



## OPAS Motivate Workgroup

Project Overview

# Engineering Frosh Survey

July 1, 2009

The Project Goals is to document the possible connection, if any, between K-12 Out of School Time (OST) enrichment and choice of major through an on-line survey administered as a mandatory part of orientation for new engineering and CS students at OSU, OIT, and PSU, starting June 2009. Survey development was a collaboration between recruitment, admissions, outreach, and informal education stakeholders.

Link to the online survey at <http://opas.ous.edu///EFSurvey/Go.html> and be redirected to the survey welcome page:



### What's Your Inspiration for Choosing Engineering, Computer Science or Materials Science?

The Oregon University system is seeking to identify the most effective programs and factors for motivating students to prepare for and pursue an education in engineering, computer science, and materials science. We appreciate your sharing your thoughts and experiences to help us build our understanding of how to best serve young students who might become or already are interested in these fields. The information you give us will be used solely for this purpose, and your responses are anonymous. *(survey version 4.4)*



*Note: in the attached printout from the Zoomerang survey engine, all questions are included; survey takers see a selection of questions based on their answers to previous questions.*

For more information about this project, the survey, or the data please contact:

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## What's Your Inspiration for Choosing Engineering, Computer Science or Materials Science?

In this survey "college major" is your *probable* choice of major, even if it is undeclared. The survey is broken into pages; you will need to click the "submit" button multiple times depending on your answers. Thanks!

### 1 Please rate these factors for how much they influenced your choice of major:

	1	2	3	Does Not Apply
	Little Influence	Some Influence	Large Influence	
In-class experiences during the normal school day	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ongoing experiences outside the normal school day -- teams, clubs, classes, mentorships	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Events: speakers, career & college fairs, field trips, campus visits, etc.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Internships, apprenticeships and on-the-job training	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### 2 What is the most influential factor in your choice of major? Why?

### 3 Which of these classes have you already taken, whether at your high school, community college or elsewhere:

- Biology
- Calculus
- Chemistry
- Computer Science, web programming, and/or game design
- Engineering, CAD (computer-aided design or drafting) and/or electronics
- Physics
- Pre-calculus
- Robotics
- Science Research



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### What's Your Inspiration for Choosing Engineering, Computer Science or Materials Science?

**4 Was one or more of your high school engineering or design classes called "Project Lead The Way" (PLTW)? For example, Introduction to Engineering Design (IED), Principles of Electronics (POE), Digital Electronics?**

- Yes
- No
- Don't know or not sure



## What's Your Inspiration for Choosing Engineering, Computer Science or Materials Science?

### 5 Rate the importance of these influences in your choice of college major:

	1	2	3	Does Not Apply
	Little influence	Some influence	Large influence	
Lectures, demonstrations, and reading, in or out of the classroom	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hands-on activities, in or out of the classroom	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Personal attention from and interaction with adults -- teachers, advisors, mentors, volunteers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Personal experiences with friends, family, job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Science, technology, engineering and/or math challenges & competitions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Visiting museums, science centers, preserves or field stations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### 6 What do you think is the best way to inspire more students to pursue engineering, computer science or materials science majors in college?



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## What's Your Inspiration for Choosing Engineering, Computer Science or Materials Science?

**7 What was the focus of the organized activities you did outside of class that most influenced your choice of major, whether or not they were through your school? Please check all that apply:**

- Did not do organized activities outside of class
- Business and Careers clubs and competitions
- Computer science clubs and competitions
- Drama/Thespian (eg: theater, spoken word, video/film ... )
- Engineering other than robotics (ex: rocketry, car building ... )
- Forensics (eg: Speech & Debate, Mock Trial, Constitution Team, Model UN, ... )
- Leadership (eg: Student Government, Event committees,)
- Math clubs and competitions
- Music Performance (ex: band, choir, orchestra ... )
- Publications (eg: Yearbook, paper, website)
- Quiz game teams
- Robotics

- Science clubs and competitions
- Service clubs, activities, and events
- Strategy game clubs, competitions and events (ex: chess)
- Team Sports - competitive
- Team Sports - recreational
- Visual Arts (eg: painting, photography, graphic arts ... )
- Other, please specify



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### What's Your Inspiration for Choosing Engineering, Computer Science or Materials Science?

#### 8 What were the "brand names" of the organized activities that *most* influenced your choice of major (please check all that apply):

- 4-H Science Engineering Technology (SET) Projects like Tech Wizards
- 4-H - other programs
- BEC Internships (Business Education Compact)
- FIRST LEGO League (FLL)
- FIRST Robotics Competition (FRC)
- FIRST Tech Challenge (FTC, previously known as FIRST VEX Challenge)
- Future Farmers of American (FFA)
- GEAR UP (Gaining Early Awareness and Readiness for Undergraduate Programs)

