Physics – Secondary Education

Bachelor of Science (BS.PHYS(SEC))

Core Requirements				Credits	Notes/Instructions
College Sem.		Quest for Meaning	CSEM 100	3	†A student may be required to take ENGL 105 and/or MATH 100 based on placement exams administered prior to their first semester at King's College. ENGL 105 and MATH 100 are 3-credit courses and will count as free electives. †† The Intercultural Competence requirement can be satisfied by taking a 100-level language class for 3 credits or participating in an approved Study Abroad experience. . (See college catalog for more information) **SBM** = Satisfied By Major requirement(s) and credit(s) listed below.
Communication & Creative Expression		Writing	ENGL 110†	3	
		Oral Communication	COMM 101	3	
		Literature	ENGL 140-149	3	
		The Arts	ARTS 100-149	3	
Citizenship		History	HIST 100-149	3	
		Intercultural	FREN/GERM/SPAN 100-level or Study Abroad††	3	
		Global Connections	ECON 150-199; GEOG 150-199; HIST 150-199; PS 150-199; SOC 150-199	3	
Quantitative & Scientific Reasoning	SBM	Quantitative Reasoning	MATH 120† or higher level	-	
	SBM	Scientific Endeavor	NSCI 100	-	
	SBM	Science in Context	NSCI 171-199	-	
		Human Beh. & Soc. Inst	ECON 111, 112; GEOG 101, 102; PS 101, PSYC 101, SOC 101	3	
Wisdom, Faith, & the Good Life		Introduction to Phil.	PHIL 101	3	
		Phil. Investigations	PHIL 170-199	3	
		Theology & Wisdom	THEO 150-159	3	
		Theology & the Good Life	THEO 160-169	3	
			Total Core Credits	**39**	

	Major Requirements	Credits		Major Requirements	Credits		Secondary Education Requirements	Credits
	PHYS 113[CR,PR]	3		CHEM 113	3		EDUC 202	3
	PHYS 113L	1		CHEM 113L	1		EDUC 231	1
	PHYS 114[PR]	3		CHEM 114[PR]	3		EDUC 232	1
	PHYS 114L[PR]	1		CHEM 114L[PR]	1		EDUC 235[3]	3
	PHYS 231[PR]	3		MATH 129	4		EDUC 240[3]	3
	PHYS 231L[PR]	1		MATH 130[PR]	4		EDUC 270[3]	3
	PHYS 330[PR]	3		MATH 231[PR]	4		EDUC 302[3, 4]	3
	PHYS 350[PR]	3		MATH 237[PR]	3		EDUC 305[3, 4]	3
	PHYS 371[PR]	3		MATH 238[PR]	3		EDUC 350[3,4]	3
	PHYS 440[PR]	3					EDUC 366[3, 4]	3
	PHYS 490[PR]	3					EDUC 440[4]	3
	PHYS Elective* [PR]	3					EDUC 467[3, 4]	10
	PHYS Elective* [PR]	3		**Other Requirements**			EDUC 468[3, 4]	2
				HCE 101 Holy Cross Exp.	1			
	Total Major Credits	**33**		**Total Major & Other Credits**	**27**		**Total Secondary Education Credits**	**41**

Total Credits Required for Graduation = 140

***Physics Electives -** In addition to the Major Sequence requirements, a Physics Major must also complete a minimum of two (2) upper-level PHYS courses numbered 231 or higher. Some elective courses have a required laboratory component. Some courses in MATH or CHEM may be cross-listed as PHYS.

Physics Electives for Engineering Fields	Physics Electives for Graduate School	
PHYS 241: Statics	PHYS 250: Relativity	PHYS 340: Optics
PHYS 242: Mechanics of Solids	PHYS 260: Num. Techniques	PHYS 420: Particle Phys.
PHYS 233: Electronics I	PHYS 285: Astrophysics	PHYS 450: Atomic & Nuclear Phys
PHYS 234: Electronics II	PHYS 320: Adv. Lab	
PHYS 360: Fluid Dynamics	PHYS 372: E&M II	

NOTE: All Secondary Teacher Certification candidates must complete six credits of college level mathematics and six credits of college level English:

Math Courses	MATH 129	MATH 130
English Courses	ENGL 110	ENGL 140 - 149

The Pennsylvania Department of Education requires secondary teachers to have a degree in the content area for certification. Students seeking secondary certification must meet with his/her specific content area department for content area courses required for the degree. The Education Division is not responsible for content area or Core courses for secondary certification candidates.

