Physics

2015-16

Associate Degree Graduation Requirements

(1) Complete all department requirements with a “C” or better or “P” in each course (at least 20% of the department requirements must be completed through SBCC); (2) Complete one of the following three General Education options: OPTION 1: SBCC General Education Requirements (Areas A-D) and Institutional Requirements (Area E) and Information Competency Requirement (Area F) OR OPTION 2: IGETC Pattern OR OPTION 3: CSU GE Breadth Pattern; (3) Complete a total of 60 degree-applicable units (SBCC courses numbered 100 and higher); (4) Maintain a cumulative GPA of 2.0 or better in all units attempted at SBCC; (5) Maintain a cumulative GPA of 2.0 or better in all college units attempted; and (6) Complete 15 units through SBCC.

Department Requirements
(Total Department Units: 50-51)

<table>
<thead>
<tr>
<th>Current Course No.</th>
<th>Previous Course No.</th>
<th>Title</th>
<th>Applies to SBCC GE areas</th>
<th>Units</th>
<th>Institution &amp; Course No.</th>
<th>Grade</th>
<th>Units (s/q)</th>
<th>Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 155</td>
<td></td>
<td>General Chemistry I</td>
<td>A</td>
<td>5.0</td>
<td></td>
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<tr>
<td>CHEM 156</td>
<td></td>
<td>General Chemistry II</td>
<td></td>
<td>5.0</td>
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<tr>
<td>CS 105</td>
<td>(135/COMSC 135/35)</td>
<td>Theory and Practice I OR</td>
<td></td>
<td>3.0</td>
<td></td>
<td></td>
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<tr>
<td>CS 107</td>
<td>(131/COMSC 131/31)</td>
<td>Computer Architecture &amp; Organization OR</td>
<td>3.0</td>
<td></td>
<td></td>
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<tr>
<td>CS 120</td>
<td>(COMSC 120)</td>
<td>Java Programming OR</td>
<td></td>
<td>3.0</td>
<td></td>
<td></td>
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<tr>
<td>CS 137</td>
<td>(COMSC 137/37)</td>
<td>C Programming OR</td>
<td></td>
<td>3.0</td>
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<tr>
<td>CS 140</td>
<td>(COMSC 140)</td>
<td>Object-Oriented Programming, Using C++</td>
<td>4.0</td>
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<tr>
<td>MATH 150</td>
<td></td>
<td>Calculus with Analytic Geometry I</td>
<td>D2</td>
<td>5.0</td>
<td></td>
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<tr>
<td>MATH 160</td>
<td></td>
<td>Calculus with Analytic Geometry II</td>
<td>D2</td>
<td>5.0</td>
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<tr>
<td>MATH 200*</td>
<td>(27)</td>
<td>Multivariable Calculus</td>
<td>D2</td>
<td>4.0</td>
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<tr>
<td>MATH 210*</td>
<td>(29)</td>
<td>Linear Algebra</td>
<td>D2</td>
<td>4.0</td>
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<tr>
<td>MATH 220*</td>
<td>(28)</td>
<td>Differential Equations</td>
<td>D2</td>
<td>4.0</td>
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<tr>
<td>PHYS 121</td>
<td>(21)</td>
<td>Mechanics of Solids and Fluids</td>
<td>A</td>
<td>5.0</td>
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<td></td>
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<tr>
<td>PHYS 122</td>
<td>(22)</td>
<td>Electricity and Magnetism</td>
<td></td>
<td>5.0</td>
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<tr>
<td>PHYS 123</td>
<td>(23)</td>
<td>Heat, Light and Modern Physics</td>
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<td>5.0</td>
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</tbody>
</table>

*MATH 250 & 260 will also satisfy the MATH 200 & 210 & 220 requirements.

Additional Program Information
For further information, contact the Counseling Center, 965-0581, Ext. 2285, or Michael Young, Department Chair, 965-0581, Ext. 2697.

Santa Barbara City College
### IA. IGETC  
**Course #** | **Grade** | **Units (s/q)** | **Term**  
--- | --- | --- | ---  
1A. | English Composition | |  
1B. | Critical Thinking-English Composition | |  
1C. | Oral Communication (CSU only) | |  
2A. | Mathematics | |  
3A. | Arts | |  
3B. | Humanities | |  
4. | Social Sciences | |  
5A/5C. | Physical Sciences | |  
5B/5C. | Biological Sciences | |  
6A. | Language Other Than English (UC only) | |  

### IB. CSU GE Breadth Pattern  
**Course #** | **Grade** | **Units (s/q)** | **Term**  
--- | --- | --- | ---  
A1. | Oral Communication | |  
A2. | Written Communication | |  
A3. | Critical Thinking | |  
B1/B3. | Physical Science | |  
B2/B3. | Life Science | |  
B4. | Mathematics | |  
C1. | Arts | |  
C2. | Humanities | |  
D. | Social Sciences | |  
E. | Lifelong Learning and Self-Development | |  

### IC. SBCC GE, Institutional & Info Competency  
**Course #** | **Grade** | **Units (s/q)** | **Term**  
--- | --- | --- | ---  
A. | Natural Sciences with Lab | |  
B. | Social and Behavioral Science | |  
C. | Humanities | |  
D-1. | English Composition | |  
D-2. | Communication and Analytical Thinking | |  
E-1. | Mathematics - Plus complete 3 out of the 4 areas listed below (E-2 through E-5) | |  
E-2. | American Institutions | |  
E-3. | Physical Education/Health Education | |  
E-4. | Oral Communication | |  
E-5. | Multicultural/Gender Studies | |  
F. | Information Competency | |  

### II. Unit and Grade Point Average Requirements  
Refer to Graduation Requirements on the other side of this document.  

| **SBCC** | **Total Semester Units Attempted** | **Total Semester Units Completed** | **Grade Points** | **GPA**  
--- | --- | --- | --- | ---  
Total | | | |  

### III. Residency Requirements:  
15 units completed through SBCC & 20% of Department Requirements completed through SBCC?  
☐ Yes  ☐ No  

### IV. Department Requirements  
Refer to the other side of this document for a list of department required courses.  
☐ Yes  ☐ No  

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**Santa Barbara City College**

**Physics**  
**2015-16**

**Associate in Arts/Science Degree in Physics**

Physics is the foundation discipline which must be incorporated into the education of anyone preparing for a career in a physical or a life science. Knowledge of Physics is also necessary for those people who are non-scientists, when their decisions are linked to technologies based on the application of physical principles. These include people in the fields of politics, business, and social science.

**Careers in Physics**

Because of a strong background in math and science, a physicist has a wide variety of job opportunities available. A few of the many career opportunities open to a physicist are research scientist, teacher, laboratory technician, science librarian, technical writer, engineer, and engineering related fields.

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