

STEMXpress III

STEM Career Development

Pursuing Internships & Research Experiences

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Montgomery College
Science, Engineering and Mathematics

Topics

- Resume building/review
- First Jobs and Internships
- Introduction to Etiquette
 - Interview Skills
 - Presentation
 - Workplace Interaction
 - Professional Networking



Writing

- Résumés
- Cover letters
- Thank you notes
- Acceptance letters
- Declining offer letters



Résumés

- What is a résumé?
- **Etymology:** French *résumé*, from past participle of *résumer* to resume, summarize, from Middle French *resumer*
- **Date:** 1804
- <http://www.merriam-webster.com/dictionary/résumé>



Résumés

- Write an effective resume
- Resume writing resources
- Possible resume sections
- Make your resume marketable
- Turn responsibilities into accomplishments
- References – on a separate page



Write an effective resume

- Brief summary (ideally one page)
 - Education
 - Work experience
 - Activities
- Focus
 - Background relevant to career objective
 - Easy to read, concise, accurate
 - Save details for the interview or cover letter



Brief summary

- Objective
 - Summer internship in the mechanical engineering field
- Education
 - Major, college coursework, GPA, graduation
- Skills
 - Computer: applications, OS, programming
 - Languages: fluency/proficiency



Resume writing resources

- [UMaryland Clark School of Engineering:](#)
 - "Job Search Tips" for resumes and references examples
- [MC Student Employment Services](#)
- [The Washington Post](#)



Resume sections

- Contact information
- Objective (not always needed)
- Education
- Skills
- Experience
- Activities
- Honors



Make your resume marketable

- Know your industry/field of study
- Industry-specific keywords
- Transferable skills



Know your industry/field of study

- Brainstorm all possible keywords
- Academic & professional life
- Incorporate into resume sections



Industry-specific keywords

- **All Engineering**

- Operating systems – Windows, Mac OS, LINUX, Solaris, UNIX, DOS
- Software - MATLAB, AutoCAD, Adobe Photoshop, MS Office, Access, Excel

- **Aerospace Engineering**

- Avionics, Aerodynamics, Structural Design, Flight Dynamics, LabView, Pro/Engineer



Industry-specific keywords

- **Bioengineering**

- Biomaterials, Polymers, Water Control, Irrigation, Wildlife Management, Water Quality, Physiology, Ecosystem Biology, Biotechnology, Thermodynamics, LabView, CAD/CAM

- **Chemical Engineering**

- Nanotechnology, Polymers, Petrochemical, Transport Processes, Manufacturing, Process Control, Plant-wide Process Control



Industry-specific keywords

- **Computer Engineering**

- Databases, GUI, VLSI systems, C, C++, Fortran, Java, Basic, Assembler, Pascal, Perl, HTML, XML, Javascript, CSS, DHTML, PHP, ASP, SQL, MS Visual, PSPICE, ColdFusion

- **Electrical Engineering**

- Communications and Signal Processing, Electrophysics, Microelectronics, Controls, PSPICE, Cadence



Industry-specific keywords

- **Civil Engineering**
 - Fluid Mechanics, Structural Design/Analysis, Engineering Materials, AutoCAD, MATLAB
- **Fire Protection Engineering**
 - Fire Alarm and Special Hazards Design, Fire Assessment Methods, Structural Fire Protection
- **Mechanical Engineering**
 - Hydraulic Systems, Statics, Stress Analysis, Thermodynamics, Robotics, SolidWorks



Transferable skills

- Life experiences can be relevant
- Skills applicable & valuable to the workplace
- Emphasize these characteristics and skills
- Highlight in your cover letters
- Connections between previous experiences and desired qualifications in job



Turn responsibilities into accomplishments

- Describe responsibilities and the resulting accomplishment or product
- Use *action* words
- Be specific - individual efforts and teamwork
- *Who? What? Why? How? When?*
- *How much? What happened? Big picture?*



References

- References available upon request on last line of resume – no longer standard practice
- Separate page



First Jobs and Internships

- How do I find my first job or internship?
- Where do I search?
- What resources are available?



