Computer Science – Computer Engineering Track
3+2 Engineering Dual Degree Program
Bachelor of Science (BS.CS(ENGR))

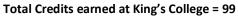## Core Requirements

			Credits
College Sem.		Quest for Meaning	CSEM 100	3
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; MSB 287	(3)
	Theology & Wisdom	THEO 150-159	(3)
	Theology & the Good Life	THEO 160-169	(3)

Notes/Instructions

†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.

SBM = Satisfied By King's Major requirement(s) and credit(s) listed below.

(3) To satisfy the King's Core requirements, a student will need to complete seven (7) Core requirements at Notre Dame or Washington University

Total Core Credits taken at King's   18

Foundational Mathematics, Science and Engineering Requirements

	Credits
PHYS 113[2,CR] Physics for Science & Engineering I	3
PHYS 113L Phys. for Sci. & Eng. I Lab	1
PHYS 114[PR] Physics for Science & Engineering II	3
PHYS 114L[PR] Phys. for Sci. & Eng. II Lab	1
CHEM 113[2] General Chemistry I	3
CHEM 113L General Chemistry I Lab	1
CHEM 114[PR] General Chemistry II	3
CHEM 114L[PR] General Chemistry II Lab	1
MATH 129 Calculus I	4
MATH 130[PR] Calculus II	4
MATH 231[PR] Calculus III	4
MATH 250 Linear Algebra	4
MATH 361 Probability & Statistics I	3
PHYS 233 Electronics I	3
PHYS 233L Electronics I Lab	1
ENGR 150 Engineering Seminar	2
ENGR 250[PR] System Design & Analysis	3
ENGR 250L[PR] Syst. Design & Analysis Lab	1

Other Requirements

	Credits
HCE 101 Holy Cross Experience	1

Total Foundational Mathematics, Science and Engineering Requirements and Other Credits   46

Computer Science Major Requirements

	Credits
CS 112 Introduction to Programming	3
CS 120 Object Oriented Software Development	3
CS 120L Object Oriented Software Develop. Lab	1
CS 232 Data Structures	3
CS 232L Data Structures Lab	1
CS 233 Advanced Data Structures	3
CS 233L Advvanced Data Structures Lab	1
CS256 Database Management	3
CS 256L Database Management Lab	1
CS 270 Computer Organization	3
CS 270L Computer Organization Lab	1
CS 315 Programming Paradigms	3
CS 364 Operating Systems	3
CS 480 Software Engineering	-
CS Elective (5 courses total)	-
MATH 127 Logic & Axiomatics	3
MATH 235 Discrete Mathematics	3

Total Physics Major Credits   35

General Information

The 3+2 Computer Science-Computer Engineering Dual Degree Program is a collaboration with the University of Notre Dame and with Washington University in St. Louis. Students will spend three years at King's College taking mathematics, science, engineering, and general education CORE courses. Eligible students will then transfer to Notre Dame or Washington University for two years to complete engineering courses in their chosen field. Upon successful completion of the program, students will receive both a B.S. in Computer Science from King's College and a B.S. in Computer Engineering from either Notre Dame or WashU. *(For more information, refer to the college catalog).*

Total Credits earned at King's College = 99

Notes:
CS 480 required by King's is satisfied with CSE 40522 CPEG Capstone Design at Notre Dame or CSE 462 Computer System Design at WashU
The (5) CS Electives required by King's are satisfied by any other 3rd or 4th year level Computer Engineering courses taken at Notre Dame or WashU

Computer Science – Computer Engineering Track

3+2 Dual Degree Engineering Program
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.

