Engineering Training & Outreach

Lucy Nobrega
All Engineers Retreat
February 20, 2018
• FOR YOU: Professional development and training
• FOR YOUR COLLEAGUES: Developing our future workforce
• FOR THE COMMUNITY: Education outreach
Onsite and online workshops and seminars, including new on-demand leadership courses, 0.5 - 2.5 hours long
Specialized technical training arranged onsite on request: Vacuum Technology, GD&T, Welding and Brazing (Barb Brooks)

USPAS (US Particle Accelerator School) college-accredited courses. Next session: Michigan State University, June 4-15. uspas.fnal.gov

Other offsite workshops/courses coordinated through your department
The Tuition Assistance Program (TAP) currently has 50 employees enrolled.

Changes to TAP, effective 1/1/2018:

- Paid by centralized lab budget
- Approvals for PhD, master’s, and bachelor degrees increased to chief level; associate’s approvals increased to division level.
- Yearly maximum for tuition & fees. Book costs not reimbursed.
  - Bachelor’s: maximum $10,000 yearly
  - Master’s and PhD: maximum $13,000 yearly
- Tuition and fees for associate degrees, certificate programs and individual courses still advanced 100%; books reimbursed 100%.
- Employees who terminate employment within one year of completion required to reimburse all tuition and fees from final year of TAP participation.
Mentoring program – currently 30 employees enrolled
(Holly Lett, http://hr.fnal.gov/training/mentoring/)
Developing our Future Workforce. Pipeline programs: mentor a student (Mario Lucero, Sandra Charles) http://ed.fnal.gov/interns/programs/

**TARGET** for high school students with aptitude and interest in physics, engineering, math, and computer science

**Coop** (Cara Brown)

**SIST** (Summer Internships in Science and Technology) for undergrads studying physics, engineering, math, and computer science

**SULI** (Science Undergraduate Laboratory Internship) for undergrads in science and engineering

**Lee Teng** Undergraduate Fellowship in Accelerator Science & Engineering

**GEM** – summer internships for graduate students in science or engineering

**Internships for Italian Students** physics & engineering graduate students

**VetTech** – summer internships for technicians who are veterans
Developing our Future Workforce. Diversity Outreach (Mario Lucero, Lucy Nobrega)
Education Outreach. K-12 & public outreach through Education Office
http://ed.fnal.gov/home/volunteer.shtml

- STEM Career Expo (every April at Fermilab)
- Family Open House
- Local STEM (Science, Technology, Engineering, & Math) events
Education Outreach. K-12 & public outreach through Education Office
http://ed.fnal.gov/home/volunteer.shtml

Classroom presentations at local schools

- Charge! Electricity and Magnetism
- Cryogenics Show - Mr. Freeze
- Forces and Motion
- Light and Color
- Physics in the Real World
- Physics of Sports
- Space, Time and the Universe
- Engineering – Marshmallow Challenge
Physics of Sports

Forces and Motion

Light and Color

Engineering – Marshmallow Challenge
**Education Outreach.** K-12 & public outreach through Education Office

http://ed.fnal.gov/home/volunteer.shtml

- Mentor a teacher in a TRAC (Teacher Research Associates) summer internship
- Ask-An-Engineer: NEW! Just like Ask-A-Scientist. 1-4pm on the first Sunday of the month. Presentation, tour, Q&A.
- Help design and maintain equipment
- **Brown bag lunch Tuesday, February 27, One West**
Summary - Links and Contacts

- Engineering development & training, Tuition Assistance Program (TAP) - [http://hr.fnal.gov](http://hr.fnal.gov)
- Specialized training by request – Barb Brooks
- US Particle Accelerator School – [uspas.fnal.gov](http://uspas.fnal.gov)
- Mentoring Program - Holly Lett, [http://hr.fnal.gov/training/mentoring/](http://hr.fnal.gov/training/mentoring/)
- Pipeline programs - [http://ed.fnal.gov/interns/programs/](http://ed.fnal.gov/interns/programs/)
- Diversity outreach (Mario Lucero, Lucy Nobrega)
- Education outreach - [http://ed.fnal.gov/home/volunteer.shtml](http://ed.fnal.gov/home/volunteer.shtml), or brown bag lunch Tuesday, February 27, One West
“Every expert was once a beginner”

-Helen Hayes