



Careers in STEM

What is STEM? (Braden's Slide)

STEM is a teaching philosophy that integrates all four disciplines together into a single, cross-disciplinary program.

In other words, STEM is an acronym that stands for Science, Technology, Engineering, and Mathematics. These are the core pillars of STEM.

There are many educational paths in STEM including Astronomy, Biology, Chemistry, Computer Science, Mechanical/Electrical Engineering, Geology, Information Technology, Math, and Physics



Is there really a STEM shortage and why?(Abby's Slide)

Data suggest that there actually is not a shortage of STEM careers or a shortage of STEM workers.

Researchers have actually found that there are surpluses of careers and graduates.

The “STEM shortage” is more of a failure of the communication pipelines to match STEM degree holders to STEM careers.

In studies held by Georgetown University, researchers found that the number of graduates with STEM degrees has remained a steady flow over.

One of the biggest reasons STEM careers are being left unfilled for years at a time is because students are graduating and then deciding to go for better paying and less stressful jobs.

If the trend continues, by 2025 there will be over one million unfilled STEM career positions.

Pharmacy (Zion's slide)

- A pharmacist is a health professional who compounds, uses, stores, and provides medication to patients.
- The median wage for pharmacists was \$128,000 in 2020.
- There is a negative job outlook with a loss of 7000 jobs within the next decade
- Pharmacy requires eight years of schooling, although it can vary from 7-10 years
- To become a pharmacist, you must pass the NAPLEX and MPJE.
- Common undergraduate degrees include chemistry and biology, but english, math, and engineering students enter pharmacy school too.

Microbiologist (Matthew's Slide)

- A microbiologist is a scientist who studies microscopic life forms and processes. This includes study of the growth, interactions and characteristics of microscopic organisms such as bacteria, algae, fungi, and some types of parasites and their vectors.
- According to the Bureau of Labor Statistics, the median annual salary for a Microbiologist was \$84,400 in May of 2020.
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Veterinarian (Colin's Slide)

Veterinarians are doctors in charge of diagnosing, treating and researching medical conditions of pets as well as livestock and other animals

According to U.S.News.com, the average annual salary for Vets in Arkansas was \$95,460.

Requirements for Vet school are similar to those of other doctorate programs, 4 years of undergraduate and 4 years of professional school.

Job growth has seen a 9% increase in the last 10 years and is projected to continue growing

Areas of specialty

- companion animals
- exotic animals
- veterinary specialist
- large animals/livestock

Physicians (La Blae's slide)

- A Physician or Doctor is a professional who practices medicine. Their job is to treat patients by diagnosis, prognosis, and treatments of disease and injuries.

<u>Training</u>	<u>years</u>
● College	4
● Medical School	4
● Residency	3-8
Total: 11-16	

- According to 2019 Medscape Physician Compensation Report, the average physician salary - including both primary doctors and specialties - was **\$313,000**, annually.
- Different specialties require different years of residency

<u>Specialties</u>	<u>residency(in years)</u>
Family practice	3
Pathology	4
Plastic surgery	6
Psychiatry	4
Neurosurgery	7
Internal medicine	3
Emergency medicine	3-4

Meteorologist (Trevor's Slide)

Meteorology is the branch of science concerning the study of Earth's atmosphere, and, consequently, the weather and climate.

Salary & Job Opportunity

- As of 2020, the median salary for meteorologists is \$99,740. The lowest 10% make around \$52,350, while the top 10% make more than \$153,150. This number will largely depend on location and experience. Researchers tend to make up much of the top end of wage earners, with a median salary of \$110,790. The work is full-time, with occasional overtime in the event of severe weather.
- Meteorology is projected to see an 8% increase in jobs by 2030. This is average for all other occupations. There are approximately 1000 job openings each year. However, the field could see exponential growth due to an increase in weather-related events and concerns.

Undergraduate Studies

- You don't necessarily need an undergraduate degree in meteorology to pursue the field. In fact, most prepare for a graduate degree in meteorology with an undergraduate degree in a less specific area of study. These include:



Chemistry

Physics

Computer Science

Mathematics



Astrophysicist (Shelby's Slide)

- The study of stars and other celestial bodies, and the physics concerning them
 - Have an average salary of around \$85,689, but have an opportunity to make as much as \$125,488 in places such as San Francisco.
 - Has an 8% growth expectancy from 2020 to 2030, and an average of 1,500 openings in the field each year.
- Bachelor's Degree
 - ◆ 3 - 4 years in physics
 - Master's Degree
 - ◆ 1 - 2 years in Physics or Astrophysics
 - PhD
 - ◆ 4 - 6 years: Teaches you how to effectively research your field.
 - Post Doctorate
 - ◆ 1 - 2 years: helps find professional collaboration.