A Physicist has a solid understanding of fundamental laws, which in turn can be applied to a wide area of scientific and engineering fields. It is an exciting career that requires discipline and significant amount of work. It also requires development of mathematical, experimental, theoretical, and computational skills. As a result of the Physicist’s solid and broad background, Physicists can apply to a wide range of job opportunities, including National Laboratories and Research Centers, Industry, and Academia.
## MILESTONES

**FIRST YEAR**
- Write for a GPA of 3.5 or higher.
- Complete major foundation classes, such as PHYS 3305, PHYS 3303, PHYS 3304, PHYS 3402, and PHYS 3411.
- Complete 30 credit hours.
- Complete 30 credit hours.

**SECOND YEAR**
- Complete major foundation classes, such as PHYS 3305, PHYS 3303, PHYS 3304, PHYS 3402, and PHYS 3411.
- Complete 30 credit hours.
- Have you landed an internship or acquired research experience? This is the year to make it happen.
- Shoot for a GPA of 3.5 or higher.

**THIRD YEAR**
- Complete 30 credit hours.
- Must have an academic advisor and bring your orientation folder with you to every session!
- Choose a major with confidence. Visit my.UTRGV.edu and check out Kuder Journey.
- Visit a faculty member during their office hours and ask a question about class.

**FOURTH YEAR**
- “I have a plan for after graduation.” If this describes you, great! If not, visit your Faculty Advisor or Career Center!
- Register for your Capstone/senior/portfolio project: PHYS 4300.
- Complete at least 30 credit hours to graduate.
- Submit your application(s) for graduate school, an apprenticeship, or for full-time employment.

## ADVICE & SUPPORT

**APPLY WHAT YOU LEARN**
- Look for a service-learning course! For guidance, visit Engaged Scholarship & Learning Office.
- Participate in a campus-sponsored community service project.
- Ask a student to come to class with you.
- Set up your profile on the Engagement Zone through Career Connection icon: (My.UTRGV.edu).
- Join another student organization.

**GLOBAL, CAMPUS & COMMUNITY ENGAGEMENT**
- Create a resume and set up your profile on the Career Connection icon: (My.UTRGV.edu).
- Got summer plans? Visit Career Center and ask about places to do some job shadowing.
- Research shows that students who work on campus perform better than those who work off campus. Look for a job on the Career Center portal.
- Check your UTRGV email for the daily Messenger - locate and attend one student workshop.

**LIFE AFTER GRADUATION**
- Update your resume in Career Connection and have it reviewed.
- Visit the Career Center site to find a job fair to attend. At the event, approach a recruiter and discuss internships.
- Will a minor expand your career options? We recommend the Astronomy Minor.
- Explain to someone how your academic program aligns with your strengths and interests.

---

### CAREERS
- **Research**
- **Development**
- **Consulting**
- **Engineering (process and testing)**
- **Quality control**
- **Instrumentation**

---

For additional info, visit the Career Center website and check out “What Can I Do With This Major?”
[www.utrgv.edu/careercenter](http://www.utrgv.edu/careercenter)

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### UTRio Grande Valley

Visit the Career Center for help with all things career-related. We are here to help you succeed!

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**UTRGV**

- UTRGV has a Writing Center and a Learning Center. Make it a point to visit them!
- Complete your core English classes (section 010) during your first year.
- Complete 30 credit hours every year in order to graduate in 4 years.
- Shoot for a GPA of 3.5 or higher.
- Take MATH 2413 in your first year.

---

**GLOBAL, CAMPUS & COMMUNITY ENGAGEMENT**

- Look for a service-learning course! For guidance, visit Engaged Scholarship & Learning Office.
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### UTRio Grande Valley

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You must apply to the UTeach program. Students must fulfill the General Education Core requirements. Within the General Education Core the students are required to take:

Life and Physical Sciences – 6 hours
- PHYS 2425 Physics for Scientists and Engineers I (three-hour lecture)
- PHYS 2426 Physics for Scientists and Engineers II (three-hour lecture)

Mathematics – 3 hours
- MATH 2413 Calculus I (three-hour lecture)
- MATH 2414 Calculus II

Integrative/Experiential Learning Option – 6 hours
- PHYS 3245 Introductory/Experiential Learning Option
- PHYS 3246 Introductory/Experiential Learning Option
- PHYS 3247 Introductory/Experiential Learning Option

You must complete a minimum of 45 hours of coursework towards the Physics major. The following courses are required:

- PHYS 2425 Physics for Scientists and Engineers I
- PHYS 2426 Physics for Scientists and Engineers II
- MATH 2413 Calculus I
- MATH 2414 Calculus II

A Physicist has a solid understanding of fundamental laws, which in turn can be applied to a wide area of scientific and engineering fields. It is an exciting career that requires discipline and significant amount of work. It also requires development of mathematical, experimental, theoretical, and computational skills. As a result of the Physicist’s solid and broad background, Physicists can apply to a wide range of job opportunities, including National Laboratories and Research Centers, Industry, and Academia.
# Blueprint Experiences

## Milestones

### Fourth Year
- Educational or higher.
- Software
- Visit my.UTRGV.edu
- Complete 30 credit hours.
- You have landed an internship or acquired research experience? This is the year to make it happen.

