NAESC: What's It All About?

**A brief description of the
National Association of
Engineering Student Councils
and an overview of the
2005 – 2006 NAESC National Conference**

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About NAESC

A detailed description of NAESC can be found in the NAESC Handbook, available at http://www.naesc.org

For the sake of convenience, the description of NAESC provided here will contain summarized and quoted portions from the handbook on the website.

Founded in 1983, The National Association of Engineering Student Councils is based on a five part purpose:

- To serve engineering student councils
- To facilitate communication among member councils
- To promote engineering education
- To organize programs and events
- To provide a resource of information about engineering student activities
- To serve as a collective voice for Engineering Student Councils.

NAESC is primarily run and governed by its Executive Board. The E-Board consists of the President, the Vice-President of Administration, the Vice-President of Communications, the Vice-President of Finance, the Vice-President of Outreach, the Vice-President of Relations, the Director of the National Conference, and the five Regional Presidents.

The focal point for NAESC is the conferences, a regional one usually in the fall and a national one usually in the spring. The host university (chosen at the previous corresponding conference) conducts the preparations for the conference and works closely with members the E-Board. The conference usually lasts the full weekend. Events during the conference include meetings, workshops, corporate seminars, guest speakers, and social events.

A generalized layout of the conferences is as follows:

> "Registration for the National Conference begins on Thursday with a social activity planned for that evening. Friday's events usually consist of corporate seminars in the morning and plant trips in the afternoon. The Voting Delegates, however, do not participate in these events and attend the Voting Delegate's Meetings instead. A banquet and social event take place on Friday night. Saturday is more casual and the delegates exchange information at roundtable discussion groups and listen to delegate presentations. The Voting Delegates meet in the morning to elect the new NAESC President and Vice-Presidents.

Regional meetings follow after lunch and the Regional Presidents are elected at that time. Bid presentations to host the NAESC National Conference are made during Saturday's events. Saturday's events close with a banquet, where the new conference host is announced to the entire delegation. Saturday evening's events involve some social activity that is unique to that school or area."

On a side note, "The 1987 National Conference was held at Columbia University in New York." Makes you wonder why we dropped out in the first place.

This document regarding NAESC was written by Prishantha Dunstan (pcd2106@columbia.edu) on 9th October, 2006 following his trip to the NAESC National Conference in Chantilly, Virginia. The National Conference lasted from Thursday, 6th April, 2006 to Sunday, 9th April, 2006. The Conference was hosted by Virginia Polytechnic Institute and State University (Virginia Tech).

Usefulness of NAESC

There is none

j/k

Outside of ESC networking, the two most useful parts of NAESC are the transfer of information and ideas and the presentations by speakers and companies.

Transfer of Information-The most useful part of NAESC to an Engineering Student Council would be the availability of ideas and assistance/feedback on initiatives. At each conference, member universities conduct presentations, displaying and discussing notable aspects of their ESC. Such topics include running a popular and highly effective E-Weeks, creating an ESC Newsletter, and methods of increasing ESC awareness among the student body. Contact information for the universities is usually provided for follow up questions not answered during the presentation or subsequent Q&A.

Speakers and Companies- The most useful part of NAESC to an individual student would be the sessions during which guest speakers and companies give talks. Guest speakers talk usually are autobiographical or topics regarding pivotal points in their lives and advice on such situations. Corporations usually give an overview of their company, complete with details on jobs and internships. Often they will accept resumes at their presentations.

Notes from ESC Presentations

<u>Newsletter</u>
Presented by University of Michigan at Ann Harbor
- Developed their newsletter from 1 page to 8-12 pages in one year
- Newsletter Committee
    o Conducted by their Publicity Committee
    o Consists of Editor in Chief, News Editor, Sports Editor, Entertainment Editor, and Photographer
- Specifics
    o Printed every other week
    o Printed on 11x17" paper, folded in half
    o 100 copies of 8pg newsletters (folded and stapled upon arrival) = $79
    o Printing company is advertised in the newsletter to lower prices
    o University consists of 5-6 thousand students
    o Newsletter made in publisher
- Content
    o Informs students about engineering news and events not covered in other campus publications
    o College of Engineering news
        - Interviews with the administration
        - New buildings and changes on campus
    o Society news
        - Events
        - Recruitment of new members
    o ESC news: Information about council activities and services
    o Engineer jokes
    o "Did you know?" facts
    o Sports column (just for enjoyment)
        - Consistently on the back page of the newsletter
        - Does, however, overlap with the university's paper
- Article submissions
    o Editors
    o ESC members
    o Societies (naturally proactive and submit articles w/o pressure from ESC)
    o Students

