Talking to High School Girls about Engineering

Photo Credit: Tom Coughlin, Nicaragua Summer Exchange 2007
Project Overview

*Engineer Your Life* (EYL) is a national campaign designed to transform the image of engineering.

- Get Trained in EYL messaging
- Talk the Talk when reaching out to girls, parents, and schools
- Pass It On to your colleagues and partners

Together we can show girls what engineering is and reposition the field as an exciting and rewarding career choice.
Project History

In 2004, 55 engineering groups formed a coalition to explore “why aren’t college-bound girls choosing engineering?”

- Less than 20% of students enrolled in engineering degree programs are women, yet more women are now pursuing college degrees than men
- Girls take math and science courses at the same rates as boys, and perform as well as or better
Research

- Gauge high school girls’ level of interest in and awareness of careers in the engineering field
- Assess general career motivators and barriers toward the engineering field
- Evaluate current messages being put forward to the target audience by the engineering community
- Explore messaging opportunities for increasing enrollment in the engineering field
What Do High School Girls Think?

- Engineering is for people who LOVE both math and science
- Don’t know what engineering is
- Aren’t interested in the field nor do they think it is “for them.”

“Someone who excels in math and science....Likes working out problems and working with other people.... Someone who is motivated, dedicated, and who doesn’t mind sitting in a cubicle all day.”
What High School Girls Want

Enjoyable
“How happy I will be—what’s the point of doing anything you don’t like?”

Good working environment
“If I can’t interact with people…I will probably drop the job.”

To make a difference
“That I would make a difference in some way, you know, make my mark on the world.”

Income
“As shallow as it sounds, money is the one thing I have to consider when I’m choosing a job. I’m not going to do something that I know can’t help me pay bills.”

Flexibility
“My career can’t consume all of my time…I need free time to do a lot of other things…before I die.”
What Engineers Tell Young People

• Engineering is stressful and challenging
• Stress the importance of SUPERIOR math and science abilities

“It’s not easy—but if you’re the type who when faced with a problem some would call impossible is even more driven to move mountains to find a solution, then you might have it in you to be an engineer.”
Engineering Community

- It’s a challenge
- Go for it! It’s difficult but rewarding
- Use math & science to solve problems

HS Girls

- Enjoying what I do
- Good working environment
- Making a difference
- Good income
- Flexibility
## Compelling Engineering Messages

<table>
<thead>
<tr>
<th>Project Messages</th>
<th>Appeal to</th>
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<tbody>
<tr>
<td></td>
<td>Girls</td>
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<tr>
<td>Live your life, love what you do</td>
<td>82%</td>
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<tr>
<td>Creativity has its rewards</td>
<td>74%</td>
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<tr>
<td>Make a world of difference</td>
<td>72%</td>
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<tr>
<td>Create possibilities</td>
<td>71%</td>
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<tr>
<td><strong>Engineer Your Life:</strong></td>
<td></td>
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<tr>
<td><strong>Dream Big, Love What You Do</strong></td>
<td>74%</td>
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</tbody>
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Engineer Your Life
Dream big. Love what you do.

Engineering Messages in Action
How Can We Inspire Girls?

• **Live your life, love what you do.**
  Let girls know how much you enjoy your job, and how it reflects what you love in every part of your life

• **Creativity has its rewards.**
  Share how imaginative and collaborative engineering is

• **Make a world of difference.**
  Talk about what you do and why it matters

• **Explore possibilities.**
  Tell girls how an engineering education can prepare them for many careers
Inspiring Girls

So what about the math and science?
Once you shared why you are passionate about engineering and what life is like as an engineering, then you can fill them in about the requirements. But remember to put it in to context.

“[Math] is the basis of engineering, but you don’t have to love it. You just have to be able to do it.”

-Judy Lee, Mechanical Engineer
Project Resources

- www.engineeryourlife.org
  - Helps high school girls, parents, & counselors
    - Understand the various fields of engineering
    - Learn what an engineer does
    - Find out why engineering is a great career
    - Advise kids about engineering

- Brochures, posters, and postcards
- EYL tables at college fairs
- Training for counselors and engineers
Engineer Your Life
Dream big. Love what you do.

Why Engineering?
Meet Inspiring Women
Find Your Dream Job
Making It Happen

For Counselors & Parents
For Engineers
For Middle School Girls
(see engineergirl.org)

creativity has its rewards →

make a world of difference →

explore possibilities →

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Why Engineering?

1. Love your work, AND live your life too!
2. Be creative.
3. Work with great people.
4. Solve problems, design things that matter.
5. Never be bored.
6. Make a big salary.
7. Enjoy job flexibility.
8. Travel.
9. Make a difference.
10. Change the world.

Ten great reasons why you’ll love it

ASK an Engineer! >

What IS an engineer?
Engineering around the World >
Engineer Your Life:
Dream big. Love what you do.