General Information: A student must earn a minimum of 120 credit hours to be awarded the baccalaureate degree. The number of credit hours required for graduation may be higher in certain major programs **or** if the student elects to pursue a second major. Beyond the requirements of the Core Curriculum and of a student's chosen major program, the balances of the credit hours required for graduation are "free electives."

See reverse side for a suggested sequence

Effective 07/01/2025

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Suggested Sequence

A suggested course sequence of degree requirements is listed below. Refer to the college catalog for course titles, descriptions, and prerequisites. Always consult your Academic Advisor when planning and scheduling your classes.

	Fall	Credits		Spring	Credits
	PHYS 113[CR,PR] Physics for Scientists & Engineers I	3		PHYS 114[PR] Physics for Scientists & Engineers II	3
	PHYS 113L Physics for Sci. & Eng. I Lab	1		PHYS 114L[PR] Physics for Sci. & Eng. II Lab	1
	CHEM 113 General Chemistry I	3		CHEM 114[PR] General Chemistry II	3
	CHEM 113L General Chemistry I Lab	1		CHEM 114L[PR] General Chemistry II Lab	1
	MATH 129 Calculus I	4		MATH 130[PR] Calculus II	4
	Core Course[1]	3		EDUC 202 Educ. Philos., Ethics, Issues & Trends	3
	HCE 101 Holy Cross Experience	1			
		16			**15**
	Summer	**Credits**			
	Fall	**Credits**		**Spring**	**Credits**
	PHYS 231[PR] Modern Physics	3		PHYS Elective* [PR]	3
	PHYS 231L[PR] Modern Physics Lab	1		Core Course[1]	3
	MATH 231[PR] Calculus III	4		Core Course[1]	3
	Core Course[1]	3		EDUC 240[3] Sec. Multicult., Linguistic & Inst. Meth.	3
	EDUC 235[3] Sec. Development, Cognition, & Learn	3		Core Course[1]	3
		14			**15**
	Admission to Candidacy (Complete and return "Application for Teacher Education Program Candidacy" to the Education Department no sooner than the completion of 48 credits and no later than 65 credits.)				
	Summer	**Credits**			
	Fall	**Credits**		**Spring**	**Credits**
	PHYS 371[PR] Electricity & Magnetism I	3		PHYS 330[PR] Classical Mechanics	3
	MATH 238[PR] Differential Equations	3		MATH 237[PR] Math Methods for Phys. Sciences	3
	Core Course[1]	3		PHYS Elective* [PR]	3
	Core Course[1]	3		EDUC 305[3,4] Assessment I	3
	EDUC 270 Introduction to Special Education	3		Core Course[1]	3
		15			**15**
	Summer	**Credits**			
	Fall	**Credits**		**Spring**	**Credits**
	PHYS 350[PR] Thermodynamics & Stat. Mechanics	3		PHYS 440[PR] Quantum Mechanics	3
	EDUC 302[3,4] Secondary Science Methods	3		PHYS 490[PR] Senior Seminar	3
	Core Course[1]	3		EDUC 350[3,4] Secondary Classroom Management	3
	Core Course[1]	3		EDUC 366[3, 4] Methods For Teaching Diverse Learners	3
	Core Course[1]	3		Core Course[1]	3
	EDUC 231 and EDUC 232 Technology Module I & II	2		Core Course[1]	3
		17			**18****
	Fall	**Credits**			
	EDUC 467[3, 4] Observation & Student Teach. (Sec.)	10			
	EDUC 468[3, 4] Student Teaching Seminar	2		**Students who wish to finish in four (4) years (including Student Teaching) MUST take summer courses.**	
	EDUC 440[4] Inclusive Education	3			
	Take Praxis II				
		15			

Total Credits Required for Graduation = 137

NOTES:

** Students are encouraged to take Core courses during the summer months to help "lighten" their course load during this semester.

[1] Choose one course from each of the Core Requirements listed on the reverse side.

[2] Course may satisfy both a Major and a Core requirement. MATH 129 satisfies the Quantitative Reasoning Core requirement; CHEM 113 and PHYS 113 satisfies the Scientific Endeavor and Science in Context Core requirements.

[3] Updated Child Abuse & Criminal Record & FBI Clearances **REQUIRED** for EDUC 235, EDUC 240, EDUC 270, EDUC 302, EDUC 305, EDUC 350, EDUC 366, EDUC 440, EDUC 467, and EDUC 468.

[PR] Course has a prerequisite – check college catalog.

[CR] Course has a co-requisite – check college catalog.