QEM NETWORK
MENTORING WORKSHOP FOR
UNDERREPRESENTED MINORITY
UNDERGRADUATE STUDENTS
& FACULTY/STAFF ADVISORS

Faculty Development

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ESTABLISHING STUDENT CHAPTERS OF PROFESSIONAL ORGANIZATIONS

- Why establish student chapters on campus
  - Benefits to students
  - Benefits to faculty
  - Benefits to university and professional society
- How to establish student chapters on campus
- Types of professional society
  - Discipline focused
  - Cross-disciplinary
- Helpful Resources
BENEFITS TO STUDENTS

- Chance to learn about their future career
- Chance for leadership experience
  - Local chapter & national level
- Opportunities to network with professionals
  - Local speakers & at conferences & workshops
- Opportunities for internships & jobs
  - Sponsored by the organization
- Opportunities for fellowships & scholarships
  - Sponsored by the organization
- Mentoring from dedicated faculty
  - Group and individual mentors
BENEFITS TO FACULTY, INSTITUTION, & PROFESSIONAL ORGANIZATION

○ FACULTY
  - Specialized service credit for P&T (?)
  - Visibility and exposure in the national org.
  - Access to gifted & motivated students

○ INSTITUTION
  - Recognition by national chapter and peers
  - Relevant ABET Criteria for departments

○ PROFESSIONAL ORGANIZATION
  - Pipeline of new members
  - Fulfill their teaching mission
  - Link to colleges, universities, and faculty
ABET CRITERIA RELEVANT TO STUDENT CHAPTERS OF PROFESSIONAL SOCIETIES

A. Apply mathematics science and engineering principles
B. Ability to design and conduct experiments and interpret data
C. Ability to design a system, component, or process to meet desired needs
D. Ability function on multidisciplinary teams
E. Ability to identify, formulate, and solve engineering problems
F. Ability to understand professional and ethical responsibility
G. Ability to communicate effectively
H. Ability to understand the impact of engineering solutions in a global context
I. Ability to recognize the need for and to engage in life-long learning
J. Ability to know of contemporary issues
K. Ability to use the techniques, skills, and modern engineering tools necessary for engineering practice
HOW TO ESTABLISH A STUDENT CHAPTER

- Contact the National Office of the Professional Organization

- Follow these general requirements
  1. A faculty advisor(s)
  2. Members
     - Officers, other members (with roles to play)
  3. Chapter constitution & bylaws
     - Use template
  4. Letter of support from department chair or dean
  5. Approval of registration as an official university organization
     - Contracted Independent Organization (CIO)
TYPES AND EXAMPLES OF ENGINEERING PROFESSIONAL ORGANIZATIONS

 Discipline affiliated organizations
  • AIChe, ASCE, ASME, BMES, IEEE, INCOSE,...
    • [http://www.aiche.org/](http://www.aiche.org/)
    • [http://www.bmes.org/](http://www.bmes.org/)
    • [http://www.ieee.org/portal/site](http://www.ieee.org/portal/site)
    • [http://www.incose.org/](http://www.incose.org/)

 Cross-disciplinary organizations
  • NSBE, SHPE, SWE, ΤβΠ, EWB...
    • [http://national.nsbe.org/](http://national.nsbe.org/)
    • [http://oneshpe.shpe.org/wps/portal/national](http://oneshpe.shpe.org/wps/portal/national)
    • [http://www.ewb-usa.org/](http://www.ewb-usa.org/)
### PROVIDING HANDS-ON PRACTICE OPPORTUNITIES FOR ENGINEERING MAJORS

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*Also co-op and internship opportunities for individuals*
KEEP STUDENTS ON A HIGHER EDUCATION PATH

◆ Timing
  ◆ Coincide with other appropriate activities
    ◆ Open house – INCOSE, ESWB, NSBE, SWE

◆ Student-led
  ◆ Support students to organize and implement
    ◆ Tee-shirts, demos, outreach activities, grants

◆ Collaborate
  ◆ Multi-department, multiple faculty, grants

◆ Follow-up
  ◆ Opportunities for continued involvement, international
REFERRALS

2. http://www.ieee.org/web/membership/students/branchresources/stbforms.html#form
3. https://sites.google.com/a/scs.student.virginia.edu/eswb/
6. https://engineering.purdue.edu/EPICS/