STEM

STEM Careers
make a world of difference and help shape our future.

STEM = Science + Technology + Engineering + Math
STEM: *SCIENCE TECHNOLOGY ENGINEERING MATH*

- Introductions & Background (degrees & career & titles/positions)

- What is STEM?

- What do these Careers Entail?
  - *What does an engineer do? ..........*
STEM: **Science Technology Engineering Math**

- School/Degree & Internships
- Career Field & Other Opportunities
- Certifications & Experience
- Job & Position Options (varied fields from one degree)

- Benefits of Fields
  - Teamwork
  - New Challenges
  - Promotion Opportunity
  - Continuing Education

- How Career affects your Life
  - job satisfaction
  - promotion potential
  - salary & benefits
  - financial freedom
  - various areas to move into, availability
  - move/travel
STEM: SCIENCE TECHNOLOGY ENGINEERING MATH

• Topuniversities.com reported on various surveys:

  • 10 of the Best Degrees to Graduate with in 2017

    • Based on salary potential and job satisfaction

    • Biomedical Engineering, Occupational Therapy, Structural Engineering, Translation and/or Interpretation, Physicians Assistant studies, Environmental Engineering, Web Development, Aeronautical Engineering, Computer Science and Mathematics, Nursing

  • “There’s a great deal of opportunity in today’s economy for STEM students. Graduates with a BS in computer science and mathematics, for instance, often go on to work in technical and data-based professions as software engineering, robotics programming, numerical analysis, bank credit management, applications programming – the list goes on! Employees with a bachelor’s degree in computer science and mathematics earn on average between US$63,500 and US$111,000.”
• Engineering.com reported on various surveys, For Engineers:

• Job satisfaction, enjoyable 74%: It has been shown through studies if workers find regular tasks interesting, challenging and rewarding, it has a significant impact on their level of job satisfaction. Having tasks and projects that interest and challenge employees is essential to staying engaged and active in their jobs, enjoying their workday and feeling fulfilled in their career overall. Asked our respondents about the level of interest, challenge and enjoyment they feel toward their work.

• Salary range, more than half (59.8%) of respondents indicated annual salary falls between $60,000 and $120,000: Earnings are an important factor that affects how satisfied an employee feels with their job. When an employee feels they are being well paid, they are more likely to feel valued and respected, which leads to higher feelings of satisfaction in their career.
Science

Best Science Jobs (2019 rankings):
**Highest Median Salary $97,740, *Lowest Median Salary $45,490

- **Psychologist** (lowest unemployment rate, 0.9%; majority here, 2.0% or under)
- Industrial Psychologist
- Biochemist
- Epidemiologist/Medical Scientist
- Anthropologist
- Archaeologist
- *Environmental Science & Protection Technician
- Forensic Science Technician
- Geographer
- Survey Researcher (highest unemployment rate, 23.4%)

Best Technology Jobs (2019 rankings):

- **Software Developer** ($101,000 Median Salary, 1.9% unemployment rate)
- **Computer Systems Analyst** ($88,000 Median Salary, 2.1% unemployment rate)
- **IT Manager** ($139,000 Median Salary, 2.4% unemployment rate)
- **Information Security Analyst** ($95,000 Median Salary, 4.1% unemployment rate)
- **Database Administrator** ($87,000 Median Salary, 1.1% unemployment rate)
- **Web Developer** ($68,000 Median Salary, 3.8% unemployment rate)
- **Computer Network Architect** ($105,000 Median Salary, 1.9% unemployment rate)
- **Computer Systems Administrator** ($81,000 Median Salary, 1.0% unemployment rate)
- **Computer Support Specialist** ($62,000 Median Salary, 4.2% unemployment rate)
- **Computer Programmer** ($82,000 Median Salary, 2.5% unemployment rate)
Engineering

What a typical day looks like....
Math

• **Reasons to Study Math:**
  
  • Math can be used to solve real-world problems
  • Math majors have some of the highest levels of job satisfaction
  • Math provides a solid foundation for advanced studies in other fields

• **Entry-Level Jobs for Math Majors with a Bachelor’s**

  (Median salary for these positions ranged from $55,000-$116,000; Top salary for these positions ranged from $77,000-$208,000)

  • Cryptographer, Mathematician, Economist
  • Actuary, Financial Planner, Investment Analyst
  • Statistician, Operations Research Analyst, Systems Engineer
  • Inventory Control Specialist, Budget Analyst, Accountant
  • Insurance Underwriter, Programmer Analyst, Purchasing Agent
  • Market Researcher, Cost Estimator, Fraud Investigator
  • Energy Analyst, High School Math Teacher, Data Analyst, Software Tester

*According to an article posted on college and university general site (www.trade-schools.net/articles/jobs-for-math-majors), referencing details from other articles published by journal of Labor market research, duke university, society for industrial and applied mathematics, pay-scale and bureau of labor statistic*
Engineering

• **Degrees**
  • ABET accredited engineering program, 4 years, bachelor (BS-bachelor of science)

• Civil, Electrical, Mechanical, Structural, Computer
  • Others from there
  • Pick a focus or stay general

• Others (examples): Industrial, Biomedical, Geology, Environmental, Architectural
  (SAME Scholarships, Construction related fields)
Engineering

• **Degrees & Opportunities**
  - Prior to & During College:
    - Scholarship Opportunities, Shadow Programs, Internships, Co-Op’s, Volunteering
      - Exposure and Networking
    - Get involved in other programs:
      - Society of American Military Engineers (SAME)
      - Society of Women Engineers (SWE)
      - American Society of Civil Engineers (ASCE)
    - Look for internships and co-op programs (see our brochure)
  - Florida Opportunity (Internships, Co-op’s & Career):
Engineering

- Local Colleges
- Scholarships
- Shadow Programs
- Internships & Co-Op’s
  - Look for internships and co-op programs (see our brochure)
- Volunteering
  - Society of American Military Engineers (SAME)
  - Society of Women Engineers (SWE)
  - American Society of Civil Engineers (ASCE)
  - Other
SAME, STEM & Careers

• Outreach & Bridging the Gap
  • Local schools (high school & college)
  • Career Days or Event Days

• Other positions

• Volunteering

• Florida Opportunity (internships, Co-op’s & career):
  • LM, Air Force, Navy, SpaceX, Blue Origin, SpaceFL, ULA, NASA, (DoE & DoD)
Engineering

• **Using your Degree & The Workforce**
  • RDTE (research development, testing & evaluation)
    • Test ranges, military construction, maintenance support of laboratories, operation and maintenance of test aircraft and ships, and studies and analyses in support of the RDT&E program
  • Manufacturing &/Or Production
  • Quality Assurance
  • Owner or Management
  • Research (colleges)
  • Teach (professor, author/published)
Engineering

- Using your Degree & The Workforce
  - Design, Programming, Construction
    - Computer engineering
    - Factories, manufacturing
    - Labs
    - Quality assurance (e.g. rockets)
    - Water ways, Levies, dams; dredging
    - Bridges, Roads, Traffic
    - City Planning, Planning
    - Contracting
    - Safety
    - Cranes, Wharves
    - Civil Servant, Military, Private Sector
    - Buildings & Facilities, Utilities (hospitals, businesses, hotels, restaurants)
    - Operations and Maintenance
  - Further degrees/education or option to go back later

From Randstad USA
STEM

• QUESTIONS?