

# ABOUT THE MAJOR

Physics is a fundamental physical science. Its essentials form the foundation of all sciences as well as engineering and technology. The world of physics ranges from the smallest particles of subatomic matter to the galaxies. Physicists conduct research into the basic laws of nature or use existing knowledge about the physical world to develop applications and to design new products. A degree in physics prepares the student for a career in physics or related job industry, a governmental lab, teaching, as well as for further graduate study.

The B.S. in Physics with a Concentration in Battery Technology and Sustainable Energy is a modification of the general physics major track, to emphasize battery technology and its applications in power distribution networks and transportation, such as electric vehicles. This concentration is designed for students who plan to pursue careers in energy production and energy storage industries.

# ABOUT THIS MAP

This program map is intended ONLY as a guide for students to plan their course of study. It does NOT replace any information in the Undergraduate Catalog, which is the official guide for completing degree requirements. Use this map to help plan and guide your experience at UWG, including academic, co-curricular, and discovery opportunities. Everyone’s experience is different and activities in this map are suggestions. Always consult with your advisors whenever possible for new opportunities and updates.

## WHERE CAN YOU GO WITH THIS DEGREE?

- Aerospace Engineer
- Astronomer
- Data Scientist
- Geophysicist
- Lab Manager
- Medical Physicist
- Optical Engineer
- Physics Teacher
- Professor
- Research Scientist

## ADD A CERTIFICATE

- Atmospheric Science
- Forensic Sciences
- Health and Society
- Microbiology

## HONORS COLLEGE

Consider joining if you have an Overall GPA of 3.2 and earned 15 college credit hours!



# PHYSICS

## BATTERY TECHNOLOGY & SUSTAINABLE ENERGY CONCENTRATION

*Bachelor of Science*

60

CORE CREDIT HOURS

46

MAJOR CREDIT HOURS

14

ELECTIVE CREDIT HOURS

Visit [westga.edu/program-maps](http://westga.edu/program-maps) for the latest version of this major map.



VISIT WOLFWATCH FOR MORE INFORMATION.



HAVE A QUESTION? CHECK IN WITH YOUR ADVISOR!



UNIVERSITY OF WEST GEORGIA

2025-2026

TERM 1: FALL

C1: ENGL 1101 3 CREDIT HOURS  
English Composition I

M: MATH 1113 4 CREDIT HOURS  
Precalculus

I: XIDS 2001 1 CREDIT HOUR  
The Physical Universe

S: HIST 1111 OR 1112 3 CREDIT HOURS  
World History

I: ORAL COMMUNICATIONS 3 CREDIT HOURS

- MILESTONES:
- COMPLETE ENGL 1101 WITH C OR BETTER
  - COMPLETE CORE IMPACTS M MATH

TERM 2: SPRING

C2: ENGL 1102 3 CREDIT HOURS  
English Composition II

T: MATH 1634 4 CREDIT HOURS  
Calculus I

T: CHEM 1211 + LAB 4 CREDIT HOURS  
Principles of Chemistry II

P: HIST 2111 OR 2112 3 CREDIT HOURS  
US History

CORE IMPACTS A OR S 3 CREDIT HOURS

- MILESTONES:
- COMPLETE ENGL 1102 C OR BETTER
  - COMPLETE CALCULUS I OVER THE SUMMER IN ORDER TO START PHYS SEQUENCE IN THE FALL, IF NEEDED.

14 FALL CREDIT HOURS + 17 SPRING CREDIT HOURS  
= 31 CREDIT HOURS

CRUSH YOUR COURSEWORK

- Enroll in XIDS 2001: Physical Universe and Core IMPACTS courses.
- Complete math courses through Calculus I.
- Take Principles of Physics I (or ASTR 2313) in your second semester.
- Attend physics workshops.
- Meet with your Physics mentor.

FIND YOUR PLACE

- Meet Physics faculty and learn about their research and scholarship opportunities.
- Join the Physics Engineering club.
- Connect with junior/senior Physics students and ambassadors.

BROADEN YOUR PERSPECTIVES

- Explore diversity, equity, and inclusion resources and opportunities across campus.
- Check out the education abroad office.

CONNECT OFF-CAMPUS

- Visit Wolves Vote to learn about the voting process and registration.
- Consider volunteering for a campaign or organization in your community.

TAKE CARE OF YOURSELF

- Visit the UWG Wellness Hub to find all the resources available to you!
- Visit Health Services.
- Get fit! Visit URec to see all your options.
- Visit the Center for Economic Education and Financial Literacy.

PAVE YOUR PATH

- Complete a self-assessment to see what careers and majors are right for you.
- Visit Office of Career and Graduate School Connections.
- Create your profile on Handshake.
- Consider applying for an on-campus job.

