



BA Physics – Engineering Science 3+2 Major Requirements

Note: This sheet contains BOTH BU requirements for the BA in physics AND PSU requirements for admission into Engineering

Name	ID Number	Advisor
Course	Prerequisite	Credits
PHYSICS (30 credits)	Semester	Grade
54.123 Contemporary Physics or 58.101 Intro to ET *		3
54.211 General Physics I (c)	53.125 ¹	4
54.212 General Physics II (c)	54.211 ² , 53.126 ¹	4
54.301 Mechanics: Statics	54.211 ² , 53.126 ¹	3
54.302 Mechanics: Dynamics	54.212 ³	3
54.310 Modern Atomic Physics	54.212 ³	3
54.314 Electricity & Magnetism	54.212 ³ , 53.225	3
54.400 Advanced Physics Laboratory	54.310	2
Plus 5 Credit Hours in other physics courses numbered higher than 54.300		
54		
54		
MATHEMATICS & COMPUTER SCIENCE (21 credits)		
53.125 Calculus I (c)	53.112 or test	3
53.126 Calculus II (c)	53.125	3
53.225 Calculus III	53.126	3
53.226 Calc IV ^{PSU}	53.225	3
53.314 Linear Algebra ^{PSU}		3
53.322 Differential Equations	53.225	3
56.116 Algorithmic Processes for Comp or		
56.121 Object-Oriented Programming in Java		3,4
CHEMISTRY (8 credits)		
52.115 Chemistry for the Sciences I (c)	Placement Test	4
52.116 Chemistry for the Sciences II (c)	52.115	4
ENGINEERING TECHNOLOGY (3 credits)		
58.180 Computer Aided Design & Engr. Graphics ^{PSU}		3

¹ May be taken concurrently.

² Or 54.111 Introduction to Physics I, with consent of instructor.

³ Or 54.112 Introduction to Physics II, with consent of instructor.

* Or an additional Physics course numbered higher than 54.300

Note (c) Student must earn a minimum grade of “C” in these courses (PSU Req.)

^{PSU}: Requirement of Penn State

Minimum major course credits: **62**



BA Physics - Engineering Science 3+2 - General Education Requirements

Course	Credits	Semester	Grade
COMMUNICATION (9 credits)¹ -			
20.101 Composition I	3	_____	_____
09.231 Technical Writing ^{PSU}	3	_____	_____
25.103 Public Speaking ^{PSU}	3	_____	_____

QUANTITATIVE / ANALYTICAL REASONING (3 credits) - Satisfied by fulfilling major requirements

VALUES, ETHICS, & RESPONSIBLE DECISION MAKING (3 credits) - From approved values list.¹

3	_____	_____
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FITNESS & RECREATION SKILLS (3 credits) - (2 required for BU, 3 required for PSU)

May use Aerospace Studies (61) and Military Science (67) courses.	_____	_____	_____
	_____	_____	_____
	_____	_____	_____

CULTURAL DIVERSITY (6 credits) – From approved diversity list.
Cultural diversity courses may also be counted in Group A or B

3	_____	_____
3	_____	_____

GROUP A: Humanities and the Arts (12 credits from three or four of the following departments)
Caution – See catalog for restrictions

Art (30,31,32), English (20), History (42),	3	_____	_____
Lang/Cultures (10, 11, 12, 13, 14, 16, 18, 19),	3	_____	_____
Music (35), Philosophy (28), Theatre (26),	3	_____	_____
Speech/Mass Comm (27) or Communication Studies (25)	3	_____	_____

GROUP B: Social and Behavioral Sciences (12 credits from three or four of the following departments)
Caution – See catalog for restrictions

Anthropology (46), Economics (40),	3	_____	_____
Geography (41), Political Science (44),	3	_____	_____
Sociology/Social Welfare (45),	3	_____	_____
Psychology (48), Criminal Justice (43) or Social Work (49)	3	_____	_____

Minimum Gen. Ed. credits: **36**

GROUP C: Natural Sciences and Mathematics (12 credits) - Satisfied by fulfilling the major requirements

¹ One of either values or communication courses may count in Group A or B.

Total minimum graduation credits: major course credits: 62 + Gen Ed credits 36 = 98

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