements are designed to provide for:

- The acquisition of knowledge and practical skills pertaining to engaging in cross-cultural business situations in the engineering and technology fields;
- Direct experience with the study and practice of engineering in a foreign country;
- An increased knowledge base related to the country or region where the student gains his/her global experience.

Students in the A. James Clark School of Engineering may earn a minor in International Engineering by completing requirements that include foreign language, culture studies, internationally-related studies or international engineering-related courses plus completing an engineering-related study, work or research experience abroad. The minor in international engineering is 15-24 credits, depending on whether language courses are selected to fulfill minor requirements. Up to six (6) credits of engineering courses completed as part of an engineering study abroad program may count to fulfill requirements for the minor and may also apply to the student’s engineering major. No more than six (6) credits may be transferred from another institution to count toward the minor. At least nine (9) credits must be at the upper level (300 or 400 level) and at least six (6) of the credits must be resident credits at the University of Maryland. Students must earn a grade of “C: or better in all courses used for the MIE.
Requirements for the minor include:

- ENES472 - International Business Cultures for Engineering and Technology (3 credits)
- In consultation with the international program advisor, the student must choose 6-18 credits of foreign language, culture studies, internationally-related studies or international engineering-related courses
- Complete an engineering-related study, work or research experience abroad. Up to six (6) credits of engineering courses completed as part of an engineering study abroad program may count to fulfill requirements for the international engineering minor.

ENES 472 - International Business Cultures for Engineering and Technology (3)
FREN204 - French Grammar & Comp (4)
FREN311 - Advanced Oral Expression (3)
ENAE 4xx - Aerospace engineering courses (6) [completed at French engineering school]
Total credit requirements=16 credits

II. Proposed (new) MIE program requirements

The Global Studies Minor Program has requested that all four minors currently in the program require their students to select a “Signature Course” as part of their minor program. The Clark School would like to specify that three credits of the elective requirements are selected from a pre-determined list of signature courses (see below) from the other Global Studies Minor programs. The proposed (new) MIE will reduce the maximum credit requirement from 24 to 18 credits.

Minor in International Engineering

The U.S. engineer of the future will need the knowledge, skills and abilities to help find solutions to a variety of concerns such as poverty, environmental problems, transportation issues, and security. The U.S. Engineer of 2020 and beyond “will be based abroad, will have to travel (physically or virtually) around the world to meet customers, and will have to converse proficiently in more than one language.” (p 152) Engineers will need to be open to different cultures and different thought processes, as well as have an awareness of the impact of socioeconomic changes on the U.S. and abroad. (Katechi, L. 2005. “The Global Engineer” Educating the Engineer of 2020: Adapting Engineering Education to the New Century. National Academy of Engineering Press)

The Minor in International Engineering prepares engineering students to practice engineering in a global economy by contributing to a greater understanding of the impact of engineering solutions in global, economic, environmental, political, and societal contexts. The requirements are designed to provide for the acquisition of knowledge and practical skills pertaining to engaging in cross-cultural business situations in the engineering and technology fields; direct experience with the study and practice of engineering in a foreign country; and an increased knowledge base related to the country or region where the student gains his/her global experience.

The specific program requirements will include 15 to 18 credits (allowing flexibility to accommodate 4-6 credit language classes). At least nine (9) credits must be at the upper level (300 or 400 level) and at least six (6) of the upper level credits must be resident credits at the University of Maryland. No more than six (6) credits may be transferred from another institution to count toward the minor. Students must earn a grade of “C” (2.0/4.0) or better in all courses used for the MIE.

- ENES472. International Business Cultures for Engineering and Technology (3 credits).
• Global Studies Minor Program Signature Course (3 credits). The Signature Course list will be published through the Office of Undergraduate Studies and made available to MIE students via our website. The current list of courses is provided below.

• MIE electives chosen in consultation with the minor advisor and related to a student’s location for his/her international engineering experience (3-9 credits): ENES474* (Global Perspectives of Engineering) and/or foreign language, culture studies, internationally-related studies or international engineering-related courses.

• International engineering experience (0-6 credits): study abroad, research abroad, service learning, or internship. Up to six (6) credits of engineering courses completed as part of an engineering study abroad program may count to fulfill requirements for the minor and may also apply to the student’s engineering major.

*Please note that a VPAC proposal has been submitted to change ENES458M (Global Perspectives of Engineering) to a permanent course number of ENES474.