- o Faculty (letter from the President of the University helped with newsletter's publicity)
- Feedback from Students
    - o Newsletter offers email address for feedback: enginsucks@umich.edu
    - o Feedback facilitated by polling the student body
        - Conducted through college-wide emails, student to student interactions, and even communication through Facebook
        - Results of polls published in newsletter
- Distribution
    - o 100-200 copies printed black and white
    - o Distributed at General Body Meetings, Society offices, Engineering Advising Center, Introductory Engineering Classes, Help Rooms, and personally handed out
    - o Posted online at http://www.umeconline.edu
- Future plans
    - o Looking into buying newspaper racks to put around the engineering campus (at cafes, lounges, bus stops, etc)
    - o Getting corporate sponsorship to increase copies and add some color to issues (perhaps front and back pages only)
    - o Feature a different society in every issue
    - o Increase readership by implementing incentive based contests
- Advice: be a "news-magazine", not a newsletter;
Have the articles written with a creative and personal touch

Engineering Expo
Presented by University of Louisville
- "Annual showcase of engineering"
- Organization
    - o Planned and run by their engineering school
    - o Spread through the campus (guidance needed, maps offered with suggested pathway, sidewalks were chalked)
    - o Changes made this year
        - Moved all activities into one day, vs. two
        - Added a theme (Engineering is a treasure)
    - o 80 volunteers involved

- o Sponsorship amounted to $2,500 (covered expenses)
- Theme: Engineering is a Treasure
  - o Gold coins given out as souvenirs
  - o Roaming Pirate- acted as a floating guide
  - o Pirate Map diagramed event and building locations (School of Arts and Sciences was labeled as the "Sea of Agitation")
- Events
  - o Keynote speaker (last time had Stewart Scott [alumnus], CIO Microsoft)
  - o Student Research Competition
  - o Student poster exhibits (not judged)
  - o Career Fair style set up of corporate exhibits
    - Collected resumes from interested students a week before the event and sent to corporate representatives attending the event
    - Utilized contacts in alumni council and industrial advisory board
  - o Engineers' Ball
    - Cost $6,000
    - For all classes, 220 max
    - Alcohol served, wristbanding used
- Publicity
  - o Presentations in calculus classes (think introductory classes)
  - o Pressure on faculty, pushing them to have exhibits
  - o Free food and shirts

E-Week
Presented by University of Wisconsin – Madison
- Logistics
  - o ESC organizes E-Weeks, Student Organizations run the events
  - o Student organizations compete against each other throughout the week
  - o 10-20 organizations participate
  - o 3-4 competitions daily, some taking more than one day
- Individual events
  - o Blackjack (most $$ in an hour)
  - o Texas Hold Em (~3 hrs, usually ends in a draw)

- o Poop the potato (hop with potato between legs to bin, drop it, go back for another; most in 2 minutes)
  - o Balloon pop (balloons tied to ankles, last person with balloons wins)
  - o Twister
  - o Pitch 'n' Chip (raft with buckets in it, use golf club to knock golf balls in)
  - o Karaoke
  - o Mr. and Mrs. Engineer
  - o Hot dog eating contest
  - o Don't eat the worms (blind folded eating game, involves 3 rounds)
- General Events
  - o Fun Run (awards for male, female, and org. w/most participants)
  - o Tug of War (add a mud puddle and this could be tight)
  - o E-Weekopoly- board big enough to stand on, campus buildings used as property, extra trading rules incorporated, most assets after 3 hrs
  - o Triathlon: pass string through shirt and pants (3 ppl), melon under chin pass, bat spin
  - o Orange roll: orange in tights, tights attached to waist, orange hanging down, hip momentum to swing it to knock an orange along the ground
  - o Duct tape a person to the wall (longest time up with set amount, or least amount combined with longest time)
  - o Kool Aid games: Kool Aid pong, flip cup, etc (um… yeah….)

