BACHELOR OF ARTS IN
PHYSICS ROADMAP

120 Total Units Required
Minimum Number of Units in the Major: 52

Course     Title                                      Units

First Semester
MATH 226    Calculus I                              4
GE Area A: Oral Communication (A1) or Critical Thinking (A3) 3
GE Area A: Written English Communication (A2) 3
GE Area C: Arts (C1) 3
GE Area C: Humanities: Literature (C3) 3

Units 16

Second Semester
MATH 227    Calculus II                             4
PHYS 220 & PHYS 222 General Physics with
Calculus I and General Physics with Calculus I Laboratory 4
GE Area A: Oral Communication (A1) or Critical Thinking (A3) 3
GE Area A: Written English Communication II (A4) or Written English Communication II (A4) Stretch II 3

Units 16

Third Semester
MATH 228    Calculus III                            4
MATH 325    Linear Algebra                          3
PHYS 230 & PHYS 232 General Physics with
Calculus II and General Physics with Calculus II Laboratory 4
GE Area B: Life Science (B2) 3
GE Area D: U.S. History (D2) or U.S. and California Government (D3) 3

Units 14

Fourth Semester
MATH 245 or MATH 376

Elementary Differential Equations and Linear Algebra or Ordinary Differential Equations I 3

PHYS 240 & PHYS 242 General Physics with
Calculus III and General Physics with Calculus III Laboratory 4

GE Area A: Written English Communication II (A4) if not already satisfied 3

Units 17

Fifth Semester
PHYS 320 Modern Physics I 3
PHYS 321 Modern Physics Laboratory 2
GE Area UD-B: Upper Division Physical and/or Life Sciences (Consider SF State Studies Course) 3
GE Area C: Arts (C1) or Humanities (C2) 3
Complementary Studies or SF State Studies or University Elective 3

Units 16

Sixth Semester
PHYS 330 Analytical Mechanics I 3
PHYS 385 Introduction to Theoretical Physics I 3
GE Area UD-C: Upper Division Arts and/or Humanities (Consider SF State Studies Course) 3
Complementary Studies or SF State Studies or University Elective – Take Two 6

Units 15

Seventh Semester
PHYS 360 Electricity and Magnetism I 3
PHYS 370 Thermodynamics and Statistical Mechanics 3
PHYS 490 Physics Project Laboratory 2
Major Elective (On advisement. PHYS 460 or PHYS 325 recommended.) 3
GE Area UD-D: Upper Division Social Sciences (Consider SF State Studies Course) 3

Units 14

Eighth Semester
PHYS 491GW Advanced Laboratory II - GWAR 4
PHYS 695 Culminating Experience in Physics 1
Major Elective (On advisement. PHYS 460 or PHYS 325 recommended.) 3
Complementary Studies or SF State Studies or University Elective – Take Three 9

Units 14

Total Units 120
Depending on courses completed through Early Start and in high school, students in Pathway/Category 3 or 4 may be required to enroll in additional courses before they can take MATH 199 or MATH 226. Most students in Pathway/Category 3 or 4 will need to take a stretch format for MATH 199 (MATH 197 in Fall 2018 and MATH 198 in Spring 2019). Before enrolling in a B4 course, students should verify their MATH Pathway/Category in their Student Center (http://cms.sfsu.edu/content/student-center). Information regarding the courses that correspond with your MATH Pathway/Category can be found on the Developmental Studies Office Website (http://developmentalstudies.sfsu.edu).

To avoid taking additional units, it is recommended that you meet LLD and SF State Studies requirements (AERM, GP, ES, SJ) within your GE or major.

ENG 114 can only be taken if you complete Directed Self-Placement (DSP) and select ENG 114; if you choose ENG 104/ENG 105 through DSP you will satisfy A2 upon successful completion of ENG 105 in the second semester; multilingual students may be advised into alternative English courses.

Complementary Studies

Upon completion of the B.A. in Physics program, students will have taken 12 units of calculus courses that satisfy the Complementary Studies requirement for a B.A. degree.

Students who have earned AA-T or AS-T degrees and are pursuing a similar B.A. degree at SF State are required to fulfill the Complementary Studies requirement as defined by the major department. Students should consult with a major advisor about how transfer units and/or SF State units can best be applied to this requirement in order to ensure degree completion within 60 units.