Internships - Resources

- General internet resources
- Internet resources for college students
- Internet resources for engineering students
- Professional engineering associations



General Internet Resources

- [The Washington Post – News and Advice](#)
- [Careerbuilder.com](#)
- [Monster](#)
- [USA Jobs](#)



Resources for College Students

- [CareerRookie](#)
- [MonsterCollege](#)
- [CollegeGrad.com](#)
- [NewGradLife.com](#) – a great resource!



Resources for STEM Students

- [Graduating Engineer](#)
- [ThinkResource](#)
- [Engineer.info](#)
- [A. James Clark School of Engineering](#)



Engineering Associations

- [Institute of Electrical and Electronics Engineers](#)
- [American Society for Engineering Education](#)
- [National Society for Professional Engineers](#)
- [American Society of Mechanical Engineers](#)
- [American Institute of Aeronautics and Astronautics](#)
- [American Society of Civil Engineers](#)
- See more on Engineering Advising web site:
<http://cms.montgomerycollege.edu/engorgs.aspx>



Science Associations

- [American Astronomical Society \(AAS\)](#)
- [American Meteorological Society \(AMS\)](#)
- [Sigma Xi \(The Scientific Research Society\)](#)
- [Materials Research Society \(MRS\)](#)
- [The American Institute Of Biological Sciences](#)
- [American Chemical Society](#)
- More on National Institutes of Health web site:
http://www.niehs.nih.gov/research/resources/library/research/organizations/pro_associations/



Networking

- Montgomery College professors
- Montgomery College Alumni
- Acquaintances
- Fellow MC students
- Engineering students from other schools
- Social Media - [LinkedIn](#)



Internships & Research Experiences

- MC STEM students achieve internship or research opportunities upon A.S./transfer
- Increasing number of current students pursuing internships/research opportunities
- Provide information SEM Internships site:
<http://cms.montgomerycollege.edu/seminternships.aspx>
- Inform employers about quality of MC STEM students & need for internships/research



Internships/Research A.S./Transfer

- Federal government agencies & laboratories
 - [NIST SURF](#), [NIH CCSEP](#), [FAA](#), [DOE CCI](#), [NASA](#),
[LSAMP](#)
- Large & small companies, profit & non-profit
 - [JCVI](#), [SFC Energy](#), [Intelsat](#)
- Research Experience for Undergraduates
 - [NSF - UMCP](#), [Wayne SU](#), [FAMU/FSU](#); [HHMI at Georgetown](#)



Current Student Internship & Research

- MC faculty-sponsored research
 - Student-centered (SC297) & faculty research
- NEW! – Genomic Scholars Program
- [SmartSenseCom](#), [Patton Electronics](#)
- [Engineering club](#) and faculty projects
 - IEEE & [Engineers Without Borders](#) chapters
 - Signal processing lab, robotics, [nanotechnology](#)



Developing Opportunities

- Opportunities upon completing first year
- Government
 - [Naval Surface Warfare Center](#), NIH, NIST, FAA, DOE
- Industry
 - Robotic Research, JCVI,
- Universities
 - [UMCP SEEDS NSF STEP Grant](#), UMBC, JHU



Placements for Summer 2013

- [NIH CCSEP](#) – 3 – biomedical research
- [NIST SURF](#) - 6 – engineering, biology, cybersec
- SmartSenseCom – 2 – fiber optic sensors
- [J. Craig Venter Institute](#) – 1 biomedical research



Pending for Summer 2014

- Aeras Global - chemistry
- [Howard Hughes Medical Institute](#) – biomedical
- Naval Surface Warfare Center – engineering, compsci
- NIH - biomedical
- NIST, Gaithersburg – engineering, compsci
- SmartSenseCom – fiber optic temp sensors
- UMCP, Center for Minorities in Science and Engineering
- Federal Aviation Administration – engineering, compsci
- U.S. Department of Energy - engineering



NSF STEP Grant Partners

- UMCP, UMBC, Universities at Shady Grove (USG)
- Already receive majority of MC transfers
- Strengthening STEM curriculum alignment
- UMCP, UMBC, University of Maryland Baltimore



Introduction to Etiquette

- Email
- Interview Skills
- Presentation
- Workplace Interaction
- Professional Networking



Introduction to Etiquette

EMAIL – Your First Contact

- Use an appropriate and professional email address

Duuude, email me at
eatslugs@nojob.com.
Let's go boardin'!