<u>Endowed Scholarship</u>
Presented by North Carolina State University
- What is the Scholarship?
    - Money is invested in an account, from which interest is used to fund the scholarship
    - Accounts are set up with the university
    - Scholarships are available for life
- Types of Scholarships
    - Student Scholarships
        - Active Juniors or Seniors
        - Out of State Students
        - Freshman Representative on ESC (encourages involvement)
    - Scholarships for Study Abroad
    - Scholastic support for Fundamentals of Engineering Exam preparatory courses- $500/semester
- Publicity
    - Postcards sent through the university
    - Newsletter advertisements included
- Starting and Funding the Endowment
    - Request aid from venues such as the Career Center, companies, alumni, or the university
    - Request half of a certain amount from an alumnus, stating that the ESC will raise the other half; often, a company will match the employee's contribution
    - Use profits from Career Fairs;
      NC-State methods:
        - Plan to start having two/yr (October and February)
        - Insure quality of the fairs to companies (provide food & drinks, etc.)
        - Received 180 requests last time (turned 40 away due to space)
- Selection committee
    - Faculty and Advisors
    - One member per department

Notes from Corporate Talk

<u>Lockheed Martin</u>
Presentation consisted mainly of technical information regarding the company and information on applications
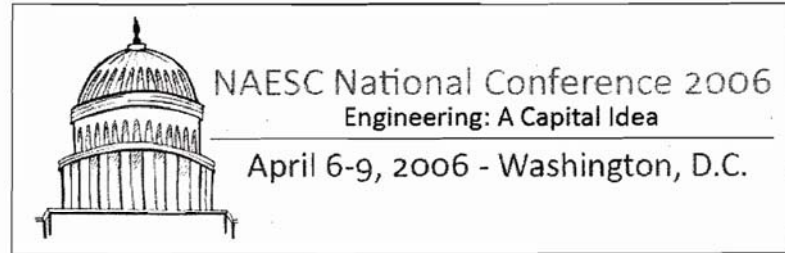- Nationwide headquarters in Maryland
- Primary portions of commissions
  - 58% for Department of Defense
  - 22% for the civil government and Homeland Security
  - 16% international business
- Influence on the industry: build 90% of satellites 1/3 of planes
- Employ more software engineers than Microsoft
- Employees
  - Technical
    - 21% Computer Science Engineers
    - 20% Systems Engineers
    - 15% Electrical Engineers
    - 13% Computer Engineers
    - 11% Mechanical Engineers
    - 9% Aeronautical Engineers
  - Non-technical
    - 32% Finance
    - 28% Business
    - 16% Accounting
    - 8% HR

Full Schedule of the 05-06 National Conference

2006 NAESC Conference

Time	Thursday	Friday	Saturday	Sunday
8:00 AM – 8:20 AM	Marriott Breakfast Buffet	Marriott Breakfast Buffet	Marriott Breakfast Buffet	Grab and Go Breakfast
8:30 AM	Setup	Welcome and Introduction	Welcome and Introduction	Check Out and Travel Home
8:40 AM – 9:10 AM		Ronald L. Ewing, CEO, Dewberry — Business Trends of the Architectural and Engineering Industry	Mike Shannon, Director of Professional Services, NCEES — Engineering Licensure: Just Finish It	
9:20 AM – 9:30 AM		Break / Room Change	Break / Room Change	
9:40 AM – 10:00 AM		Regional Meeting / Regional Meeting / Regional Meeting / Regional Meeting / Regional Meeting / Not Used / VDM Setup	Regional Meeting / Regional Meeting / Regional Meeting / Regional Meeting / Regional Meeting / Not Used / VDM Setup	
10:10 AM		Break / Room Change	Break / Room Change	
10:20 AM – 10:50 AM		Council Presentation (×6) / VDM	Council Presentation (×6) / VDM	
11:00 AM		Break / Room Change	Break / Room Change	
11:10 AM – 11:40 AM		Council Presentation (×6) / VDM	Council Presentation (×6) / VDM	
11:50 AM		Break / Room Change	Break / Room Change	
12:00 PM – 12:50 PM	Free Time	Lunch with Dewberry / Lunch with Lockheed Martin / Lunch with USDoT	Lunch Buffet — Westfields Marriott	
1:00 PM	Board Bus / Travel	Break / Room Change	Break / Room Change	
1:10 PM – 2:00 PM	Check In and Registration	Prof. Development Dewberry / Prof. Development Lockheed Martin / Prof. Development USDoT — VDM Room Not Used	Speaker Session NSF / USDoD / DCWSA / USPTO / National E-Week / USDoE — VDM Room Not Used	
2:10 PM		Break / Room Change	Break / Room Change	
2:20 PM – 3:10 PM	Tour Lockheed Martin / Board Bus / Travel	Prof. Development Dewberry / Prof. Development Lockheed Martin / Prof. Development USDoT	Speaker Session NSF / USDoD / DCWSA / USPTO / National E-Week / USDoE	
3:20 PM		Break / Room Change	Break / Room Change	
3:30 PM – 3:50 PM	Tour Dewberry / Tour USDoT / Travel	CFES Presentation, Candidate Talks, Bid Proposals, NAESC Book	Conclusion Meeting	
4:00 PM – 4:50 PM	Travel		Free Time / Banquet Preparation	VIP Free Time / Banquet Preparation
5:00 PM – 5:10 PM				VIP Travel to Mellon Auditorium
5:20 PM – 5:50 PM	Free Time / Travel		Travel to Mellon Auditorium	
6:00 PM – 6:10 PM	Load Buses			VIP Reception
6:20 PM	Travel / Travel		Get Seated	
6:30 PM				Welcome
6:40 PM				Introduction
7:00 PM – 7:40 PM	Eat and Tour Georgetwon / Eat and Tour National Mall / Eat and Shop Reston Town Center	Shuttles, Dinner, and Sight Seeing	Formal Banquet	Chuck Cantello, Vice President, Sensors and Advanced Programs, Lockheed Martin
7:50 PM				Transition
8:10 PM – 8:20 PM				Awards Presentations
8:30 PM – 8:40 PM	Load / Travel			Conclusion
9:00 PM – 9:20 PM	Load / Travel / Back at Westfields		Travel Home	
9:40 PM – 10:00 PM	Back at Westfields			

