PHYSICS – MECHANICAL ENGINEERING TRACK

3+2 ENGINEERING DUAL DEGREE PROGRAM WITH NOTRE DAME

COURSE REQUIREMENTS

	CORE Requirements	Credits
	CORE 090 First Yr Exp.	1
	CORE 100 Lib Arts Sem.	3
	CORE 110 Effect Writ.	3
	CORE 115/116 Oral Com.	3
	CORE 131/133 Civilization	3
	CORE 14x Forgn. Lng/Cult	3
	CORE 15x[1] Soc. Sci.	3
	CORE 16x Literature	3
	CORE 17x The Arts	3
	CORE 18x[1] Amer. Studies	3
	CORE 19x[1] Global Studies	3
	CORE 25x Syst. Theology	3
	CORE 26x Mor. Theology	*(3)*
	CORE 280 Philos. I	*(3)*
	CORE 28x Philos. II	*(3)*
	A student will need to complete three (3) of King's College CORE requirements at Notre Dame	
		34

	King's Requirements	Credits
	PHYS 113 Physics for Sci. & Eng. I	3
	PHYS 113L Phys. for Sci./Eng. I Lab	1
	PHYS 114 Physics for Sci. & Eng. II	3
	PHYS 114L Phys. for Sci./Eng. II Lab	1
	PHYS 231 Modern Physics	3
	PHYS 231L Modern Physics Lab	1
	PHYS 241 Statics	3
	PHYS 242 Mechanics of Solids	3
	PHYS 330 Classical Mech.	3
	PHYS 350 Thermo/Stat. Mech.	3
	PHYS 371 Electricity & Magnetism I	3
	PHYS 440 Quantum Mech.	3
	PHYS 490 Senior Seminar	2
	PHYS Elective	-
	CHEM 113 Gen. Chem. I	3
	CHEM 113L Gen. Chem. I Lab	1
	CHEM 114 Gen. Chem. II	3
	CHEM 114L Gen. Chem. II Lab	1
	MATH 129 Calculus I	4
	MATH 130 Calculus II	4
	MATH 231 Calculus III	4
	MATH 237 Applied Linear Algebra	3
	MATH 238 Diff. Equations	3
	ENGR 150 Engineering Seminar	2
	ENGR 250 Intro to Eng. Systems	3
	ENGR 250L Eng Systems Lab	1
	CS 116 Fundamentals of Program. I	3
	CS 116L Fund. of Program. I Lab	-
		67

	Notre Dame Requirements	Credits
	AME 20213 Measurements	4
	AME 20214 Intro to Eng. Computing	1
	AME 30314 Diff. Eq. Vib & Controls I	3
	AME 30315 Diff. Eq. Vib & Controls II	3
	AME 30331 Fluid Mechanics	3
	AME 30334 Heat Transfer	3
	AME 30361 CAD/CAM	3
	AME 30362 Design Methodology	3
	AME 30363 Design of Machine Elements	3
	AME 40423 Mechanisms & Machines	3
	AME 40463 Senior Design Project	4
	AME Elective	3
	AME Elective	3
	AME Elective	3
	AME Elective	3
	CBE 30361 Materials Science	3
	EE 20224 Intro to Electrical Eng.	4
	Technical Elective	3
	Technical Elective	-
	A&L Course (King's CORE)	3
	A&L Course (King's CORE)	3
	A&L Course (King's CORE)	3
		64

Total Credits = 165

Note: The PHYS Elective required for the King's degree is satisfied by any of the 30000 or 40000 level AME courses.

PHYS 231, PHYS 350, PHYS 371 or PHYS 440 will satisfy one of Notre Dame's Technical Elective requirements

[1]Students 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 Mechanical Engineering from Notre Dame. *(For more information, refer to the college catalog).*

See reverse side for a suggested sequence

PHYSICS – MECHANICAL ENGINEERING TRACK

3+2 ENGINEERING DUAL DEGREE PROGRAM WITH NOTRE DAME

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	cr.		**1st Year - Spring**	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
	CORE	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**	
	AME 20214 Intro to Eng. Computing	1		AME 20213 Measurements	4
	AME 30314 Diff. Eq. Vib & Controls I	3		AME 30315 Diff. Eq. Vib & Controls II	3
	AME 30331 Fluid Mechanics	3		AME 30334 Heat Transfer	3
	AME 30361 CAD/CAM	3		AME 30362 Design Methodology	3
	CBE 30361 Materials Science	3		A&L Course (King's CORE)	3
	A&L Course (King's CORE)	3			
		16			**16**
	5th Year - Fall			**5th Year – Spring**	
	AME 30363 Design of Machine Elements	3		AME 40463 Senior Design Project	4
	AME 40423 Mechanisms & Machines	3		AME Elective	3
	AME Elective	3		AME Elective	3
	AME Elective	3		Technical Elective	3
	EE 20224 Intro to Electrical Eng.	4		A&L Course (King's CORE)	3
		16			**16**

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