



Physics and Astronomy

## Computational Science BS<sup>1</sup> - 4 Years

### Fall Year 1

<i>PHYS 130: General Physics I</i> <sup>2</sup>	4
PHYS 132: General Physics Review	0
<i>MATH 110: Calculus I</i> <sup>3</sup>	4
FYSM 100: First-Year Seminar	3
<i>CSIS 110 (CS Intro) or CSIS 200 (tools for Phys.)</i>	3

### Spring Year 1

<i>PHYS 140: General Physics II</i>	4
PHYS 142: General Physics Review	0
<i>MATH 120: Calculus II</i>	4
FYSM 101: First-Year Seminar	3
<i>CSIS 120: Introduction to Programming</i>	4

### Fall Year 2

<i>PHYS 220: Modern Physics</i> <sup>4</sup>	4
<i>SCDV 230: Electronic Instrumentation</i>	4
<i>MATH 210: Calculus III</i>	4
<i>CSIS 210: Data Structures</i>	3

### Spring Year 2

<i>PHYS 250: Computational Physics</i>	3
1 from <sup>5</sup> MATH 240/PHYS 350/CSIS 310	3
MATH 230: Linear Algebra	3
<i>CDE</i>	3

### Fall Year 3

<i>MATH 250: Discrete Structures I</i>	4
<i>CSIS 380: Computer Graphics</i>	3
CDR	3
CDP	3

### Spring Year 3

<i>MATH 325: Differential Equations</i>	3
CSIS 385: Analysis of Algorithms	3
1 from MATH 240/PHYS 350/CSIS 310	3
CDH	3

### Fall Year 4

PHYS 310: Mechanics I	3
CFD	3
CDS	3
CDA	3

### Spring Year 4

1 from MATH 240/PHYS 350/CSIS 310	3
1 Elective from: <i>CSIS 225</i> or CSIS 400	3
CFJ	3
CFH	3
1 project/capstone from: CSIS499/MATH499/PHYS470/SCDV480	3

<sup>1</sup> This track guarantees a minor Computer Science, and a minor in Physics. Any additional course between MATH 300-470 will grant also a minor in Mathematics. All minors must be declared.

A minimum of 120 credit-hours is required to graduate (average 15 credit-hours per semester). Courses in italics have a lab component (generally indicating a larger time commitment).

<sup>2</sup>General Physics satisfies the Natural Science Core (CDN) requirement.

<sup>3</sup>Calculus satisfies the Quantitative Core (CDQ) requirement.

<sup>4</sup>Modern Physics satisfies the Natural World Franciscan Core (CFN) requirement.

<sup>5</sup> MATH240, PHYS350 and CSIS310 are offered with two- or three-year rotation. Please plan accordingly.