

PHYSICS – CIVIL ENGINEERING TRACK

3+2 ENGINEERING DUAL DEGREE PROGRAM WITH NOTRE DAME

COURSE REQUIREMENTS

CORE Requirements	Credits	King's Requirements	Credits	Notre Dame Requirements	Credits
CORE 090 First Yr Exp.	1	PHYS 113 Physics for Sci. & Eng. I	3	CE 20130 Planet Earth	3
CORE 100 Lib Arts Sem.	3	PHYS 113L Phys. for Sci./Eng. I Lab	1	CE 20150 Statics	-
CORE 110 Effect Writ.	3	PHYS 114 Physics for Sci. & Eng. II	3	CE 20230 Programming	1
CORE 115 or 116 Oral Comm.	3	PHYS 114L Phys. for Sci./Eng. II Lab	1	CE 20600 Introduction to CAD	2
CORE 131 or 133 Civilization	3	PHYS 231 Modern Physics	3	CE 30125 Computational Methods	3
CORE 140 or 141-145 Forgn.	3	PHYS 231L Modern Physics Lab	1	CE 30150 Dynamics & Modeling	3
CORE 150-159 Soc. Sci. ¹	3	PHYS 241 Statics	3	CE 30160 Materials w/ Lab	4
CORE 160-164 Literature	3	PHYS 242 Mechanics of Solids	3	CE 30200 Intro to Structural Engineering	3
CORE 170-179 The Arts	3	PHYS 330 Classical Mech.	3	CE 30300 Intro to Environmental Eng	3
CORE 180-189 Amer. Studies ¹	3	PHYS 350 Thermo/Stat. Mech.	3	CE 30460 Fluid Mechanics	3
CORE 190-199 Global Studies ¹	3	PHYS 371 Electricity & Magnetism I	3	CE 30510 Geotechnical Engineering	4
CORE 250-259 Syst. Theology	(3)	PHYS 440 Quantum Mech.	3	CE 40270 Reinforced Concrete Design	4
CORE 260-269 Mor. Theology	(3)	PHYS 490 Senior Seminar	2	CE 40450 Hydraulics	3
CORE 280 Philos. I	(3)	PHYS Elective	-	CE 40620 Transportation	3
CORE 281-289 Philos. II	(3)	CHEM 113 Gen. Chem. I	3	CE 40701 Principles of Practice	1
A student will need to complete four (4) of King's College CORE requirements at Notre Dame		CHEM 113L Gen. Chem. I Lab	1	CE 40702 Senior Design	3
		CHEM 114 Gen. Chem. II	3	CE Core Concentration Elective	3
		CHEM 114L Gen. Chem. II Lab	1	CE Core Concentration Elective	4
		MATH 129 Calculus I	4	CE Elective	3
		MATH 130 Calculus II	4	CE Elective	3
		MATH 231 Calculus III	4	ACMS 30440 Probability & Statistics	-
		MATH 237 Applied Linear Algebra	3	AME 20241 Solid Mechanics	-
		MATH 238 Diff. Equations	3	Technical Elective	-
		MATH 361 Probability & Statistics	3	A&L Course (King's CORE)	3
		ENGR 150 Engineering Seminar	2	A&L Course (King's CORE)	3
		ENGR 250 Intro to Eng. Systems	3	A&L Course (King's CORE)	3
		ENGR 250L Eng Systems Lab	1	A&L Course (King's CORE)	3
		CS 116 Fundamentals of Program. I	3		
		CS 116L Fund. of Program. I Lab	-		
	31		70		68

Total Credits = 169

Note: The PHYS Elective required for the King's degree is satisfied by any of the 30000 or 40000 level CE courses
 PHYS 231, PHYS 350, PHYS 371 or PHYS 440 will satisfy Notre Dame's Technical Elective requirement
 PHYS 241 satisfies the Notre Dame requirement for CE 20150 Statics
 PHYS 242 satisfies the Notre Dame requirement for AME 20241 Solid Mechanics
 MATH 361 satisfies the Notre Dame requirements for ACMS 30440 Probability & Statistics

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.