Global Studies Minor Program Signature Courses

- AREC345. Poverty, Public Policy and Economic Growth (3 credits) Examination of public policy toward poverty in countries around the world. The role of economic incentives and the relation between poverty and income distribution, natural resources and the environment, and economic growth.

- AREC365. World Hunger (3 credits) Introduction to the problem of world hunger and possible solutions to it. World demand, supply, and distribution of food. Alternatives for leveling off world food demand, increasing the supply of food, and improving distribution. Environmental limitations to increasing world food production.

- GEOG130. Developing Countries (3 credits) Introduction to the geographic characteristics of the development problems and prospects of developing countries. Spatial distribution of poverty, employment, migration and urban growth, agricultural productivity, rural development, policies and international trade. Portraits of selected developing countries.

- GEOG330. As the World Turns: Society and Sustainability (3 credits) Cultural geography course on society and sustainability. Culture is the basic building block that is key to sustainability of societies. Course will cover sustainability of societies on different scales, examining local, regional, and worldwide issues. Sustainability will be examined as a key element of environmental sustainability. How societies adjust to rapid world change will be examined as a positive and/or negative factor in sustainability.

- GVPT306. Global Ecopolitics (3 credits) Consideration of global problems such as the growth controversy, agricultural productivity, pollution, resource depletion, the energy crisis, and the general impact of science and technology on the world ecological, socio-economic, and political system with particular emphasis on such matters as objects of public policy.

III. Sample Programs for Proposed (new) MIE program

Semester study abroad in China (18 credits)
ENES472: International Business Cultures for Engineering and Technology (3 credits)
GEOG330: As the World Turns: Society and Sustainability (3 credits)
CHIN101: Intensive Elementary Chinese I (6 credits)
ENxx 4xx: Engineering courses (6 credits) [completed in China]

Study abroad in the Israel (15 credits)
ENES472: International Business Cultures for Engineering and Technology (3 credits)
BSST330: Terrorist Motivations and Behaviors (3 credits)
ISRL349D: Investigating Topics in Israel Studies: Israeli Society (3 credits)
ENxx 4xx: Engineering courses (6 credits) [completed in Israel]
Engineers Without Borders (EWB) Service Project in Burkina Faso (16 credits)
ENES472: International Business Cultures for Engineering and Technology (3 credits)
ENES474: Global Perspectives of Engineering (3 credits)
GEOG130: Developing Countries (3 credits)
HIST123: Sub-Saharan Africa since 1800 (3 credits)
AREC345: Poverty, Public Policy and Economic Growth (3 credits)
ENES458I: EWB implementation project [completed in Burkina Faso] (1 credit)
The Global Studies Minor Program
November 29, 2010

Vision. The Global Studies Minor Program provides opportunities for students to study the growing interconnectedness of societies, the factors that drive changing relationships, and how evolving global connections affect the well-being of peoples. Students will study the processes of globalization and develop an understanding and appreciation for how and why interactions across national and ethnic borders are shaped by language, culture, politics, conflict, development, wealth, and power. The program is designed to help prepare students to be informed and globally engaged citizens, to live and work in a global setting, and to have roles of leadership and influence in business and public organizations.

The Global Studies Minor Program is comprised of a number of specialization tracks, which address issues associated with economic development and resources, culture and political institutions, and security and international relations from the perspective of different disciplines. The program is interdisciplinary in nature. Individual tracks may provide a broad background to a global theme or examine specific topics in more detail.

The program provides opportunities for students from any discipline or major. Requirements in each track allow students to choose some of their courses from among a set of approved courses from many disciplines, giving students the flexibility to include courses that relate to their own academic goals. All students must choose one course from a set of “signature” courses outside of their chosen track, providing all students with exposure to major global issues addressed by another track.

Program curriculum (15-18 credits):
1. Required Courses. Each track includes one to three courses that address issues central in the minor.
2. Signature Course. Each student must choose one “signature” course outside of the student’s track, from among a short list of courses that address issues important to a different Global Studies track.
3. Elective courses. One to three remaining courses must be selected by students from approved lists of relevant courses from a number of disciplines and departments. (Students may also propose other courses to meet this requirement.)
4. All tracks will provide an opportunity for an experiential learning component for those students who wish to include this aspect in their elective courses. This could be a study abroad experience, or an internship or a research project that provides a locally-based or regionally-based international/global experience. There are many opportunities to gain experience in international studies in the Washington, D.C. area through internships or other activities.