TERM 1: FALL

F: PHYS 2211/2211L 4 CREDIT HOURS  
Principles of Physics I

F: MATH 2644 4 CREDIT HOURS  
Calculus II

T: CHEM 1212 + LAB 4 CREDIT HOURS  
Principles of Chemistry II

P: POLS 1101 3 CREDIT HOURS  
American Government

TERM 2: SPRING

F: PHYS 2212/2212L 4 CREDIT HOURS  
Principles of Physics II

F: MATH 2654 4 CREDIT HOURS  
Calculus III

MATH 3303 3 CREDIT HOURS  
Ordinary Differential Equations

PHYS 3513 3 CREDIT HOURS  
Power Distribution Sources and Networks

- MILESTONES:
- COMPLETE INTRODUCTORY PHYSICS SEQUENCE
  - COMPLETE MATH UP TO ODE

15 FALL CREDIT HOURS + 14 SPRING CREDIT HOURS  
= 29 CREDIT HOURS

CRUSH YOUR COURSEWORK

- Complete Principles of Physics.
- Take Modern, Mathematical, Mechanics, E&M and Thermal.
- Establish your pathway/concentration.
- Take core and electives to balance upper-level coursework.

FIND YOUR PLACE

- Become a Student Assistant for a physics lab, workshops or the Observatory.
- Get involved in research or an internship.
- Apply for summer internships or REUs.
- Attend a scientific conference.

BROADEN YOUR PERSPECTIVES

- In a student organization? Suggest you all complete an implicit bias workshop.
- Consider a study abroad program. Check out students' stories of their experiences.

CONNECT OFF-CAMPUS

- Complete an internship in your field.
- Consider a summer or part-time job.
- Ask your department about networking opportunities with alumni.

TAKE CARE OF YOURSELF

- Take a fitness class, climb the rock wall, or join an intramural team.
- Consider whether counseling is right for you: take a mental health screening.

PAVE YOUR PATH

- Draft your resume and attend a resume blitz.
- Learn about how to network on social media and update your Handshake profile.
- Draft your personal statement.
- Visit the graduate school to find out about graduate programs and admission requirements.

TERM 1: FALL

PHYS 3503	3 CREDIT HOURS
Modern Physics	
PHYS 3113	3 CREDIT HOURS
Mechanics	
CHEM 3510 OR MATH 2853	3 CREDIT HOURS
Survey of Physical Chemistry or Elementary Linear Algebra	
PHYS ELECTIVE	3 CREDIT HOURS
CORE IMPACTS A OR S	3 CREDIT HOURS

TERM 2: SPRING

PHYS 3213	3 CREDIT HOURS
Thermodynamics	
PHYS 3313	3 CREDIT HOURS
Electricity and Magnetism	
CHEM 3310K OR MATH 2853	3 CREDIT HOURS
Analytical Chemistry or Elementary Linear Algebra	
PHYS 3613	3 CREDIT HOURS
Battery Technology and Design	
PHYS ELECTIVE	3 CREDIT HOURS

15 FALL CREDIT HOURS + 16 SPRING CREDIT HOURS  
= 31 CREDIT HOURS

CRUSH YOUR COURSEWORK

- Complete Principles of Physics.
- Take Modern, Mathematical, Mechanics, E&M and Thermal.
- Establish your pathway/concentration.
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TERM 1: FALL

PHYS 3813	3 CREDIT HOURS
Electronic Systems Design in Vehicles	
CORE IMPACTS A OR S	3 CREDIT HOURS
PHYS ELECTIVE	3 CREDIT HOURS
ELECTIVE	3 CREDIT HOURS
ELECTIVE	3 CREDIT HOURS

TERM 2: SPRING

PHYS 4624	4 CREDIT HOURS
Advanced Battery Technology and Design	
ELECTIVE	1 CREDIT HOUR
ELECTIVE	3 CREDIT HOURS
ELECTIVE	3 CREDIT HOURS
PHYS ELECTIVE	3 CREDIT HOURS

15 FALL CREDIT HOURS + 14 SPRING CREDIT HOURS  
= 29 CREDIT HOURS

CRUSH YOUR COURSEWORK

- Finish your degree requirements.
- Complete your research/internships.
- Present at a conference.
- Write a scientific paper.
- Finish strong.

FIND YOUR PLACE

- Become a Physics Ambassador.
- Expand your professional network.
- Apply for internships in local industries or graduate programs.
- Attend career fairs. Send your resume to one of our alumni.

BROADEN YOUR PERSPECTIVES

- Assess your cultural competency.
- Consider working abroad and research visa regulations.
- Explore practices of creating more inclusive careers.

CONNECT OFF-CAMPUS

- Ask for advice from professionals in your field of interest.
- Explore career shadowing opportunities.

TAKE CARE OF YOURSELF

- Explore a farmer's market for fresh produce.
- Develop a post-graduation exercise plan.
- Explore your loan repayment options and complete your exit counseling.

PAVE YOUR PATH

- Request references from professors and supervisors.
- Draft your resume cover letter and personal statement and revise it with career services.
- Attend business fairs and career fairs at UWG and across the state.
- Attend an interview workshop.
- Apply for graduate programs.