Skeptical Thoughts to Emerging Minds

A National Center for Expanding Excellence in Technician Education
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Myths in STEM Education

Why STEM?

It is time to differentiate myth from reality regarding STEM jobs in today’s economy.
Success in the New Economy

How prospective college students can gain a competitive advantage

By Kevin Fleming

https://www.youtube.com/watch?v=AcNSpKX8kVs
Myths to Dispel

Myth 1:
STEM Careers require a 4 year degree vs a 2 year degree

Myth 2:
Availability of Employment/Jobs
Myths to Dispel

Myth 1:

STEM Careers require a 4 year degree vs a 2 year degree
Myth 1: Two year vs. Four year Degree

The overall notion is "COLLEGE FOR ALL"

This conventional wisdom or old advice is a Myth
Myth 1: Two year vs. Four year Degree

POST HIGH SCHOOL CREDENTIALS

FOR ALL
Myth 1: Two year vs. Four year Degree

The True Ratio of jobs in our economy is

1:2:7

This ratio is fundamental to all industries; it is the same for 1960 and for 2018.
Myth 1: Two year vs. Four year Degree

1960
- Unskilled: 60%
- Technical Skilled: 20%
- 4yr or >: 20%

2018
- Unskilled: 10%
- Technical Skilled: 57%
- 4yr or >: 33%
Myth 1: Two year vs. Four year Degree
This assumption overlooks that not all young people are suited for, or interested in white collar work or a four year academic track.
Myth 1: Two year vs. Four year Degree

Vocational Education and a manufacturing career = some kind of consolation prize.

Posted By Jeff Mead, October 28, 2014: Next Generation Leadership and Changing Workforce
Myth 1: Two year vs. Four year Degree

Changing World = New Pathways to Success
Myth 2:

Availability of Employment/Jobs
Myth 2: Availability of Employment/Jobs

Figure 1. Recent and Projected Growth in STEM and Non-STEM Employment

- **STEM employment**
- **Non-STEM employment**

Myth 2: Availability of Employment/Jobs
Myth 2: Availability of Employment/Jobs
Myth 2: Availability of Employment/Jobs

STEM in the News- Headlines

Obama Administration has allocated more than $500 million to invest in new technologies to create high quality manufacturing jobs and make the United States a global player in manufacturing again.

Quality Digest, Tony Oran, published 9/22/16
Myth 2: Availability of Employment/Jobs

- Education
- Applied Technical Skills
- Industry Driven Credentials
- Two Year Technical Degree
Myth 2: Availability of Employment/Jobs

ATE Industry Consortium

- Academic/industry partnership to provide a technical workforce
- Immediate and long-term success for area employers
- Robust economic development for region
Myth 2: Availability of Employment/Jobs
### Myth 2: Availability of Employment/Jobs

<table>
<thead>
<tr>
<th>Engineering Field</th>
<th>2015 Median Pay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerospace Engineering Technicians</td>
<td>$66,180</td>
</tr>
<tr>
<td></td>
<td>$31.82 per hour</td>
</tr>
<tr>
<td>Civil Engineering Technicians</td>
<td>$49,260/</td>
</tr>
<tr>
<td></td>
<td>$29.32 per hour</td>
</tr>
<tr>
<td>Electrical and Electronic Engineering Technicians</td>
<td>$61,130</td>
</tr>
<tr>
<td></td>
<td>$29.39 per hour</td>
</tr>
<tr>
<td>Mechanical Engineering Technicians</td>
<td>$53,910</td>
</tr>
<tr>
<td></td>
<td>$25.92 per hour</td>
</tr>
<tr>
<td>Nuclear Engineering technicians</td>
<td>$80,260</td>
</tr>
<tr>
<td></td>
<td>$38.59 per hour</td>
</tr>
</tbody>
</table>

Myth 2: Availability of Employment/Jobs
<table>
<thead>
<tr>
<th><strong>Student interested in Biology or Chemistry</strong></th>
<th><strong>Student interested in Physics</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioengineering Engineering Technology</td>
<td>Nuclear Engineering Technology</td>
</tr>
<tr>
<td>Biomedical Engineering Technology</td>
<td>Laser and Optics</td>
</tr>
<tr>
<td>Biotechnician</td>
<td>Nanotechnology</td>
</tr>
<tr>
<td>Biomanufacturing Technician</td>
<td>Photonics</td>
</tr>
<tr>
<td>Viticulture and Enology technology</td>
<td></td>
</tr>
</tbody>
</table>
# Myth 2: Availability of Employment/Jobs

## Students interested in Engineering - Engineering Technology Associate Degrees

<table>
<thead>
<tr>
<th>Aeronautical</th>
<th>Environmental</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Conditioning</td>
<td>Industrial</td>
</tr>
<tr>
<td>Automotive</td>
<td>Instrumentation/Control Systems</td>
</tr>
<tr>
<td>Bioengineering/Biomedical</td>
<td>Manufacturing</td>
</tr>
<tr>
<td>Civil</td>
<td>Marine</td>
</tr>
<tr>
<td>Computer</td>
<td>Mechanical</td>
</tr>
<tr>
<td>Drafting and Design Electrical</td>
<td>Nuclear</td>
</tr>
<tr>
<td>Electromechanical</td>
<td>Surveying</td>
</tr>
</tbody>
</table>

## Student interested in Computers

<table>
<thead>
<tr>
<th>Computer Engineering Technology</th>
<th>Geospatial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cybersecurity</td>
<td>Cyberforensics</td>
</tr>
</tbody>
</table>
Myths in STEM Education

1. Acquire Knowledge Skills and Ability
2. Well Educated
3. Competitive Advantage in New Economy
Changing World  =  New Pathways to Success
RESOURCES

Build Your Own Video

CREATE YOUR OWN CAREER AWARENESS OR RECRUITMENT STORIES

www.TeachingTechnicians.org
CONTACT THE SCATE CENTER WITH ANY QUESTIONS

843-676-8547 scate@fdtc.edu
www.scate.org

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