

# What Can I Do With a Major in **PHYSICS?**

**Physics** is the discipline of science dealing with the properties of matter and energy. Includes; acoustics, atomic physics, cryogenics, electromagnetism, elementary particle physics, fluid dynamics, geophysics, mathematical physics, mechanics, molecular physics, nuclear physics, optics, plasma physics, quantum physics, solid state physics, statistical mechanics, thermodynamics. It is the branch of science concerned with the study of properties and interactions of space, time, matter and energy.

## **Typical Coursework**

Calculus Modern Experimental Physics

Classical Mechanics Modern Physics

Differential Equations Optics and Wave Phenomena
Electricity and Magnetism Quantum and Atomic Physics
English Composition Scientific Computer Programming

General Chemistry Special Relativity

Instrumental Methods Thermodynamics & Statistical Mechanics

#### **Related Major Skills**

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|---------------------------------|------------------------------------|-------------------------------------|--------------------------------|
| Investigation                   | Communication                      | Computational                       | Technical                      |
| Define research problems        | Develop & write research proposals | Measure distances/<br>relationships | Design equipment               |
| Develop research models         | Review scientific literature       | Perform calculations                | Identify/classify materials    |
| Establish hypotheses            | Summarize research findings        | Mathematical<br>modeling            | Observe data                   |
| Gather/analyze data             | Inform, explain, instruct          | Maintain records                    | Establish experimental designs |
| Evaluate ideas                  | Prepare technical reports          | Utilize math<br>formulas            | Use instruments                |
| See relationships among factors | Draw meaningful conclusions        |                                     |                                |

## **Directly Related Occupations (may require advanced education)**

Astronomer Natural Science Manager

Astrophysicist Nuclear Physicist Biophysicist Oceanographer Fluids Physicist Physicist Geologist Seismologist

Geophysicist University and College Professors

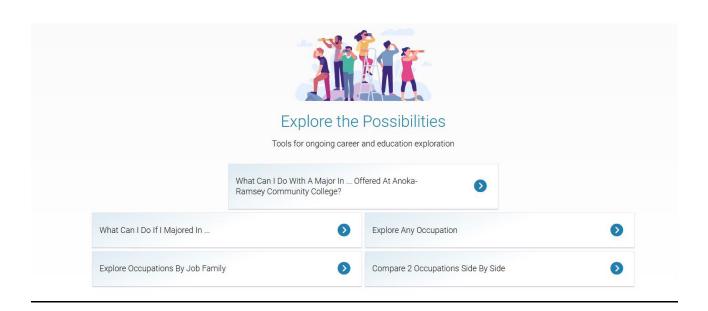
Meteorologist

## Who Hires for this Occupation?

Federal & state government agencies, research & development firms, engineering firms, scientific consulting firms, and colleges & universities.

#### Focus2

Visit <u>FOCUS2</u> (use ARCC credentials to sign-in) for more information regarding **related occupations and average salaries** and explore **other related majors.** You can also take **assessments** to match your skills, interests, and values to potential careers and majors.



## MN Colleges & Universities with a major in PHYSICS

Augsburg College Saint John's University

Bethel University Saint Mary's University of MN, Winona Carleton College Southwest Minnesota State University

College of Saint Benedict St. Cloud State University

Concordia College St. Olaf College

Gustavus Adolphus College
Hamline University
Macalester College
Minnesota State Univ., Mankato
Minnesota State Univ., Moorhead
University of MN, Morris
University of MN, Twin Cities
University of St. Thomas
Winona State University

Anoka-Ramsey Community College offers an <u>Associate of Arts in Liberal Arts and Sciences Degree</u> with general education courses that typically transfer as all or part of the first two years of a baccalaureate degree.

Search for majors and colleges at Minnesota State System Colleges and University.

## **Professional Association Links**

**American Institute of Physics** American Astronomical Society **American Physical Society** <u>Institute of Physics</u> National Aeronautics and Space Administration Society of Nuclear Medicine

## **For More Information**

Contact ARCC Counseling (Coon Rapids and Cambridge) at (763) 433-1100 or stop by the campus **Information Desk** 

#### Information adapted from:

Minnesota Career Information System Occupational Outlook Handbook Focus2

Career Center at the University of North Carolina at Wilmington