CATALOG TERM: 2023-2024 **TOTAL UNITS REQUIRED = 120**

APPLIED PHYSICS

Applied Electronics Option

- This worksheet is intended for supplemental use only. The University will use your Academic Requirements Report (ARR) to track your graduation requirements, including those for your major. Please continue to check your ARR for accuracy.
- If your ARR requires a correction, please submit an ARR Correction Form.
- Your Degree Planner (in mycsusm.edu) will display the following requirements in the University's recommended sequence.
- All courses used for the major and preparation for the major must be completed with a grade of C (2.0) or higher.
- All non-articulated courses MUST be reviewed and approved by a faculty advisor.
- A minimum of 18 units in Physics must be completed at CSUSM.

PREPARATION FOR THE APLLIED ELECTRONICS OPTION (47 UNITS)

Non-Physics Supporting Courses (28 units):

✓	Course	Units
	CS 111: Computer Science I (^MATH 125 or 160)	4
	CS 211: Computer Science II (*CS 111, MATH 160)	4
	CS 231: Assembly Language and Digital Circuits (*CS 111)	4
	MATH 160: Calculus with Applications I (*MATH 125, 126 or pass Math Placement Test)	5
	MATH 162: Calculus with Applications II (*MATH 160)	4
	MATH 260: Calculus with Applications III (*MATH 162)	4
	MATH 346: Mathematical Methods for Physics (*MATH 162)	3

Lower-division Physics Courses (19 units):

✓	Course	Units
	PHYS 100: Introduction to Being a Physicist	1
	PHYS 201: Physics of Mechanics and Sound (*MATH 160)	4
	PHYS 202: Physics of Electromagnetism and Optics (*PHYS 201, MATH 162)	4
	PHYS 203: Modern Physics	4
	PHYS 270: Introduction to Computational Physics (*PHYS 201, MATH 160, CS 111)	3
	PHYS 280: Introduction to Electronics ((*EE 100 and PHYS 201) or PHYS 202 or PHYS 206)	3

UPPER-DIVISION CORE REQUIREMENTS (24 UNITS)

✓	Course	Units
	PHYS/CE/EE 301: Digital Systems with HDL (*(EE 100 and CS 111) or (CS 231 and either PHYS 202 or 206))	4
	PHYS/EE 303: Signals and Systems (*PHYS or EE 280; ^MATH 346)	3
	PHYS 320: Classical Mechanics (*PHYS 201 or 205; ^MATH 346)	3
	PHYS 321: Classical Electromagnetism (*PHYS 202 or 206 and MATH 260)	3
	PHYS 323: Quantum Physics (*PHYS 203, ^MATH 346)	3
	PHYS/CE/EE 402: Microcontroller Systems and Computer Interfacing (*PHYS/CE/EE 301)	4

**prerequisite; ^pre/co-requisite;*

#may be chosen as an elective if not already taken for an Upper-division Core Requirement.

APPLIED PHYSICS

Applied Electronics Option

☐	PHYS 499B: Senior Laboratory Thesis (*instructor consent)	2

Select 1 of the following courses:

PHYS 380 Applied Laboratory Techniques (*PHYS 203)
PHYS 480: Advanced Applied Physics Laboratory (*PHYS 203)

✓	Course	Units
☐		2

ELECTIVE COURSES FOR THE MAJOR (8-9 UNITS)

Select elective courses from the following list:

CS 331: Computer Architecture (3) (*CS 231)
PHYS 306: Introduction to Physics Education Research (3) (*PHYS 203)
PHYS 324: Statistical Mechanics and Thermodynamics (3)
PHYS 342: Introduction to Astrophysics (3) (*PHYS 203)
PHYS 380#: Applied Lab Techniques (2) (*PHYS 203)
PHYS/EE 421: Applied Electromagnetic Waves and Optics (3) (*PHYS 321, MATH 346)
PHYS 422: Applied Solid State Physics (3) (*PHYS 203, ^MATH 346)
PHYS 423: Quantum Mechanics (3) (*PHYS 323)
PHYS 440: Biological Physics (3) (*PHYS 202 or 206)
PHYS 442: Physical and Geometric Optics (3) (*PHYS 321)
PHYS 480#: Advanced Applied Physics Laboratory (2) (*PHYS 203)

Up to six (6) units of elective coursework from another department in the natural or mathematical sciences chosen in consultation with and pre-approved by the Physics Advisor may be used for this section.

✓	Course	Units
☐		
☐		
☐		

**prerequisite; ^pre/co-requisite;*
#may be chosen as an elective if not already taken for an Upper-division Core Requirement.