Career Strategies and Experiences in Applied Science and Engineering: Practice through Public Service

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Background Information

➲ Bay Area High School

➲ Geophysics undergraduate in the old (pre-EPS) program
   ● Consider Honors program as a way to complete a senior research project

➲ EPS Professional Master's theme was Energy Systems
   ● Developed in consultation with Prof. Brimhall

➲ Berkeley Co-op Alumnus
Course Recommendations

- Upper Division Math, Physics, Engineering, and EPS a must

- Math 121 (Mathematical Methods), Physics 105 and 110 (Mechanics and Electromagnetism and Optics), CE 171, 172, 175 (Soil/Rock Mechanics, Geo-technical/Geological Engineering), EPS 178 (Applied Geophysics and Seismology), EPS 104 (Math Methods), EPS 108 (Geodynamics)

- Courses that stress real-world technical problem solving (Economic Geology, Petroleum Geology, Borehole Seismology, Computer Simulations, Finite Element Methods, Quantitative/Statistical Methods in EPS, Geo-engineering program in Civil Engineering, and ERG)

- Energy and Resources courses (Power Systems ERG 254)

- Public Policy and Economics set the perspective of technical training
Post-Baccalaureate

- Teaching and International Exchange (Kyushu, Japan)
  - Discovered this full-time salaried opportunity at a study/work abroad career fair on campus

- Graduate School application and GRE
  - Start early and think ahead

- Travels and work experiences abroad remain influential in my professional life to this day and are immensely rewarding
  - I can not stress how meaningful it is to have powerful life experiences and relationships outside of your traditional career path
  - Incorporate your hobbies and interests as much as you can in your career
Master's Program in EPS

- Used the program as a tool to develop academic and analytical skills that would translate into an Applied Science and/or Engineering career.

- Focus was on Energy Systems.

- Graduate coursework in Energy and Resources Group, Civil Engineering, and Policy.
  - Presented a project at a symposium in Lisbon.

- GIS was a skills course I took to round out my “toolkit.”

- Consider steps for registration as an PG, PGP, CEG, CHG, PE.
Networking 101

➲ I discovered my last three job opportunities at Berkeley Career Fairs

- JET Programme (Professional International Exchange Programme)
- Stottler Henke Associates (Silicon Valley software firm)
- Corps of Engineers (The major public works and military construction agency in U.S.)

➲ Work/Study Abroad Fair and Science and Engineering Fair

➲ Strategies

- Come prepared (resumes, attitude, etc.)
- Dress neat
- The importance of a firm handshake and a good first impression
- The recruiters want to meet you, so don't be afraid to ask who and what job they are representing
Networking Cont....

 располагается в вспомогательном ресурсе, который другие кандидаты не имеют.

- Руководители хотят видеть эффективное общение, способность адаптироваться, готовность учиться, и способность работать эффективно с другими.

- Эти мягкие навыки столь же важны, как и трудовые (технические) навыки.

- Отношения и отношение важны.

- Use the Career Center
  - Exclusive resource that other job seekers do not have

- Interviewers want to see effective communication, adaptability, a willingness to learn, and the ability to work effectively with others

- These soft skills are as important as the hard (technical) skills

- Relationships and attitude are important
Career Strategies

➲ Public versus Private Sector
  ● Citizenship requirements
  ● Lengthy Background Investigations
  ● Oath of office
  ● Financial Disclosures
  ● Banned Assets
  ● Federal, State, Municipal have different requirements
  ● Lots of bureaucratic hurdles to pass
  ● Public sector culture varies tremendously

➲ Consider a non-permanent position that allows you to get one foot in the door
  ● Summer Internship
  ● Research Assistant
  ● Technician
A day in the life of . . . .

- Interstate Commerce Clause and the Department of Energy's independent regulatory agency
- Business casual attire
- Standard business hours
- Meetings and visits not as frequent as you'd suspect
- Preparation for field work
- Evaluation of outside engineering reviews, analyses, reports, recommendations, designs, schedules, etc.
- Sensitivity analysis
- Computer and quantitative models
- Security and threat evaluations
- Inspections and reports
- Travel (sometimes very remote, sometimes urban)
- Technical presentations and consultant meetings
- On the job training
Closure

- Do not be discouraged
  - Dot-com crash occurred when I first graduated
  - The job market WILL improve
  - Go out and do something fun, something different, and something memorable!

- Remember that a career develops over a lifetime

- Professionalism:
  - You represent your professional community
  - You represent your client in good faith
  - You develop and sustain valuable ideas and unique skill sets
  - You execute a strategy or influence a decision with your skills
Links

- www.jetprogramme.org
- www.stottlerhenke.com
- www.usace.army.mil
- www.ferc.gov
- www.doe.gov

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