TEACHER ENRICHMENT PROGRAM

BITE OF SCIENCE

OCTOBER 12, 2016
JAMES MADISON UNIVERSITY
Daniel K. Michael, PE

- BS Civil Engineering from West Virginia Institute of Technology – 1989
- Spent 3 years in each of Construction, Consulting, and Government
- Founded Valley Engineering, PLC in September 1997
- Currently have 51 full time employees in Harrisonburg
  - 3 part-time employees
  - Typically have 2-4 interns when available
- Offer Civil, Transportation, Mechanical, Electrical, Plumbing and Structural Engineering, as well as Land Planning, Landscape Architecture, Surveying, and Security
- Work within 5 hour drive time
- We currently work in 53 hospitals in VA and WV
  - Healthcare is approximately 70% of what we do
- Our largest hurdle...finding applicants for open positions
  - This is leading us to consider branch offices in employee rich areas
The IMPORTANCE of STEM and the INFLUENCE YOU have on students...

Where I came from...
What makes a good engineer?

CORE VALUES...
• COMMON SENSE
• GOOD ATTITUDE
• DEDICATION
• FRIENDLY PERSON
• TEAM PLAYER
• KNOW YOUR LIMITS

A GOOD PERSON can be taught how to be an ENGINEER, but it’s tough to teach an ENGINEER how to be a GOOD PERSON.

TECHNICAL TALENTS...
• COMMON SENSE
• MATH SKILLS
• CRITICAL THINKING
• COMMUNICATION SKILLS...WRITTEN AND VERBAL
• EMBRACE TECHNOLOGY
• “SEE” WHAT YOU’RE DESIGNING
• CONSTRUCTION EXPERIENCE

It is a thousand times better to have common sense without education than to have education without common sense. ~Robert G. Ingersoll
What makes a good engineer?
WVU–Weight Room and Meeting Room Expansion and Renovation.
WVU– Football Stadium Expansion
Shenandoah Avenue Streetscape
Martin’s Grocery Store
OH, how things have changed...

$i 630.00 \text{ in 1987}$
OH, how things have changed...

Technology
OH, how things have changed...

Technology
OH, how things have changed...
Types of Engineering Programs...

<table>
<thead>
<tr>
<th>Engineering Type</th>
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<tbody>
<tr>
<td>Computer Engineering Degrees</td>
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<tr>
<td>Electrical Engineering Degrees</td>
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<tr>
<td>Mechanical Engineering Degrees</td>
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<tr>
<td>Civil Engineering Degrees</td>
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<td>Environmental Engineering Degrees</td>
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<td>Geotechnical Engineering Degrees</td>
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<tr>
<td>Online Engineering Degrees</td>
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<td>Engineering Management Degrees</td>
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<tr>
<td>Architectural Engineering Degrees</td>
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<tr>
<td>Bio Engineering Degrees</td>
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<tr>
<td>Project Management Degrees</td>
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<td>Chemical Engineering Degrees</td>
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There are over 40 different disciplines within these categories!
The NEED for Engineers...

The World's Most-Visited Engineering Job Site

Search engineering jobs by engineering discipline or location and find 300,000 engineering jobs in the U.S. and Canada.

Civil Engineering Jobs 11,527 JOBS
Chemical Engineering Jobs 4,861 JOBS
Electrical Engineering Jobs 26,953 JOBS
Mechanical Engineering Jobs 17,634 JOBS
Virginia Jobs 15,521 JOBS
Harrisonburg Jobs 78 JOBS

Engineering Need
What can you do...

Continue your push of the STEM courses

Encourage students of ALL LEVELS of talent to do THEIR best

Encourage students of ALL BACKGROUNDS

Encourage students to:  
- utilize technology
- work in groups
- prepare and deliver presentations
- work on problem solving skills

Don’t allow any student to think they aren’t good enough!!

What to do???
Questions