- JETS (Junior Engineering Technical Society, National Engineering Design Competition)
- MESA (Math Engineering Science Achievement Clubs & Events)
- OGPC (Oregon Game Project Challenge)
- OMSI Volunteers -- Rising Stars and others
- OMSI Classes & Camps
- OSU Engineering Ambassadors
- Project Plus at PSU
- Saturday Academy Apprenticeships in Science & Engineering
- Saturday Academy camps & classes
- Science Bowl
- Science Fairs such as Northwest Science Expo (NWSE)
- Science Olympics
- SESEY (Summer Experience in Science and Engineering for Youth) at OSU
- SkillsUSA competitions
- SMILE (Science & Math Investigative Learning Experiences Clubs & Camps)
- TWIST (Teen Women in Science and Technology) at OIT
- Upward Bound at PSU
- Willamette University Programming Contest

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**9 If some of the activities that most influenced your choice of major were not included in the list above, please enter them here. If the list above covered all the activities that most influenced your choice, please enter "None."**





## What's Your Inspiration for Choosing Engineering, Computer Science or Materials Science?

**10 For those organized activities that were influential in your choice of major, please check all that apply:**

- I did some of these activities while I was in elementary school.
- I did some of these activities while I was in middle school.
- I did some of these activities while I was in high school.
- I did some of these activities during the normal school year.
- I did some of these activities during the summer.
- I had trouble finding the activities that I wanted to do most.
- I had trouble attending the activities that I wanted to do most because of the times they were offered.
- I had trouble attending the activities that I wanted to do most because of the locations they were offered.
- I had trouble attending the activities that I wanted to do most because the sessions were often full.
- I had trouble affording the activities that I wanted to do most.

**11 If there was some activity you did not have a**

chance to do, that you would have liked to do, and that would have helped you prepare for college, what was it?



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### What's Your Inspiration for Choosing Engineering, Computer Science or Materials Science?

**12 Thinking back to the in- and out-of-school activities that most influenced your choice of major, please rate the importance to you of these aspects:**

	1	2	3	Does Not Apply
	Little importance	Some importance	Large importance	
A welcoming and comfortable environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Making friends and connections	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Making an important contribution to the group effort	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community involvement (schools, volunteers, families, businesses ...)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Opportunities to work and learn as a team	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feeling challenged and growing into that challenge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Community recognition, exhibitions, competitions

 1

 2

 3

Solving problems, hands-on work, learning by doing

 1

 2

 3

Meeting professional scientists, technologists and engineers

 1

 2

 3

Learning about science, technology, engineering and math

 1

 2

 3

Learning about careers

 1

 2

 3

**13 What are the most important skills you have learned to help prepare you for college? Where/how did you learn them?**

SUBMIT

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**What's Your Inspiration for Choosing Engineering, Computer Science or Materials Science?**

***In the following questions, if you check "Other, please specify" you must enter some text in the box to convince the survey engine you have answered. Thanks for your patience.***

**14 Please check all that apply to your heritage:**

- African
  - Asian
  - European (White)
  - Hispanic/Latina/Latino
  - Indian subcontinent
  - Middle-Eastern
  - Native American
  - Pacific Islander
  - Prefer not to answer
  - Other, please specify
- 

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**15 Please check one to describe yourself:**

- male
  - female
  - prefer not to answer
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**16 Your educational achievement -- please check all that apply:**

- First-year college student
  - Transfer from a community college or other institution
  - Other, please specify
- 

**17 Where and when did you graduate high school or earn your GED?**

School \_\_\_\_\_  
Year \_\_\_\_\_  
Town, State \_\_\_\_\_

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**18 Do either of your parents have a bachelor's degree?**

- Yes
- No
- I don't know

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**19 Your current campus:**

- Eastern Oregon University (EOU)
  - Portland State University (PSU)
  - Oregon Institute of Technology (OIT) - Klamath Falls
  - Oregon Institute of Technology (OIT) - Portland (East & West)
  - Oregon State University (OSU)
  - Southern Oregon University (SOU)
  - University of Oregon (UO)
  - Western Oregon University (WOU)
  - Other, please specify
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SUBMIT

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**What's Your Inspiration for Choosing Engineering, Computer Science or Materials Science?**

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**20 Your chosen major at OIT Klamath Falls is:**





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**What's Your Inspiration for Choosing Engineering, Computer Science or Materials Science?**

**21 Your current chosen major at OIT Portland is:**



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**What's Your Inspiration for Choosing Engineering, Computer Science or Materials Science?**

**22 Your current chosen major at OSU is:**



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**What's Your Inspiration for Choosing Engineering, Computer Science or Materials Science?**

**23 Your current chosen major at PSU is:**



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**What's Your Inspiration for Choosing Engineering, Computer Science or Materials Science?**

**24 Your current chosen major at EOU is:**



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**What's Your Inspiration for Choosing Engineering, Computer Science or Materials Science?**



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25 Your current chosen major at SOU is:



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**What's Your Inspiration for Choosing Engineering, Computer Science or Materials Science?**

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26 Your current chosen major at UO is:



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**What's Your Inspiration for Choosing Engineering, Computer Science or Materials Science?**



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**27 Your current chosen major at WOU is:**



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**What's Your Inspiration for Choosing Engineering, Computer Science or Materials Science?**

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**28 Any additional comment you'd like to make?**



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