



Global Engineering Education Exchange

INTEGRATING STUDY ABROAD INTO THE CURRICULUM: A DEAN'S PERSPECTIVE

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The Clemson Perspective

- About 5400 undergraduates; 1700 graduate students (Fall 2013)
- Currently about 25% of undergraduates have some sort of university-related international experience at graduation
 - Study abroad
 - Clemson Engineers for Developing Countries (CEDC)
 - Course with international travel/study dimension
 - Engineers w/o Borders; Engineering World Heath, etc.
- General Education Cross-Cultural Awareness requirement (imposed at the university-level, not college-level).

The issues – and opportunities

- Often, international experiences are ad hoc in the undergraduate curricula.
- Faculty "own" the curricula.
- Administration (e.g., Dean's office) cannot dictate curricular requirements beyond requirements.
- Administration controls the resources (money, faculty positions, seed funding and budgets for initiatives).
- Departments may not be funded based on quality, enhancement or curricular initiatives. Might be "block funding" or headcount-based or a combination.
- Faculty are often not rewarded for engaging in curricular innovation or internationalization.
- Accreditation may appear to cause constraints (ABET, regional accreditation – e.g., SACS).
- One way to make progress: Don't do anything that requires significant curricular modification.

How can we internationalize the curriculum?

- Dialog: The conversation must get started.
 - Generally, faculty know that international experience is a good thing for our students.
 - Discover what the barriers are right from the faculty
- Inform: Faculty may not realize what the true constraints are.
 - What are the accreditation constraints?
 - How do the finances work?
 - Students studying overseas opens up capacity at home.
 - Students engage with programs not available at home.

How can we internationalize the curriculum?

- Socialize: Get the message out there.
 - There are a lot of advocates for internationalization among the faculty.
 - Form a faculty committee at the college-level as a sounding board and develop champions.
 - Publicize your students' and faculty's international activities and successes.
- Get international experiences into the college's strategic plan.
 - It's popular and relatively easy to do.
 - Constituents like it.
 - Then, use this as a lever for curricular innovation.

How can we internationalize the curriculum?

- Incentivize: Got to get something tangible.
 - Money seems to have the desired effect.
 - Let revenues generated by programs return back to the department or program.
 - Start small start with one department or program, and let them be successful.
- Provide support: Advising, MOU's, red-tape, seedfunding, etc.
 - Student scholarships
 - Faculty travel stipend, release, summer pay.
 - Cultivate industry support (advisory boards, employers, scholarships).

An approach

- Choose a department/degree program (ME).
- The dean or dean's designee can work one-on-one with the faculty curriculum coordinator to identify potential courses that can be taken elsewhere, or courses that students or faculty want, but cannot be delivered locally.
- Identify a few key institutions which offer the desired courses, in English, at the right time. Choose programmatic, geographical, language, and cultural diversity among the options.
- Use transfer courses no curricular approval for modification.
- Educate faculty advisors about the options, and ensure there is buyin. Create a culture of "your study-abroad semester".
- Promote the options with the students, and make it very streamlined to transfer the courses back and ensure they will "plug in" to the stardard curriculum.
- Provide student scholarship funds/travel grants to get the program kick-started.

MUAS Aero+Auto program

- South Carolina is home to BMW and the many suppliers to the auto industry, and Boeing and the growing aerospace industry.
- Clemson does not have an Aerospace Engineering program.
 Clemson has a graduate-only (MS+PhD) Automotive Engineering program (not on main campus).
- High demand from undergraduate students.
- Why not partner with institutions to offer these programs?
- Munich University of Applied Sciences (MUAS) Aero + Auto program.
 - MUAS teaches the courses, Global E3 provides the exchange mechanism; home institution approves courses for transfer.
 - Courses are fully vetted for transfer of core + technical electives.
 - University develops a certificate program to issue certificates to students who complete the program.
 - Value added for students: Progress toward the degree, home tuition, certificate in a specialty that doesn't exist at home campus, international experience, language training, and possible internship.