

# PHYSICS & ASTRONOMY

Physics is the foundation of all sciences and engineering, and with a physics degree, you will have a wide variety of career choices. What do you do with a physics degree? After obtaining their BS degree, over half of the physics majors go on to graduate school to continue their education in physics, astronomy, engineering, medicine, or law. Some join the workforce in the industry as engineers, programmers, data scientists, or technicians. Some become high school Physics teachers or professionals in education. The strength of physics majors is their critical thinking and problem-solving ability.

## PROGRAMS



### DEGREES AND CERTIFICATES

- Bachelor of Science in Physics
- Bachelor of Science in Physics Teaching
- Physics Minor
- Astronomy Minor
- Master of Science in Physics

### ABOUT THE PROGRAM

Physics is a science concerned with understanding the fundamental laws of nature. It explains physical phenomena in everyday life, such as motion, heat, electricity, magnetism and light. The Department of Physics and Astronomy at Minnesota State University, Mankato offers a BS in physics and a BS in physics teaching. Students interested in astronomy can take a variety of astronomy courses and earn a minor in astronomy.

## REAL-WORLD CONNECTIONS



### SKILLS AND TALENTS

- Fundamental Science Skills
- Clear Logic and Reasoning
- Technical Reporting
- Mathematical Modeling
- Computer Technology
- Data Analysis and Organization

### CAREERS

- Project Engineer
- Quality Engineer
- Test Engineer
- Data Analyst
- Researcher
- Medical Physicist

### EMPLOYERS

- Agore Software
- Benchmark Electronics
- Open Systems International
- ProMed Molded Products
- Government Research Agencies
- Public Schools

## INSPIRED ACTION



### EMPLOYMENT RATE

**90.5%**  
of program graduates begin their careers within one year of graduation.

Graduates: 33  
Respondents: 30  
[link.mnsu.edu/graduate-follow-up](http://link.mnsu.edu/graduate-follow-up)

### MEDIAN SALARY

**\$149,530**  
The median annual wage for Physicists and Astronomers in May 2023.

Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, Physicists and Astronomers, at [link.mnsu.edu/physics-astronomy-salary](http://link.mnsu.edu/physics-astronomy-salary)

### PROGRAM WEBSITE



[cset.mnsu.edu/pa](http://cset.mnsu.edu/pa)

## SAMPLE FOUR-YEAR PLAN - PHYSICS, BS

| First Year (Fall)   | First Year (Spring)  |
|---|--|
| MATH 121 Calculus I (4)<br>PHYS 150 Explorations in Physics (1)<br>General Education Course (3)<br>General Education Course (3)   | MATH 122 Calculus II (4)<br>PHYS 221 General Physics I (4)<br>General Education Course (3)   |
| Second Year (Fall)  | Second Year (Spring)   |
| PHYS 222 General Physics II (3)<br>MATH 223 Calculus III (4)<br>PHYS 232 General Physics II Laboratory (1)<br>General Education Course (3)<br>General Education Course (3)      | PHYS 223 General Physics III (3)<br>PHYS 233 General Physics III Laboratory (1)<br>MATH 321 Ordinary Differential Equations (4)<br>PHYS 335 Modern Physics I (3)<br>General Education Course (3) |
| Third Year (Fall)   | Third Year (Spring)  |
| PHYS 336 Modern Physics II (3)<br>PHYS 441 Mechanics (4)<br>PHYS 447 Electricity & Magnetism I (3)<br>General Education Course (3)<br>General Education Course (3)              | MATH 247 Linear Algebra I (4)<br>PHYS 448 Electricity & Magnetism II (3)<br>PHYS 457 Optics (3)<br>PHYS 475W Advanced Laboratory (3)<br>General Education Course (3)                             |
| Fourth Year (Fall)  | Fourth Year (Spring)   |
| PHYS 461 Quantum Mechanics (4)<br>PHYS 465 Computer Applications in Physics (3)<br>General Education Course (3)<br>General Education Course (3)<br>Elective Course in Major (2) | PHYS 473 Statistical Physics (3)<br>PHYS 492 Seminar (1)<br>General Education Course (3)<br>General Education Course (3)<br>Elective Course in Major (2)   |

For more information about program requirements, visit:  
[mnsu.edu/academics/academic-catalog](https://mnsu.edu/academics/academic-catalog)

### LEARN MORE

**Department of Physics and Astronomy**  
 141 Trafton Science Center N  
 507-389-5743

### NOTES

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