

PHYSICS / SECONDARY EDUCATION

BACHELOR OF SCIENCE (B.S.)

CORE Requirements	Credits	Major Requirements	Credits	Major Requirements	Credits	Secondary Education	Credits
CORE 090 First Yr Exp.	1	PHYS 113	3	CHEM 113	3	EDUC 202	3
CORE 100 Lib Arts Sem.	3	PHYS 113L	1	CHEM 113L	1	EDUC 231	1
CORE 110 Effect Writ.	3	PHYS 114	3	CHEM 114	3	EDUC 232	1
CORE 115 or 116 Oral Comm.	3	PHYS 114L	1	CHEM 114L	1	EDUC 235 ²	3
CORE 131 or 133 Civilization	3	PHYS 231	3	MATH 129	4	EDUC 240 ²	3
CORE 140 or 141-145 Forgn.	3	PHYS 231L	1	MATH 130	4	EDUC 270	3
CORE 150-159 Soc. Sci. ¹	3	PHYS 330	3	MATH 231	4	EDUC 299³	0
CORE 160-164 Literature	3	PHYS 350	3	MATH 237	3	EDUC 302 ^{2,3}	3
CORE 170-179 The Arts	3	PHYS 371	3	MATH 238	3	EDUC 305 ^{2,3}	3
CORE 180-189 Amer. Studies ¹	3	PHYS 440	3			EDUC 350 ^{2,3}	3
CORE 190-199 Global Studies ¹	3	PHYS 490	3			EDUC 366 ^{2,3}	3
CORE 250-259 Syst. Theology	3	PHYS Elective	3			EDUC 440 ³	3
CORE 260-269 Mor. Theology	3	PHYS Elective	3			EDUC 467 ^{2,3}	7
CORE 280 Philos. I	3					EDUC 468 ^{2,3}	2
CORE 281-289 Philos. II	3						
Total Credits for CORE	43			Total Credits for Major	59	Total Credits for Secondary Education	38

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			
PHYS 241*	PHYS 233**	PHYS 372#	PHYS 340#
PHYS 242*	PHYS 234*	PHYS 320#	PHYS 450#
*Required for some 3+2 Engineering students			
#Appropriate preparation courses for physics graduate programs			

¹Students are required to take CORE 150, CORE 180 **OR** CORE 190 to fulfill the Interdisciplinary CORE requirement.

- If a student takes CORE 150, then he/she should choose from 181 – 188 to fulfill the 18x requirement AND from 191 – 198 to fulfill the 19x requirement.
- If a student takes CORE 180, then he/she should choose from 151 – 158 to fulfill the 15x requirement AND from 191 – 198 to fulfill the 19x requirement.
- If a student takes CORE 190, then he/she should choose from 151 – 158 to fulfill the 15x requirement AND from 181 – 188 to fulfill the 18x requirement.

² Updated Child Abuse & Criminal Record & FBI Clearances **REQUIRED** for EDUC 235, EDUC 240, EDUC 302, EDUC 305, EDUC 350, EDUC 366, EDUC 467, and EDUC 468.

³ EDUC 299 Basic Skills is a pre-requisite for all 300 and 400 level education courses. In order to register for this course, you must take and pass all basic skills tests.

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." **Because of the CORE, Major, and Secondary Education requirements, there are no "Free Electives" for students majoring in Physics/Secondary Education.**

PHYSICS/SECONDARY EDUCATION

SUGGESTED SEQUENCE

- Use the information below as a guide when selecting courses.
- Refer to the reverse side when selecting major courses, major electives, core courses, and free electives when applicable.
- Consult your Academic Advisor prior to course registration.
- Refer to the King's College Catalog and/or website for course titles and descriptions.
- Choose one course from each CORE category as listed on the reverse side.
 - CORE courses may be taken in any order approved by the academic advisor with the following conditions:
 - CORE 100 and CORE 110 should be taken in the first available semesters.
 - CORE 115 (or 116) should be taken within the first two years.
 - For students selecting a Foreign Language (CORE 14x), every effort should be made to register for that language in the first available semester at King's.

1 st Year - Fall		cr.	1 st Year - Spring		cr.
PHYS 113 Physics for Scientists & Engineers I	3		PHYS 114 Physics for Scientists & Engineers II	3	
PHYS 113L Physics for Sci. & Eng. I Lab	1		PHYS 114L Physics for Sci. & Eng. II Lab	1	
CHEM 113 General Chemistry I	3		CHEM 114 General Chemistry II	3	
CHEM 113L General Chemistry I Lab	1		CHEM 114L General Chemistry II Lab	1	
MATH 129 Calculus I	4		MATH 130 Calculus II	4	
CORE	3		CORE	3	
CORE 090 First Year Experience	1				
	16			15	
2 nd Year - Fall			2 nd Year - Spring		
PHYS 231 Modern Physics	3		PHYS Elective	3	
PHYS 231L Modern Physics Lab	1		EDUC 240 ² Sec. Multicult., Linguistic & Inst. Meth.	3	
MATH 231 Calculus III	4		EDUC 270 Introduction to Special Education	3	
EDUC 202 Educ. Philos., Ethics, Issues & Trends	3		CORE	3	
EDUC 235 ² Sec. Development, Cognition, & Learn.	3		CORE	3	
EDUC 231 Technology Module I	1		EDUC 299³	0	
	15			15	
Admission to Candidacy (Complete and return "Application for Teacher Education Program Candidacy" to Education Administrative Assistant no sooner than the completion of 48 credits and no later than 65 credits)					
3 rd Year - Fall			3 rd Year - Spring		
PHYS 350 Thermodynamics & Stat. Mechanics	3		PHYS 330 Classical Mechanics	3	
MATH 237 Applied Linear Algebra	3		PHYS Elective or CORE	3	
EDUC 305 ^{2,3} Meth. For Teaching Diverse Sec. Stud.	3		MATH 238 Differential Equations	3	
EDUC 232 Technology Module II	1		EDUC 366 ^{2,3} Assessment I	3	
PHYS Elective or CORE	3		CORE	3	
CORE	3				
	16			15	
4 th Year - Fall			4 th Year - Spring		
PHYS 371 Electricity & Magnetism I	3		PHYS 440 ³ Quantum Mechanics	3	
EDUC 302 ^{2,3} Secondary Science Methods	3		PHYS 490 ³ Senior Seminar	3	
PHYS Elective or CORE	3		EDUC 350 ^{2,3} Secondary Classroom Management	3	
CORE	3		CORE	3	
CORE	3		CORE	3	
CORE	3		CORE	3	
	18			18	
5 th Year - Fall					
EDUC 467 ^{2,3}	7		Students who wish to finish in four (4) years (including Student Teaching) <u>MUST</u> take summer courses.		
EDUC 468 ^{2,3}	2				
EDUC 440 ³	3				
Take Praxis II	12				
Total Credits Required for Graduation = 139					

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	CORE 110	CORE 16

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.