Thursday left column (spanning): Check In and Registration -- Check In and Registration -- Check In and Registration -- Check In and Registration -- Check In and Registration

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Friday's Schedule

Friday April 7, 2006

NAESC National Conference 2006
Engineering: A Capital Idea
April 6-9, 2006 - Washington, D.C.

Important Emergency Contact Update

We would like to take this opportunity to apologize for the high call volume last night that resulted in occasional busy signals on our emergency line. To serve you better, we have added an additional emergency number. **Please take a moment now to save this number in your cell phone:**

(540) 808-4472

Both this number and (540) 231-6036 reach the same switchboard – the only difference is that (540) 808-4472 adds additional capacity. As was the case yesterday, if you need to be picked up by a shuttle van or you have questions about the conference, call either of these numbers to reach the conference organizers.

2006 Participation Challenge

By attending our conference meetings, you can earn points on your participation passport (blue card with your nametag) to be eligible on Saturday for grand prizes. Prizes include a Leatherman Micro and Maglite gift set, plush fleece jackets, and a Video iPod donated by NCEES. See page 17 of the NAESC Guide Book for more details.

Today's Deadlines

1:00pm: Candidate Nominations
(for announcement and candidate speech in General Session II)
11:59pm: Final Candidate Nominations
11:59pm: Awards Applications
**Pick up and return applications at the Information Desk on the second floor.

Up-to-Date Daily Schedule

Time	Event	Location
8:00-8:30am	Marriott Breakfast Buffet	
8:30-9:20am	General Session I	Grand Dominion Ballroom
9:20-9:30am	Break	
9:30-10:00am	Regional Meeting I	Jeffersonian I-VI
10:00-10:10am	Break	
10:10-10:50am	Council Presentations	Jeffersonian I-VI V
10:50-11:00am	Break	
11:00-11:40am	Council Presentations	Jeffersonian I-VI
11:40am-12:00pm	Break	
12:00-1:00pm	Company Luncheon	Jeffersonian I-VI III/iV
1:00-1:10pm	Break	
1:10-2:10pm	Professional Development	Jeffersonian I-VI
2:10-2:20pm	Break	
2:20-3:20pm	Professional Development	Jeffersonian I-VI
3:20-3:30pm	Break	
3:30-4:30pm	General Session II	Grand Dominion
4:30-2:00am	Dinner, Sight-seeing	

Friday's Breakdown of Events

Breakfast: 8:00- 8:30am
Marriott Breakfast Buffet   Fairfax Dining Room

Regional Meeting I: 9:30- 10:00am
North Atlantic Regional Meeting	Jeffersonian I
Southeast Regional Meeting	Jeffersonian II
Midwest Regional Meeting	Jeffersonian III
Central Regional Meeting	Jeffersonian IV
West Regional Meeting	Jeffersonian V

Council Presentation I: 10:10- 10:50am
Engineering Freshman Committee: Engineering Tomorrow's Leaders	Jeffersonian I
Engineering Expo	Jeffersonian II
How to Become a NAESC Officer	Jeffersonian III
NSOS: New Student Orientation Seminar	Jeffersonian IV
Producing a Successful Newsletter	Jeffersonian V
Running an Effective Job Fair	Jeffersonian VI

