Physics

Transfer/AS-T Degree in Physics

Physics Program
Counseling and Advising: (530) 895-2378
Transfer Counseling Center: (530) 895-2264
Transfer Information: www.assist.org
Department Office: TE 132, (530) 879-6106
Michael Panunto, Chair (530) 895-2229

The following is required for all AA-T or AS-T degrees:
1. Minimum of 60 CSU-transferable semester units.
2. Minimum grade point average (GPA) of at least 2.0 in all CSU transferable coursework. While a minimum of 2.0 is required for admission, some majors may require a higher GPA. Please consult with a counselor for more information.
3. Completion of a minimum of 18 semester units in an “AA-T” or “AS-T” major as detailed in the transfer section of the catalog. All courses in the major must be completed with a grade of C or better or a “P” if the course is taken on a “pass-no pass” basis.
4. Certified completion of the California State University General Education-Breadth pattern (CSU GE Breadth); OR the Intersegmental General Education Transfer Curriculum (IGETC) pattern.

About the Program
AS-T Degree in Physics
The Associate in Science in Physics for Transfer degree (AS-T in Physics) is intended for students who plan to complete a bachelor’s degree in Physics at a CSU campus. Students completing this degree are guaranteed admission to the CSU system, but not to a particular campus or major. Students transferring to a CSU campus that does not accept this degree will be required to complete no more than 60 units after transfer to earn a bachelor’s degree. This degree may not be the best option for students intending to transfer to a particular CSU campus or to a university or college that is not part of the CSU system. In all cases, students should consult with a counselor for more information on university admission and transfer requirements.

The associate transfer degrees (AA-T or AS-T) require completion and certification of the California State University General Education (CSU GE) or the Intersegmental General Education Transfer Curriculum (IGETC) as well as the specific AA-T or AS-T major degree requirements. Students earning either an AA or an AS will not be held to additional Butte College graduation requirements (including Physical Education and the multicultural competency). Students should work with a counselor to identify major coursework that can be used to fulfill CSU GE or IGETC categories.

Student Learning Outcomes
Upon successful completion of this program, the student will be able to:
- Demonstrate conceptual understanding by being able to describe qualitatively the underlying causes of basic physical phenomena.
- Demonstrate analytical skills by interpreting graphs and schematics and diagnosing realistic physical problems.
- Demonstrate experimental knowledge through data gathering, judging the accuracy and reliability of data, creating informative graphs, and discussing the limitations of experimental designs.

Required courses for the major:
Required Core:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 41</td>
<td>Physics for Scientists and Engineers I (P/C)</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 42</td>
<td>Physics for Scientists and Engineers II (P/C)</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 43</td>
<td>Physics for Scientists and Engineers III (P)</td>
<td>4</td>
</tr>
<tr>
<td>MATH 30</td>
<td>Analytic Geometry and Calculus I (P)</td>
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</tr>
<tr>
<td>MATH 31</td>
<td>Analytic Geometry and Calculus II (P)</td>
<td>4</td>
</tr>
<tr>
<td>MATH 32</td>
<td>Analytic Geometry and Calculus III (P)</td>
<td>4</td>
</tr>
</tbody>
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Total units for the major 25
Inter-segmental General Education Transfer Curriculum (IGETC) 37
or CSU General Education-Breadth Requirements 39
Transferable Electives 4-7
Degree Total 60

To obtain an Associate's degree, students must complete both the major requirements and the graduation requirements listed in this catalog.

Note that some courses have a prerequisite (P), corequisite (C), or both (P/C). Prerequisites and corequisites are listed within each course description in this catalog.

Transfer majors designated as AA-T or AS-T are designed for transfer to a similar major at an unspecified CSU. Transfer majors designated as AA or AS are designed for transfer to the corresponding major at a specific CSU and are based on articulation. See a counselor for more information. Read about the difference between these types of degrees at the beginning of the Transfer section of this catalog.