General Information:

The 3-2 engineering program is a dual degree program. Students spend 3 years at King's College (King's) taking math, science and CORE courses and then transfer to Notre Dame (ND) for 2 years, focusing on engineering courses in their chosen field. Admission into Notre Dame requires a minimum GPA of 3.30 after 5 semesters of college study. Students must earn at least 60 credits from ND to receive the ND degree. Upon successful completion of the program at Notre Dame, students will receive *both* a B.S. in Physics from King's and a B.S. in Civil Engineering from Notre Dame. (*For more information, refer to the college catalog.*)

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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 year.
 - 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.

King's College			
1st Year - Fall		1st Year - Spring	
	cr.		cr.
_____ CHEM 113 Gen. Chem. I	3	_____ CHEM 114 Gen. Chem. II	3
_____ CHEM 113L Gen. Chem. I Lab	1	_____ CHEM 114L Gen. Chem. II Lab	1
_____ 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
_____ MATH 129 Calculus I	4	_____ ENGR 150 Engineering Seminar	2
_____ CORE	3	_____ MATH 130 Calculus II	4
_____ CORE 090 First Year Exp.	1	_____ CORE	3
	16		17
2nd Year - Fall		2nd Year - Spring	
_____ PHYS 231 Modern Physics	3	_____ PHYS 330 Classical Mech.	3
_____ PHYS 231L Modern Physics Lab	1	_____ PHYS 241 Statics	3
_____ MATH 231 Calculus III	4	_____ ENGR 250 Intro to Engineering Systems	3
_____ MATH 237 Applied Linear Algebra	3	_____ ENGR 250L Engineering Systems Lab	1
_____ CS 116 Fundamentals of Program. I	3	_____ MATH 238 Diff. Equations	3
_____ CS 116L Fundamentals of Program. I Lab	0	_____ CORE	3
_____ CORE	3		
	17		16
3rd Year - Fall		3rd Year - Spring	
_____ PHYS 371 Electricity & Magnetism I	3	_____ PHYS 440 Quantum Mech.	3
_____ PHYS 350 Thermo/Stat. Mech.	3	_____ PHYS 242 Mechanics of Solids	3
_____ MATH 361 Probability & Statistics	3	_____ PHYS 490 Senior Seminar	2
_____ CORE	3	_____ CORE	3
_____ CORE	3	_____ CORE	3
_____ CORE	3	_____ CORE	3
	18*		17
Notre Dame			
4th Year - Fall		4th Year - Spring	
_____ CE 20130 Planet Earth	3	_____ CE 20600 Introduction to CAD	2
_____ CE 30200 Intro to Structural Engineering	3	_____ CE 20230 Programming	1
_____ CE 30300 Intro to Environmental Engineering	3	_____ CE 30150 Dynamics & Modeling	3
_____ CE 30125 Computational Methods	3	_____ CE 30510 Geotechnical Engineering	4
_____ CE 30160 Materials w/ Lab	4	_____ A&L Course (King's CORE)	3
		_____ A&L Course (King's CORE)	3
	16		16
5th Year - Fall		5th Year - Spring	
_____ CE 30460 Fluid Mechanics	3	_____ CE 40702 Senior Design	3
_____ CE 40620 Transportation	3	_____ CE 40270 Reinforced Concrete Design	4
_____ CE 40701 Principles of Practice	1	_____ CE 40450 Hydraulics	3
_____ CE Core Concentration Elective	4	_____ CE Core Concentration Elective	3
_____ CE Elective	3	_____ CE Elective	3
_____ A&L Course (King's CORE)	3	_____ A&L Course (King's CORE)	3
	17		19*

*Students are encouraged to take summer courses to relieve the course load pressure during this semester.