Introduction to Etiquette

EMAIL – Your First Contact

- Use an appropriate and professional email address



Good morning! You can reach me by email at tanya.logan@gmail.com. Have a great day!



Introduction to Etiquette

SUBJECT Line – Make It Count!

Do:

SUBJECT: Biotech Internship, Position #12G75

Don't:

SUBJECT: i want a summer job



Introduction to Etiquette

ATTACHMENTS – Don't Forget!



Introduction to Etiquette

BODY – Where The Important Stuff Is

- Use professional language – no texting vocabulary, abbreviations, or spelling!
- Proof it! Proof it! And proof it again!
- Should be readable without scrolling

CONCLUSION/CLOSING – Brief and Courteous

- Say ‘thank you’
- Include your contact information



Dear Mr. Mehalick,

My name is Jane Smith and I am a second semester freshman at Montgomery College. I am taking Math and Biology classes, along with my general education courses, on the Rockville Campus. My interest is in Biotech research, particularly working with developing prosthetic limbs for amputees. My cousin was wounded in Afghanistan while serving in the military and lost his right arm. My goal is to someday help him and other soldiers like him to regain a useful hand and arm. I hope to transfer to Georgia Tech as a Biotechnology major when I'm finished at Montgomery College.

Would it be possible to meet with you? I would like to apply for an internship this summer and would appreciate your help finding one that will best meet my goals. I have attached a resume for your review as well. Please contact me at your earliest convenience (my phone and email address are below). I am on campus every day and am usually free after 1:00 p.m.

Thank you.

Sincerely,

Jane Smith

Cell 240-123-4567

jsmith22@montgomerycollege.edu

Jane.smith@gmail.com

Interview Skills

- Mock interviews with engineering professionals
- Record and review mock interviews to improve skills
- [Interview Survival Kit](#)



Presentation

- Dress appropriately
 - Professional image
 - Good first impression
- Demeanor
 - Use good manners
 - Be courteous



Workplace Interaction

- Team work
 - Departments
 - Project teams
- Organizational structure
 - The big picture beyond your position
 - Learn where your position fits in the organization
- Lines of communication
 - Formal – chain of command
 - Informal – indirect, open



Social Media Professional Networking

- Phyllis Pouyat-Thibodeau
- Chesapeake Career Consulting



Janet Smith

999 Meadow Lark Street
Montgomery Village, Maryland 20886
(999) 555-1212
Eyecandy362436@yooohoo.net
jsmith@montgomerycollege.edu

Objective: Obtain a civil engineering internship position

Education:

A.S. Civil Engineering Sep 2007 – present

Montgomery College Rockville Campus, Maryland USA

- Dean's Honor List Summer II 2003, Fall 2003, Spring 2004, Summer II 2005, Fall 2005
- National Dean List Association Award 2004 -2005 and invited in 2005-2006 Award
- Harry Harden, Jr. Awards Association 2004 and 2005

Bill Jones High School, Rockville, MD

Sep 2003 – Jun 2007

Skills:

Software Applications: Microsoft Office
Programming Languages, Computer tools

Experience:



Experience:

Math and Science Center, Montgomery College

Jan 2005 – Dec 2005

Position: Student Assistant

- Math and Engineering tutor
- Front desk receptionist
- Deal with a diverse public

Information technology, Montgomery College

Aug 2005 – Dec 2005

Position: Student Assistant

- Update office schedules
- Fix media resources equipment when necessary

Physics Lab, Montgomery College

Jan 2005 – Jun 2005

Position: Lab coordinator assistant

- Student assistant handling the lab equipment
- Organize the lab and update lab schedule

Organizations:

- ASCE (American Society of Civil Engineers)
- NSBE (National Society of Black Engineers)
- AGC (Association of General Contractors)

Interests and activities: Amateur Dramatics, Reading, Chess, Basketball, Traveling



Questions?

- **Michael Mehalick**
Internship Coordinator
- Michael.Mehalick@montgomerycollege.edu
- 240-567-4083
- <http://cms.montgomerycollege.edu/seminternships.aspx>