Council Presentation II: 11:00- 11:40am
Engineering Freshman Committee: Engineering Tomorrow's Leaders	Jeffersonian I
Engineering Expo	Jeffersonian II
NAESC 101	Jeffersonian III
NSOS: New Student Orientation Seminar	Jeffersonian IV
Producing a Successful Newsletter	Jeffersonian V
Running an Effective Job Fair	Jeffersonian VI

Lunch: 12:00- 1:00pm
US Department of Transportation Luncheon	Jeffersonian I & II
Lockheed Martin Luncheon	Jeffersonian III & IV
Dewberry Luncheon	Jeffersonian V & VI

Professional Development: 1:10- 2:10pm
Leadership at the Movies	Jeffersonian I & II
Negotiating Skills in School and Life	Jeffersonian III & IV
The Three "Rs" for Leadership Success	Jeffersonian V & VI

Professional Development: 2:20- 3:20pm
Leadership at the Movies	Jeffersonian I & II
Negotiating Skills in School and Life	Jeffersonian III & IV
The Three "Rs" for Leadership Success	Jeffersonian V & VI

General Session II: 3:30- 4:30pm
NAESC General Assembly Meeting   Grand Dominion

Saturday's Schedule

Saturday
April 8, 2006

NAESC National Conference 2006
Engineering: A Capital Idea

April 6-9, 2006 - Washington, D.C.
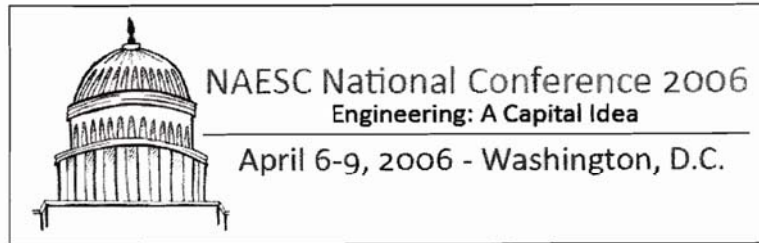
Candidate Nominations

President
Aric Reutlinger — Arizona State University

VP of Finance
Cindy Armstrong — Marquette University
Brian Minchuk — Arizona State University
Pree Silva — University of Florida

VP of Communications
Rahul Daswani — University of Michigan
D.J. Tegtmeier — University of Louisville

VP of Administration
Kyle Zienin — Purdue University

VP of Relations
B.J. Bryan — Arizona State University
Zane Salim — University of Michigan

VP of Outreach
Cindy Armstrong — Marquette University
Allison Douglas — University of Louisville
Armando Luera — Arizona State University
Christine Toole — Virginia Tech

Reminders

Board the bus for the banquet at 5:00pm.
Turn in your Participation Passport at 4:00pm at the Information Desk on the second floor.
Last shuttle departs at....
 1:05am from Georgetown (M St & Wisconsin)
 1:30am from Vienna Metro (South Entrance)

Up-to-Date Daily Schedule

Time	Event	Location
8:00-8:30am	Marriott Breakfast Buffet	Fairfax Dining Room
8:30-9:20am	General Session III	Washingtonian Ballroom
9:20-9:30am	Break	
9:30-10:00am	Regional Meeting II	Grand Dominion I-VI
10:00-10:10am	Break	
10:10-10:50am	Council Presentation III	Grand Dominion I-VI
10:50-11:00am	Break	
11:00-11:40am	Council Presentation IV	Grand Dominion I-VI
11:40am-12:00pm	Break	
12:00-1:00pm	Lunch Buffet	Fairfax Dining Room
1:00-1:10pm	Break	
1:10-2:10pm	Speaker Session I	Grand Dominion I-VI
2:10-2:20pm	Break	
2:20-3:20pm	Speaker Session II	Grand Dominion I-VI
3:20-3:30pm	Break	
3:30-4:30pm	General Session IV	Washingtonian Ballroom
4:30-5:15pm	Break	
5:00pm	Depart Hotel for Banquet	Lobby
6:30-9:00pm	Formal Banquet	Mellon Auditorium
9:00-10:00pm	Return from Banquet	
10:00-2:00pm	Evening Activities	

Saturday's Breakdown of Events

Guest Speaker during General Session III: Representative from the National Council of Examiners for Engineering and Surveying (spoke about Licensure, see Part IV)