King's College				
Fall 2020	**Credits**	**Spring 2021**		**Credits**
CS 112 Intro. to Programming (fall only)	3	CS 120 OO Software Development (spring only)		3
PHYS 113[2,CR] Physics for Scientists & Engineers I	3	CS 120L OO Software Develop. Lab (spring only)		1
PHYS 113L Physics for Sci. & Eng. I Lab	1	PHYS 114[PR] Physics for Scientists & Engineers II		3
MATH 129 Calculus I	4	PHYS 114L[PR] Physics for Sci. & Eng. II Lab		1
Core Course[1]	3	ENGR 150 Engineering Seminar		2
HCE 101 Holy Cross Experience	1	MATH 130[PR] Calculus II		4
		Core Course[1]		3
	15			**17**
Fall 2021	**Credits**	**Spring 2022**		**Credits**
CS 232 Data Structures	3	CS 233 Advanced Data Structures		3
CS 232L Data Structures Lab	1	CS 233L Advanced Data Structures Lab		1
CS 256 Database Management Systems	3	CS 270 Computer Organization		3
CS 256L Database Management Systems Lab	1	CS 270L Computer Organization Lab		1
MATH 127 Logic & Axiomatics	3	MATH 250 Linear Algebra		4
MATH 231[PR] Calculus III	4	ENGR 250 System Design & Analysis		3
Core Course[1]	3	ENGR 250L Syst. Design & Analysis Lab		1
	18*			**16**
Fall 2022	**Credits**	**Spring 2023**		**Credits**
CS 364 Operating Systems	3	CS 315 Programming Paradigms		3
MATH 235 Discrete Mathematics	3	CHEM 114 Gen. Chem. II		3
MATH 361 Probability & Statistics I	3	CHEM 114L Gen. Chem. II Lab		1
CHEM 113 Gen. Chem. I	3	PHYS 233 Electronics I		3
CHEM 113L Gen. Chem. I Lab	1	PHYS 233L Electronics I Lab		1
Core Course[1]	3	Core Course[1]		3
		Core Course[1]		3
	16			**17**

Total Credits earned at King's College = 99

Students apply for transfer admission to the University of Notre Dame or Washington University in St. Louis after completion of the Fall semester of their 3rd year. Students must have satisfied King's College academic guidelines, as well as the following general criteria:

- For Admission to the University of Notre Dame
  - o Cumulative grade-point average (GPA) of at least 3.6 on a 4.0 scale.
  - o Cumulative technical grade-point average of at least 3.6 on a 4.0 scale (all math, science and engineering courses)
  - o GPA must be maintained through Spring Semester of Year 3
  - o All grades that transfer to Notre Dame must be a "B" or higher, and grades for all courses taken at King's must be a C or higher
  - o At least 60 credit-hours of work that can be transferred to satisfy Notre Dame engineering and general education degree requirements
- For Admission to Washington University in St. Louis
  - o Cumulative grade-point average (GPA) of at least 3.25 on a 4.0 scale.
  - o Cumulative technical grade-point average of at least 3.25 on a 4.0 scale (all math, science and engineering courses)
  - o GPA must be maintained through Spring Semester of Year 3
  - o All grades that transfer to Washington University must be a "C" or higher
  - o At least 60 credit-hours of work that can be transferred to satisfy WashU engineering and general education degree requirements
- The specific admission criteria for each school will be confirmed by the 3+2 Program Director

Notes:
CS 112 and 120 satisfy the Notre Dame requirement for CSE 20311 Fund of Computing
CS 270/L satisfies the Notre Dame requirement for CSE 20221 Logic Design
CS 232/L and CS 233/L satisfy the Notre Dame requirement for CSE 20312 Data Structures
CS 364 satisfies the Notre Dame Requirement for CSE 30341 Operating Systems
CS 315 satisfies one of the Notre Dame CSE Electives
PHYS 233/L satisfies the Notre Dame requirement for EE 20224 Intro to Electric Circuit Analysis and EE 20225 Intro to Electrical Engineering
MATH 235 satisfies the Notre Dame requirement for CSE 20110 Discrete Mathematics and CSE 240 Logic and Discrete Mathematics at WashU
MATH 361 satisfies the Notre Dame requirement for ACMS 30440 Probability & Statistics and ESE 326 Probability and Statistics for Eng at WashU
*Students are encouraged to take summer courses to relieve the course load pressure 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. CHEM 113 and PHYS 113 will satisfy the Scientific Endeavor and Science in Context Core requirements. MATH 129 will satisfy the Quantitative Reasoning Core requirement.
[PR] Course has a prerequisite – check college catalog.
[CR] Course has a co-requisite – check college catalog.