Meet Inspiring Women

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A guide to engineering for high school girls

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< Meet Inspiring Women

Daniele Lantagne

Daniele teaches people around the world how to make their drinking water safe.

Daniele grew up in rural Washington state during a time when logging companies and environmental activists were bitterly contesting issues regarding the fate of endangered wildlife and some of the last pristine, old-growth forests in America. By the time she was a teenager, Daniele was a committed environmentalist, and she knew what she wanted to do with her life: protect the planet.

A Degree With Clout
Daniele thought about majoring in environmental science in college, but she realized that to really make a difference she needed the technical knowledge that engineering provided: "I would have the skill set to be both an engineer and a scientist, and could also be an entrepreneur and set up my own business." As a result, she majored in civil engineering.

Read www.engineeryourlife.org
Explore the amazing world of engineering

As a Civil Engineer, you can:
- Monitor the quality of a city’s water supply
- Ensure that a school can withstand an earthquake
- Design a race track

Find Your Dream Job

Aerospace
Bioengineering/Biomedical
Chemical
Civil
Computer Science
Electrical and Electronic
Environmental
Industrial and Manufacturing
Materials
Mechanical
Special Fields and Interdisciplinary

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Civil Engineer

Aerospace
Bioengineering/Biomedical
Chemical
Civil
Computer Science
Electrical and Electronic
Environmental
Industrial and Manufacturing
Materials
Mechanical
Special Fields and Interdisciplinary

Civil engineers worked to renovate and improve the infrastructure of schools and medical clinics in Concepcion, Paraguay. Here they meet with local children.

What would it feel like to have the expertise to build a school that could withstand an earthquake, a road system that puts an end to chronic traffic jams, or a sports stadium that offers everyone a great view? As a civil engineer, your job would be to oversee the construction of the buildings and infrastructure that make up our world: highways, skyscrapers, railways, bridges, and water reservoirs, as well as some of the most spectacular and high-profile of all engineering feats—think of the world’s tallest building, the towering Taipei 101 in Asia, or the Chunnel, the 31-mile-long tunnel beneath the English Channel. Civil engineers are fond of saying that it’s architects who put designs on paper, but engineers who actually get things built.
Engineer Your Life
Dream big. Love what you do.

Making It Happen

- Being an Engineering Student
- Preparing for College
- Taking a Test Drive
- Looking at Programs
- Scholarships and Financial Aid
- Links

It’s easy to start exploring engineering!

1. Keep up with the courses you’re already taking to **prepare for college** (including four years each of math and science) and aim to do well on your college admission tests (SAT, ACT).

2. See **what it’s like to be an engineering student** and find some fun ways to take engineering for a **test drive**.

3. Look for colleges that have **engineering programs** and find a few that sound right for you. Learn about **financial aid**, including scholarships, grants, loans, or school-based employment opportunities (like campus work-study, paid internships, and co-ops).

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Engineer Your Life – Making It Happen
A guide to engineering for high school girls

Why Engineering?
- Meet Inspiring Women
- Find Your Dream Job
- Making It Happen

For Counselors & Parents
- For Engineers
- For Middle School Girls
(see engineergirl.org)
Lindsay Perry

Industrial Engineering Student
Senior, University of Massachusetts Amherst

How did you choose engineering?
"In high school I didn’t really get interested in technology right away. I was pretty decent at math and science, but I also liked literature and things like that. I did better on my AP test in English than in either the math and science tests, which is ironic. But I REALLY like roller coasters and I was looking online at different things that people could do to work with them. That’s how I came upon industrial engineering."

What’s your favorite thing about being an engineering student?
"Engineering is really just a way of thinking about things. And when you go out in the real world after class, you see things differently. It’s really cool to know what goes on behind the scenes in your everyday life. Engineers shape the world that everybody else lives in. They don’t just live other peoples’ ideas. And to be a part of that creation, to me, is just awesome. Also, engineering implies a certain caliber of person—people will automatically have a certain respect for you."

Are you doing any co-ops or internships?
"I’m doing a six-month co-op as an industrial engineer at Walt Disney World, learning how Disney forecasts their staffing needs throughout the company by using mathematical models in different software. I’m absolutely blown away by how..."
Many people who love being engineers have said that they didn't consider engineering or even know what it was until a school counselor or parent suggested it as a career option. Sometimes just one adult can make all the difference in helping young people discover their dream jobs. But advising kids about engineering can be tough if you're not sure what it is yourself.

This site will help you:

- Understand the various fields of engineering
- Learn what an engineer does
- Find out why engineering is a great career
- Advise your kids or students about engineering
Get Involved

- Align your ongoing outreach and diversity efforts with the Engineer Your Life messages
- Book an EYL messaging training for you and your colleagues
- Distribute brochures, posters, postcards
- Train School Counselors (powerpoint available)
- Host an EYL table at conferences & college fairs
- Link to EngineerYourLife.org
- Start an EYL dialogue through your organization’s communications and media
- Join the coalition

Email us at: feedback@engineeryourlife.org
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