Breakfast: 7:00- 8:30am
Marriott Breakfast Buffet   Fairfax Dining Room

General Session III: 8:30- 9:20am   Washingtonian Ballroom

Regional Meeting II: 9:30- 10:00am
North Atlantic Regional Meeting   Grand Dominion I
Southeast Regional Meeting   Grand Dominion II
Midwest Regional Meeting   Grand Dominion III
Central Regional Meeting   Grand Dominion IV
West Regional Meeting   Grand Dominion V

Council Presentation III: 10:10- 10:50am
CFES: Attracting & Retaining Members   Grand Dominion I
The Dean's Committee at Virginia Tech   Grand Dominion II
How to Get You E-Week out of Arrested Development   Grand Dominion III
Engineering Open House: Beyond Imagination   Grand Dominion IV
Increased Publicity through Endowed Scholarships   Grand Dominion V
Intersociety Assassinations   Grand Dominion VI

Council Presentation IV: 11:00- 11:40am
Canadian Engineering Competition   Grand Dominion I
The Dean's Committee at Virginia Tech   Grand Dominion II
How to Get You E-Week out of Arrested Development   Grand Dominion III
Engineering Open House: Beyond Imagination   Grand Dominion IV
Increased Publicity through Endowed Scholarships   Grand Dominion V
Intersociety Assassinations   Grand Dominion VI

Lunch: 12:00- 1:00pm   Fairfax Dining Room

Speaker Session I: 1:10- 2:10pm
Current Projects at the NSF   Grand Dominion I
Maintaining US Scientific Leadership and Economic Competitiveness   Grand Dominion II
Engineering Education and Opportunities in Asia   Grand Dominion III
How to Survive as an Engineer in the Workplace   Grand Dominion IV
Intellectual Property Basics and a Career at USPTO   Grand Dominion V
National Engineers Week   Grand Dominion VI

Speaker Session II: 2:20- 3:20pm
Current Projects at the NSF   Grand Dominion I
Maintaining US Scientific Leadership and Economic Competitiveness   Grand Dominion II
Engineering Education and Opportunities in Asia   Grand Dominion III
How to Survive as an Engineer in the Workplace   Grand Dominion IV
Intellectual Property Basics and a Career at USPTO   Grand Dominion V
National Engineers Week   Grand Dominion VI

General Session IV: 3:30- 4:30pm
NAESC General Assembly Meeting   Washingtonian Ballroom

Formal Banquet: 6:30- 9:00pm (please board bus at 5:00pm)   Mellon Auditorium

Expenditures

The costs for the trip were divided between the delegate and the ESC Co-sponsorship assistance. It was agreed that the latter would cover transportation and the former would cover registration, etc. (This may have been due to the value of the transit fee)

Transit: Amtrak, $147 roundtrip, covered by ESC Co-sponsorship
- o Trip to the conference   (Thursday, 6th April, 2006)
     - Departure: 4:05pm Penn Station, NY
     - Arrival: 7:20pm Union Station, DC
- o Trip from the conference   (Sunday, 9th April, 2006)
     - Departure: 5:25am Union Station, DC
     - Arrival: 8:45am Penn Station, NY

Transit between Union Station and the Westfields Marriot (site of the conference): Subway system, ~$10 roundtrip, covered by delegate

Registration Fee: $150/delegate (one delegate sent), covered by delegate

Note- Following discussion with several (7+) delegations from other universities, it appeared that most ESCs cover most (if not all) of the costs of the conference; it also appeared common to send around 4 delegates (some delegations reaching 6 to 9 members, while some were as small as 2)

Engineering Licensure Card

Front side

Back side

Engineering Licensure Pamphlet

There is no better time....

I highly recommend taking the FE Exam while you're still in school. I know you feel like you don't have a lot of free time. When you get out, you have less. You have more responsibilities: work, personal life, new house, new car and possibly a family.

Bob Rupert, P.E.
Vice President
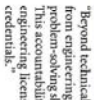JEA Construction Engineering Services, Inc.

"I strongly suggest that you take the FE and pursue licensure as quickly as possible. You'll never miss it until you need it and don't have it. Take the time now while the information is still fresh in your mind and take the FE. It will be the smartest thing that you ever did."

Deborah Grubbe, P.E.
Vice President – Group Safety
BP

"With respect to accomplishments in my career, achieving my P.E. license has been one of the most important, perhaps even more important than pursuing my doctorate degree. Successfully passing the licensing exam demonstrates that I've achieved a rigorous standard in my field, which is very important to me."

