# B.S. in Physics

**Tracks (Select one):**
- 1. Core
- 2. Astrophysics
- 3. Biophysics
- 4. Computational Physics
- 5. Geophysics
- 6. Mathematical Physics
- 7. Education Physics
- 8. Quantum Science & Information
- 9. Individually Designed

All Courses must be completed "with a C- or higher".

## 40 SERIES

<table>
<thead>
<tr>
<th>GRADE</th>
<th>120</th>
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**AND**

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<tr>
<th>GRADE</th>
<th>MATH</th>
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<tr>
<td>44</td>
<td>51 or 61CM</td>
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<td>OR</td>
<td>52 or 62CM</td>
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<td>53 or 63CM</td>
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## 61 SERIES

<table>
<thead>
<tr>
<th>GRADE</th>
<th>PH111 or 131P or 173</th>
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<tbody>
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Students who take PHYS 61 & PHYS 63 in Autumn & Winter quarters may take either PHYS 65 in Summer 2021 or EE 65 in Spring 2021 to complete the requirement of an introductory physics sequence for the Physics major.

**Comments:**

By signing this form I acknowledge I have reviewed my advisee's career plan.

**Advisor's Signature:**

**Date:**
## Tracks in the Physics Major

1. **Core**
   - Required upper-division physics courses in addition to those required for all tracks:
     - Physics 110, 131, 171,
     - 1 Practicum course
   - Elective:
     - At least 1 Physics Elective course,
     - And at least 1 more Physics or Math Elective course.

2. **Astrophysics**
   - Required upper-division physics courses in addition to those required for all tracks:
     - Physics 110, 100, 160, and 161
     - Note: Physics 262 can substitute for Physics 161
   - Elective:
     - Two additional electives taken from the set
     - Physics 101, 113, 166, 171, 262, 360, 361, 362, 354

3. **Biophysics**
   - Required upper-division physics courses in addition to those required for all tracks:
     - Either Physics 110 or 131,
     - Physics 171
     - either 1 Practicum course or AP232
   - Elective:
     - At least 3 courses from this list:
     - AP 205 (Bio 120), AP 237 (Bio 261), AP 293 (Psych 242), AP 294 (Bio 294),
     - BioE42, BioE101, BioE102
     - Either Physics 110 or 131,
     - Physics 171,
     - either 1 Practicum course or AP232
     - At least 3 courses from this list:
     - AP 225, AP 228, CS154, CS 259Q/269Q, EE 276 (STATS 376A).

4. **Computational Physics and Data Science**
   - Required upper-division physics courses in addition to those required for all tracks:
     - Physics 110, 113
   - Elective:
     - At least 1 Physics Elective course,
     - At least 3 courses in statistics, machine learning
     - and/or theoretical computer science, chosen from this list:
     - Physics 166, (Stats 116 or CS109), CS129,
     - CS 154, CS161, CS200, CS221, CS229,
     - CS230, Stats200, Stats203, (Stats270 or Stats271).

5. **Geophysics**
   - Required upper-division physics courses in addition to those required for all tracks:
     - Physics 110, either Physics 131 or 171, at least 1 Practicum, and at least 3 courses
     - from this list: Geophys 110, 120, 128, 130, 162, 165, 162, 184, 188, 227, 237.
   - Elective:
     - None

6. **Mathematical Physics**
   - Required upper-division physics courses in addition to those required for all tracks:
     - Physics 110
   - Elective:
     - At least 1 Practicum,
     - 2 Math Elective courses, and
     - 2 Physics or Math Elective courses.

7. **Physics Education**
   - Required upper-division physics courses in addition to those required for all tracks:
     - Physics 110, either Physics 131 or 171
   - Elective:
     - At least 1 Practicum
     - At least 3 courses from this list:
     - Physics 295 (Educ 280) (recommended),
     - Educ 101, Educ 398, Educ 400A,
     - Educ 268, Educ 332, Educ 367,
     - Educ 218, Educ 328, Educ 391.

8. **Quantum Science and Information**
   - Required upper-division physics courses in addition to those required for all tracks:
     - Physics 131, 134, and either Physics 110 or 171
   - Elective:
     - 1 Practicum course,
     - 2 courses from this list:
     - AP 225, AP 228, CS154,
     - CS 259Q/269Q, EE 276 (STATS 376A).

9. **Individually designed track (Submit Proposal)**
   - In rare cases, a student may propose a new track. The proposed courses must have a theme (rather than being a disconnected set of courses), and they should either include physics content, benefit from a physics perspective, deepen the student’s understanding of physics, or allow students to apply their physics knowledge more broadly. The proposal should be as specific as possible and include detailed rationale for the track. The proposed track must not be largely redundant with an existing track or major. The proposal should address feasibility issues such as whether the proposed courses are offered with sufficient frequency.