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 Astronomy is a modification of Plan A, the general physics major track, to emphasize observational astronomy and stellar and galactic astrophysics. This concentration is designed for students who plan to pursue graduate studies and/or careers in astronomy and astrophysics, as well as for students who desire an increased emphasis on image processing techniques and radiative processes and energy transport.

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

HONORS COLLEGE

Consider joining if you have an Overall GPA of 3.2 and earned 15 college credit hours!
### YEAR 1

#### TERM 1: FALL

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>C1: ENGL 1101</td>
<td>English Composition I</td>
<td>3</td>
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<tr>
<td>M: MATH 1113</td>
<td>Precalculus</td>
<td>4</td>
</tr>
<tr>
<td>I2: XIDS 2001</td>
<td>The Physical Universe</td>
<td>1</td>
</tr>
<tr>
<td>T1: CHEM 1211/1211L</td>
<td>Principles of Chemistry I + Lab</td>
<td>4</td>
</tr>
<tr>
<td>ASTR 2313</td>
<td>Astronomy</td>
<td>3</td>
</tr>
</tbody>
</table>

**MILESTONES:**
- Complete ENGL 1101 with C or Better
- Complete MATH 1113

**CRUSH YOUR COURSEWORK**
- Enroll in XIDS 2001: Physical Universe and Core IMPACTS courses.
- Complete math courses through Calculus I.

**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 XIDS 2001: The Physical Universe and Core IMPACTS.
- Consider applying for an on-campus job.

**TAKE CARE OF YOURSELF**
- 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.

**THANKS TO:**
- uwgwellnesshub.org

**15 FALL CREDIT HOURS + 17 SPRING CREDIT HOURS = 32 CREDIT HOURS**

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### TERM 2: SPRING

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<tr>
<th>Course Code</th>
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<tr>
<td>C2: ENGL 1102</td>
<td>English Composition II</td>
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<tr>
<td>T3: MATH 1634</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>T2: CHEM 1212/1212L</td>
<td>Principles of Chemistry II</td>
<td>4</td>
</tr>
<tr>
<td>A2: LANGUAGE COURSE</td>
<td>Foreign Language 1001/1002 or 3001/3002, or other Core IMPACTS</td>
<td>3</td>
</tr>
<tr>
<td>I1: ORAL COMMUNICATIONS</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**MILESTONES:**
- Complete English Composition II with C or Better
- Complete Calculus I

**CRUSH YOUR COURSEWORK**
- Complete Principles of Physics I (or ASTR 2313) in your second semester.
- Attend physics workshops.
- Meet with your Physics mentor.

**FIND YOUR PLACE**
- Complete Principles of Physics I (or ASTR 2313) in your second semester.

**BROADEN YOUR PERSPECTIVES**
- Visit Wolves Vote to learn about the voting process and registration.
- Consider volunteering for a campaign or registration.
- Check out students’ stories of their experiences.

**CONNECT OFF-CAMPUS**
- Consider applying for an on-campus job.
- Create your profile on Handshake.
- Visit the graduate school to find out about graduate programs and admission requirements.

**TAKE CARE OF YOURSELF**
- Visit the UWG Wellness Hub to find all the resources available to you!
- Visit Health Services.
- Consider whether counseling is right for you: take a mental health screening.

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

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### YEAR 2

#### TERM 1: FALL

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>F: PHYS 2211/2211L</td>
<td>Principles of Physics I</td>
<td>4</td>
</tr>
<tr>
<td>F: MATH 2644</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>MATH 2853 OR ELECTIVE</td>
<td>Elementary Linear Algebra or Elective</td>
<td>3</td>
</tr>
<tr>
<td>ASTR 3683</td>
<td>Astronomy Research</td>
<td>3</td>
</tr>
</tbody>
</table>

**MILESTONES:**
- 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.

**CRUSH YOUR COURSEWORK**
- 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.

**FIND YOUR PLACE**
- 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.

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

**TAKE CARE OF YOURSELF**
- 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.

**THANKS TO:**
- uwgwellnesshub.org

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

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### TERM 2: SPRING

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>F: PHYS 2212/2212L</td>
<td>Principles of Physics II</td>
<td>4</td>
</tr>
<tr>
<td>MATH 3303</td>
<td>Ordinary Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>F: MATH 2654</td>
<td>Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>P: CITIZENSHIP</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**MILESTONES:**
- Complete Principles of Physics Sequence.
- Complete Math up to Calculus III.

**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**
- 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.

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

**TAKE CARE OF YOURSELF**
- 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.

**THANKS TO:**
- uwgwellnesshub.org

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

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**PAVE YOUR PATH**
- Take Modern, Mathematical, Mechanics, E&M and Thermal.
- Establish your pathway/concentration.
- Take core and electives to balance upper-level coursework.

**THANKS TO:**
- uwgwellnesshub.org

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

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YEAR 3

TERM 1: FALL
- PHYS 3503: Modern Physics (3 credit hours)
- PHYS 3113: Mechanics (3 credit hours)
- ASTR 3133: Observational Astronomy (3 credit hours)
- PHYS/ASTR OR MATH ELECTIVE (3 credit hours)
- S: SOCIAL SCIENCE (3 credit hours)

TERM 2: SPRING
- PHYS 3213: Thermodynamics (3 credit hours)
- PHYS 3133: Electricity and Magnetism (3 credit hours)
- ASTR 4103/4433 OR PHYS 4323/4333 (3 credit hours)
- P: CITIZENSHIP ELECTIVE (3 credit hours)

15 FALL CREDIT HOURS + 15 SPRING CREDIT HOURS = 30 CREDIT HOURS

TERM 4

TERM 1: FALL
- MATH ELECTIVE (3 credit hours)
- PHYS/ASTR ELECTIVE (3 credit hours)
- ELECTIVE(S) (4 credit hours)

TERM 2: SPRING
- S: SOCIAL SCIENCE (3 credit hours)
- ASTR 4103/4433 OR PHYS 4323/4333 (3 credit hours)
- MATH OR FREE ELECTIVE (3 credit hours)
- PHYS/ASTR ELECTIVE ELECTIVE(S) (3 credit hours)

13 FALL CREDIT HOURS + 16 SPRING CREDIT HOURS = 29 CREDIT HOURS

CRUSH YOUR COURSEWORK
- Complete Principles of Physics.
- Take Modern, Mathematical, Mechanics, E&M and Thermodynamics.
- 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.
- 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
- Ask for advice from professionals in your field of interest.
- Explore career shadowing opportunities.

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 build.
- 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.

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
- Take 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.