Dwight L. Williams, Ph.D., P.E.
Senior Nuclear Engineer
U.S. Department of Defense

"Beyond technical competence, clients seeking services from engineering consultants also look for creative problem-solving skills that carry a level of accountability. This accountability is achieved by adding professional engineering licensure to the engineering consultant's credentials."

N. Catherine Bazan-Arias, Ph.D., P.E.
Staff Engineer
GAI Consultants, Inc.

"I'm a Vice President with Parsons. I'm in charge of all construction projects throughout the U.S. and the world and that would not have been possible unless I had my PE."

Brett Pielstick, P.E.
Vice President
PTG Construction Services Inc.

P.E. Licensure

After satisfactory completion of all four steps, you may become licensed as a professional engineer and use the distinguished P.E. designation.

Exams

The NCEES develops and scores the FE and the PE examinations and reports the results to licensing boards. Boards report pass/fail notifications to examinees. For more information on examination scores, contact your licensing board.

FE Examination

Morning Section

The four-hour, multiple-choice morning section has questions covering:

Science–General chemistry and general physics. Life science, earth science, advanced chemistry, and physics also may be included.

Mathematics–Differential and integral calculus and differential equations. Probability and statistics, linear algebra, numerical analysis, and advanced calculus also may be included.

Engineering Science–Creative applications of science and mathematics. Mechanics, thermodynamics, electrical and electronic circuits, material science, and transport phenomena also may be included.

Ethics–Professionalism and ethics.

Afternoon Section

The four-hour, multiple-choice afternoon section tests junior/senior-level courses in the specific engineering disciplines of chemical, civil, electrical, environmental, industrial, and mechanical. Examinees may choose to be tested in one of these disciplines, or they can work the general examination testing science, mathematics, and engineering science written at a junior/senior level of difficulty.

Examinees use an NCEES supplied-reference handbook to assist them. Only the handbook and approved calculators are allowed in the examination room. Sharing materials is prohibited. For complete examination specifications, the approved calculator list, and to review a copy of the supplied-reference handbook, visit the NCEES Web site at www.NCEES.org.

Scores are equated with past FE examinations to ensure fairness. There are no penalties for incorrect answers.

PE Examination

Candidates must take an eight-hour examination in one of the following engineering disciplines.

Examinations currently offered in April and October are:

Chemical	Environmental
Civil	Structural I & II
Mechanical	
Electrical and	
Computer	

Examinations offered once a year are:

Agricultural	Mining/Mineral
Architectural	Naval Architecture/
Control Systems	Marine
Fire Protection	Nuclear
Industrial	Petroleum
Metallurgical	

National Council of Examiners
for Engineering and Surveying
P.O. Box 1686
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864-654-6824 / 800-250-3196
Fax 864-654-6033
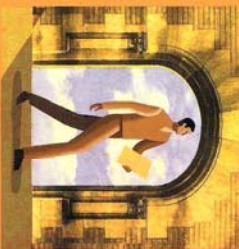
Engineering Licensure
A Path of Opportunity

Engineering Licensure Pamphlet (cont'd)

Front (inside) of Pamphlet

1. Engineering Degree
Most licensing boards require a bachelor's degree from a four-year program that has been accredited by the Engineering Accreditation Commission (EAC) of ABET Inc.

2. FE Examination
The Fundamentals of Engineering (FE) examination is used by licensing boards to set a standard of competency. The examination is administered each year in April and October, but the registration process starts as much as 3–4 months earlier. Most people take the exam right before graduation from college while the information is still fresh in their minds. Licensing boards and the offices of many engineering school deans distribute test application forms. Boards can also provide details on dates and locations for taking the examination. Application fees and deadlines vary by jurisdiction.

3. Engineering Experience
After passing the FE examination, you are recognized in most jurisdictions as an Engineering Intern (E.I.). You must complete four years of progressive, acceptable, and verifiable engineering experience. Some licensing boards require that this experience be gained under the supervision of professional engineers.

4. PE Examination
The Principles and Practices of Engineering (PE) examination is used by licensing boards to set a standard of competency. In most states, you can take the PE examination after completing four years of acceptable engineering experience as an E.I. Application fees and deadlines vary by jurisdiction, but start early to be safe. In order to qualify to take the examination, you must show college transcripts, engineering references, and progressive engineering experience that is acceptable and verifiable.

Your Name, P.E.
Reap the benefits of spending a career as a Professional Engineer.