The Global Studies Minor Program will include special activities that involve students across different tracks. These activities could include outside speakers, special topic workshops, forums in which students present their work and discuss experiences, and participation in major events and experiences in Washington, D.C.
**Program Administration.** The Global Studies Minor Program will have a coordinating committee chaired by an associate dean in the Office of Undergraduate Studies, and including the director from each minor and student representation. The coordinating committee will provide oversight, strategic direction, program development, and assessment. Development activities and initiatives that promote shared intellectual enrichment for students across all minors will be one important component. Review of the match of courses in the Signature Course requirement with evolving student interests and changes in the number and type of tracks is another important component.

The Dean for Undergraduate Studies will have administrative responsibility for the overall program and program budgets. This responsibility will include providing support for program-wide activities.

The Global Studies Minor Program will report annually to the Provost’s Committee on Living-Learning and Other Special Programs. This committee, chaired by the Associate Provost for Academic Affairs and Dean for Undergraduate Studies, provides oversight and strategic direction for all living-learning and other special programs, examining the quality of programs and whether programs are meeting goals. This process plays an important role in the decision to continue to offer any track within the Global Studies Minor Program.

**Global Studies Minor Program (sponsoring college/school and unit):**

- Global Studies Minor: International Development and Conflict Management (BSOS; CICDM/GVPT)
- Global Studies Minor: Global Terrorism (BSOS; START Program)
- Global Studies Minor: Global Poverty (AGNR; AREC)
- Global Studies Minor: International Engineering (ENGR)

**Enrollment Targets (new enrollees):**

<table>
<thead>
<tr>
<th>Track</th>
<th>FY12</th>
<th>FY13</th>
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<tbody>
<tr>
<td>International Development and Conflict Management</td>
<td>60</td>
<td>70</td>
</tr>
<tr>
<td>Global Terrorism</td>
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<tr>
<td>Global Poverty</td>
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<tr>
<td>International Engineering</td>
<td>28</td>
<td>35</td>
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</tbody>
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Signature Courses:

AREC345. Poverty, Public Policy and Economic Growth. An examination of public policy toward poverty in countries around the world. The role of economic incentives and the relation between poverty and income distribution, natural resources and the environment, and economic growth.

AREC365. World Hunger. An introduction to the problem of world hunger and possible solutions to it. World demand, supply, and distribution of food. Alternatives for leveling off world food demand, increasing the supply of food, and improving its distribution. Environmental limitations to increasing world food production.

BSST 330 Terrorist Motivations and Behaviors. This course explores theories explaining the formation of terrorist groups and the motivations behind terrorist behavior, building upon theories from social psychology, sociology, political science, criminology, and history. This course draws heavily from historical examples as well as current examples of international and domestic terrorist groups around the world.

ENES472. International Business Cultures in Engineering and Technology. The goal is to provide students with an understanding of cultural aspects pertaining to global business and engineering and develop the cultural understanding, attitudes, and communication skills needed to function appropriately within an increasingly global and multicultural working environment. Restricted to students with the minor in international engineering or in engineering leadership development.

GEOG130. Developing Countries. An introduction to the geographic characteristics of the development problems and prospects of developing countries. Spatial distribution of poverty, employment, migration and urban growth, agricultural productivity, rural development, policies and international trade. Portraits of selected developing countries.

GEOG330. As the World Turns: Society and Sustainability in a time of great change. (new I series) This cultural geography class will familiarize the student with the concept of society and sustainability. Students will study cultures as basic building block which is key to the sustainability of societies. Students will learn about the sustainability of societies on different scales, examining local, regional and worldwide issues. The sustainability of society will be examined as a key element of environmental sustainability. Culture and society are the anchors people cling to in the face of rapid world change. How societies adjust to change will be examined as a positive and/or negative factor in sustainability. The world is turning quickly in terms of climate change, development, politics, economy, and demography and we can’t get off, so what will we do?

GVPT306. Global Ecopolitics (preq. GVPT 200). Consideration of global problems such as the growth controversy, agricultural productivity, pollution, resource depletion, the energy crisis, and the general impact of science and technology on the world ecological, socio-economic, and political system with particular emphasis on such matters as objects of public policy.

Revised 10/20/11