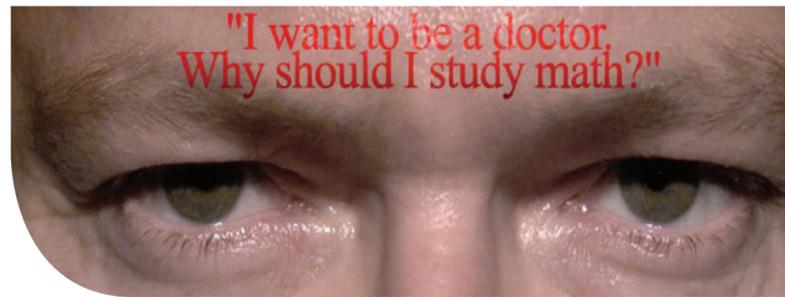


Career Spotlight

Physician

Physicians, or doctors, diagnose illnesses and prescribe and administer treatment for people suffering from injury or disease. Physicians examine patients, obtain medical histories, and order, perform, and interpret diagnostic tests. They counsel patients on diet, hygiene, and preventive health care. Earnings of physicians and surgeons are among the highest of any occupation, and depend on area of specialty and how long the individual has been a physician.



EDUCATION

Becoming a doctor requires more training than most other jobs. It usually takes at least 11 years to become a doctor: 4 years of college, 4 years of medical school, and at least 3 years working in a hospital. To become a doctor, you should study mathematics, biology, chemistry, physics, and English. Do you love mathematics, but want to pursue a career as a doctor?

“Professional graduate schools in business, law, and medicine think mathematics is a great major because it develops analytical skills and the ability to work in a problem solving environment. And results on admission tests for graduate and professional schools show that students majoring in mathematics receive substantially higher scores than most other majors.”

William Allard & Clark Bray

Duke University, Mathematics Department

WHEN MATH IS USED

Doctors use math to write prescriptions for patients, to determine how much medication to distribute to patients based on weight, to determine Body Mass Index (BMI), and to interpret CAT scans. Physicians use math in every day practice. For example, they use statistics and probability to interpret tests results. When a patient is treated for an illness, the probability is used to determine which type of treatment to use, if any.

“Evidence-based medicine, the use of statistical models to guide diagnoses and treatment, is already changing how doctors practice.” - Ian Ayres

POTENTIAL EMPLOYERS

Rural and low-income areas offer significant job prospects to physicians. Jobs are becoming increasingly available for physicians specializing in health issues relating to the baby boomer generation. The number of jobs for physicians is expected to increase significantly as technological advances allow doctors to treat more health problems. Doctors have a wide range of possible employers including private practices, hospitals, government agencies, and insurance companies.

FACTS

Physicians can specialize in over 60 different fields. For example, psychiatrists are mental health physicians and pediatricians care for infants, children, and teenagers. Career satisfaction among doctors varies depending on their specialty and practice settings. Dermatologists are the most satisfied (64% satisfaction rate) with their career, while plastic surgeons are the least satisfied (41%). On average, doctors spend 30-40 hours per week seeing patients.

CITATIONS

<http://www.bls.gov/oco/ocos074.htm>

<http://www.bls.gov/k12/help06.htm>

<http://www.math.cornell.edu/Courses/FSM/biology.html>

<http://gradschool.about.com/od/medicalschoo/f/docjobs.htm>

<http://www.medscape.com/features/slideshow/compensation/2012/public>

<http://mathcentral.uregina.ca/beyond/articles/medicine/med1.html>

MATH REQUIRED

- College Algebra
- Trigonometry
- Calculus I
- Calculus II (useful)
- Linear Algebra (useful)
- Statistics and Probability

Low-end Salary: \$115,000/yr

Median Salary: \$202,392/yr

High-end Salary: \$235,000/yr