One of the most important decisions you can make early in your engineering career is to place yourself on a course to become licensed as a professional engineer (P.E.). The licensing of engineers is important to the public because of the significant role engineering plays in society. The profession is regulated by licensing boards in each U.S. state and territory, and they set high standards for professional engineers to protect the public health, safety, and welfare. In most states, professional licensure is required by law to offer engineering services to the public.

Jobs
An increasing number of employers value engineers who, by becoming licensed, show a commitment to their profession and to the future.

Promotions
Many employers in industry and government require licensure for advancement to senior engineering positions.

Money
According to recent salary studies, P.E.'s enjoy significantly higher pay throughout their careers.

Credibility
In most states, only P.E.'s can consult in private practice or serve as expert witnesses in court.

Respect
P.E.'s gain the respect of peers within the engineering community, where the desire to excel runs high.

Security
As laws change and international agreements concerning the requirement to be licensed are adopted, a P.E. license may become even more of a necessity.

Engineering Licensure
Engineering licensure is regulated by licensing boards in each state and U.S. territory. These independent licensing boards comprise the National Council of Examiners for Engineering and Surveying (NCEES)

www.engineeringlicense.com

Thoughts and Advice

Overall, the conference proved to be a really good experience. Few words of advice (first line summarizes each). And yes, many of these seem obvious, but you'll probably change your mind during the conference:

1. Sending several (>1) delegates is advantageous.
   For the National Conference, the two Council Presentations consisted of 6 presentations (which, for the most part, were the same for both sessions); thus, one person can cover two, two people can cover four, etc. Keep in mind that the Voting Delegates Meeting ("VDM" in the full schedule) is during these sessions, thus one delegate will be lost to that meeting (since Columbia was not a member university during this conference, no delegate was needed/useful in the VDM).
   However, a highly resourceful and skillful delegate can survive on his own.

2. Think before you schedule arrival and departure.
   Don't show up late. Otherwise, people have already hung out together playing pool and know each other well (it's not that big a deal; you just miss some nice networking time and/or corporate tours).
   Don't leave too early. The last night at the conference is the night no one sleeps and everyone parties/hangs out (±2.5). So, leaving at ~4am to catch a train can be kind of annoying (heck, even if you slept, it'd suck). Also, apparently at every National Conference, security gets mad about the noise (happened this year); National Conferences are rumored to never be hosted in the same building twice (unless university owned).

3. Canadians are cool
   Two Canadian members of the E-Board of the Canadian version of NAESC visited our conference. They were basically the life of the party; great guys, taught everyone the Engineering Drinking Song (no, we weren't drinking alcohol; duhhhhh –hickup-)

4. Rooming assignments probably mean two to a bed
   So, learn to be friendly. I, however, lucked out, with one delegate for my room being a no-show and another choosing to room in one of his council's other rooms. Thus, my single roomie and I had two beds to ourselves. Too bad I didn't get to sleep with someone I only met the night before. Shucks.

5. Interrogate during the Q&A of Council Presentations
   The ESCs that present their accomplishments tend to forget the most integral parts of their initiatives (the present it as if they are intending to show the result more than the start, trial and error, and development). Their powerpoints and handouts won't the key things you need to know, so plan to bug 'em. Remember, 1. They like helping other ESC and 2. This is their moment to shine/brag/feel special inside.

6. Take notes. Lots of them. And get Contact Info
   When it comes time to give the information to your council or to attempt a similar initiative to what another ESC has done, you'll realize that those small, trivial, "yeah, I'll 'member that" things will trip you up. Badly. Plus, since the presenters will probably omit key parts, get their contact info.

7. Most people don't know each other; random intros aren't awkward
   Ish. Unless they're council is a big, tight group, it's all good. But, if you're funny looking, don't even bother.

8. If you're going solo to a conference, make lots of friends
   And casually let them know you're the only delegate. Why? Well, when there are periods for 'exploring the city' or whatnot, you'll probably want a group to tag with. Letting them know you're on your own will procure what they're doing during the down time, an invitation, and contact info. Thus, when the time comes, you can choose which you'd actually enjoy and contact 'em.

Further Information

For more information regarding NAESC, visit http://www.naesc.org Resources on the NAESC website include the NAESC Handbook, How to Start an ESC, Constitution and By Laws, Certificate of Incorporation, and Application Form.

For more information regarding experiences at the '05 – '06 National Conference, please contact his highness, the exalted Prishantha Dunstan (pcd2106@columbia.edu). And yes, he is indeed the Class Representative of the illustrious SEAS '09 council (aka *Power House* of ESC).