### Third Year
- Complete 30 credit hours.
- Set up your profile on the Engagement Zone through your orientation folder with you to every session!
- Check your UTRGV email for the daily Messenger for a job on the Career Center portal!
- Look for a service-learning course! For guidance, visit Engaged Scholarship & Learning Office.
- Attend a diversity based campus or community event you are interested in.
- Visit the Career Center site to find a job fair or internship.
- Check out the Communications Hauser Lab for help with your writing and editing.
- Shoot for a GPA of 3.5 or higher.
- Have you received your acceptance for graduate school or an employment offer? If not, network: talk to faculty, the Career Center, and get on LinkedIn.
- Update your information with Alumni Relations. Enjoy alumni mixers, events and continued access to Career Center services!
- Before a job interview, schedule a mock interview with the Communications Hauser Lab.
- “I have a plan for after graduation.” If this describes you, great! If not, visit your Faculty Advisor or Career Center! Register for your Capstone/junior/portfolio project: PHYS 4300.
- Complete at least 30 credit hours to graduate.
- Submit your application(s) for graduate school, an apprenticeship, or for full-time employment.

### Second Year
- Complete major foundation classes, such as PHYS 3305, PHYS 3303, PHYS 3304, PHYS 3402, PHYS 3411, UTECH 1101, UTECH 1102, UTECH 3301, UTECH 3302, PHYS 3330, and MATE 3117.
- Complete 30 credit hours.
- Apply to the UTeach program. For more information visit www.utrgv.edu/uteach.
- Complete a résumé and set up your profile on the Career Center website for postings on career/graduate school.
- Think about three people you can ask for letters of recommendation (professors, mentors, advisors, supervisors, etc.). Give them at least two weeks' advance notice!
- When is the deadline for your graduate school application? Write a plan to get your application(s) in the mail.
- Visit the Communication Hauser Lab for help with your writing and editing.
- Shoot for a GPA of 3.5 or higher.
- Complete 30 credit hours.
- Have you landed an internship or acquired research experience? This is the year to make it happen.

### First Year
- UT-RGV has a Writing Center and a Learning Center. Make it a point to visit them!
- Complete your core English classes (section 010) during your first year.
- Complete 30 credit hours every year in order to graduate in 4 years.
- Shoot for a GPA of 3.5 or higher.
- Take MATH 2413 in your first year.
- Choose a major with confidence! Visit my.UTRGV.edu and check out the Kuder Journey.
- Visit a faculty member during their office hours and ask a question about class.
- Classes fill up fast. When registration opens, be sure to register on the first day for your group.
- Cold or flu getting you down? We have Student Health Services on campus with free office visits.
- Look for a service-learning course! For guidance, visit Engaged Scholarship & Learning Office.
- Participate in a campus-sponsored community service project.
- Ask a student in class to study with you.
- Complete a major or minor in your academic advisor and a list of your major foundation classes, such as PHYS 3305, PHYS 3303, PHYS 3304, PHYS 3402, PHYS 3411, UTECH 1101, UTECH 1102, UTECH 3301, UTECH 3302, PHYS 3330, and MATE 3117.
- Complete 30 credit hours.
- Check out the Student Health Services website and studentloans.gov.
- Remember to do your exit loan counseling on studentloans.gov.
- Shoot for a GPA of 3.5 or higher.
- Complete 30 credit hours.
- Have you landed an internship or acquired research experience? This is the year to make it happen.

## Advice & Support

### Apply What You Learn
- Participate in a campus-sponsored community service project.
- Ask a student in class to study with you.
- Take MATH 2413 in your first year.
- Choose a major with confidence! Visit my.UTRGV.edu and check out the Kuder Journey.
- Visit a faculty member during their office hours and ask a question about class.
- Classes fill up fast. When registration opens, be sure to register on the first day for your group.
- Cold or flu getting you down? We have Student Health Services on campus with free office visits.
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- Participate in a campus-sponsored community service project.
- Ask a student in class to study with you.
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- Complete 30 credit hours.
- Have you landed an internship or acquired research experience? This is the year to make it happen.

## Global, Campus & Community Engagement

### Life After Graduation
- Complete a major or minor in your academic advisor and a list of your major foundation classes, such as PHYS 3305, PHYS 3303, PHYS 3304, PHYS 3402, PHYS 3411, UTECH 1101, UTECH 1102, UTECH 3301, UTECH 3302, PHYS 3330, and MATE 3117.
- Complete 30 credit hours.
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- Remember to do your exit loan counseling on studentloans.gov.
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- Complete 30 credit hours.
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## Careers

- Teaching
- Computer software development
- Educational research
- Writing and editing
- Library and information sciences
- Public school systems
- Private schools
- Publishing companies: Books, Magazines, Videos
- Software developers
- Libraries

For additional info, visit the Career Center website and check out “What Can I Do With This Major?” www.utrgv.edu/careercenter
**ACADEMIC PLAN**

**PHYSICS (BS)**  
*Biophysics/Medical Physics*  
**Catalog: 2017-18**  
**COLLEGE OF SCIENCES**

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 2425</td>
<td>Physics for Scientists and Engineers I (three-hour lecture)</td>
</tr>
<tr>
<td>PHYS 2426</td>
<td>Physics for Scientists and Engineers II (three-hour lecture)</td>
</tr>
<tr>
<td>MATH 2413</td>
<td>Calculus I (three-hour lecture)</td>
</tr>
</tbody>
</table>

**SECOND YEAR**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
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<td>PHYS 2425</td>
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<td>Physics for Scientists and Engineers II (three-hour lecture)</td>
</tr>
<tr>
<td>MATH 2414</td>
<td>Calculus II (three-hour lecture)</td>
</tr>
</tbody>
</table>

**THIRD YEAR**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 3301</td>
<td>Electromagnetic Theory I (three-hour lecture)</td>
</tr>
<tr>
<td>PHYS 3302</td>
<td>Electromagnetic Theory II (one-hour lab)</td>
</tr>
</tbody>
</table>

**FOURTH YEAR**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 3303</td>
<td>Thermodynamics (three-hour lecture)</td>
</tr>
<tr>
<td>PHYS 3304</td>
<td>Quantum Mechanics I (one-hour lab)</td>
</tr>
</tbody>
</table>

**Additional Info**

*You must apply to the UTeach program. Students must fulfill the General Education Core requirements. Within the General Education Core the students are required to take:*

- **Life and Physical Sciences** - 6 hours
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  - PHYS 2426 Physics for Scientists and Engineers II (three-hour lecture)
  - MATH 2413 Calculus I (three-hour lecture)
- **Mathematics** - 3 hours
  - MATH 2414 Calculus II (three-hour lecture)
  - MATH 2415 Calculus III (three-hour lecture)
- **Integrative/Experiential Learning Option** - 6 hours
  - CSCI 1380 Computer Science I
  - PHYS 2425 Physics for Scientists and Engineers I (one-hour lab)
  - PHYS 2426 Physics for Scientists and Engineers II (one-hour lab)

**Contact Info**

**Department Chair**  
Dr. Soma Mukherjee  
soma.mukherjee@utrgv.edu

**Department Locations:**  
Edinburg EPHYS 1.128  
Phone: 956-665-2531  
Brownsville BLHSB 2.226  
Phone: (956) 882-6679

**Degree Info**

A Physicist has a solid understanding of fundamental laws, which in turn can be applied to a wide area of scientific and engineering fields. It is an exciting career that requires discipline and significant amount of work. It also requires development of mathematical, experimental, theoretical, and computational skills. As a result of the Physicist’s solid and broad background, Physicists can apply to a wide range of job opportunities, including National Laboratories and Research Centers, Industry, and Academia.
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#### FIRST YEAR
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- Complete 30 credit hours.

#### SECOND YEAR
- Shoot for a GPA of 3.5 or higher.
- Complete 30 credit hours.
- Have you landed an internship or acquired research experience? This is the year to make it happen.

#### THIRD YEAR
- Complete 30 credit hours.
- Seek out research opportunities within your major and join a professional organization such as the APS (American Physical Society).

#### FOURTH YEAR
- Shoot for a GPA of 3.5 or higher.
- “I have a plan for after graduation.” If this describes you, great! If not, visit your Faculty Advisor or Career Center!
- Submit your application(s) for graduate school, an apprenticeship, or for full-time employment.

### MILESTONES
- Meet with your academic advisor and bring your orientation folder with you to every session!
- Choose a major with confidence: Visit my.UTRGV.edu and check out Kuder Journey.
- Visit a faculty member during their office hours and ask a question about class.
- Classes fill up fast. When registration opens, be sure to register on the first day for your group.
- Trouble making your tuition payment? The Financial Aid Office can help. Payment plans and emergency loans are also available.

### ADVISE & SUPPORT
- "I have a plan for after graduation." If this describes you, great! If not, visit your Faculty Advisor or Career Center!
- Submit your application(s) for graduate school, an apprenticeship, or for full-time employment.

### GLOBAL, CAMPUS & COMMUNITY ENGAGEMENT
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### CAREERS
- Research
- Development
- Clinical service
- Consulting
- Monitoring
- Enforcement
- Colleges and universities
- Government:
  - National Institutes of Health
  - Department of Energy
- Industry:
  - Biotechnology
  - Medical equipment
  - Environmental
  - Pharmaceuticals
  - Food science
  - Toxicology
  - Medical instrumentation
  - Nuclear power
  - Waste management/disposal
  - Food irradiation
  - Petroleum
- Nonprofit research centers
- Medical/dental schools
- Hospitals

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