Parks College of Engineering, Aviation and Technology
Department of Physics
Bachelor of Science Curriculum

Freshman Year:

Semester 1:	**CR**	***Semester 2:***	**CR**
PHYS 1110 Introduction to Physics	1	PHYS 1610 Engineering Physics I	3
CHEM 1110/1115 General Chemistry I/Lab	4	PHYS 1620 Engineering Physics I Laboratory	1
ENGL 1900 or 1920 Adv. Strategies of Rhetoric & Research or Adv. Writing for Professionals	3	MATH 1520 Calculus II	4
MATH 1510 Calculus I	4	CSCI 1060 Intro. to CS: Scientific Programming	3
Humanities Elective	3	THEO 1000 Theological Foundations	3
Total Credit Hours	**15**	**Total Credit Hours**	**14**

Sophomore Year:

Semester 1:	**CR**	***Semester 2:***	**CR**
PHYS 1630 Engineering Physics II	3	PHYS 2610 Modern Physics I	3
PHYS 1640 Engineering Physics II Laboratory	1	PHYS 2620 Modern Physics Laboratory	1
MATH 2530 Calculus III	4	PHYS 3110 Classical Mechanics	3
CMM 2200 Small Group Presentation	1	MATH 3550 Differential Equations I	3
Allied Elective	3	MATH 3240 Numerical Analysis	3
Social Science Elective	3	Allied Elective	3
Total Credit Hours	**15**	**Total Credit Hours**	**16**

Junior Year:

Semester 1:	**CR**	***Semester 2:***	**CR**
PHIL 2050 Ethics	3	PHYS 4210 Electricity & Magnetism I	3
PHYS 4610 Quantum Mechanics	3	PHYS 3410 Thermodynamics & Statistical Mech.	3
MATH 3270 Adv. Mathematics for Engineers	3	PHYS 3860 Physics Research I	0
Open Elective	3	MATH 3850 Foundations of Statistics	3
PHYS 3610 Modern Physics II	3	Allied Elective	3
Total Credit Hours	**15**	Allied Elective	3
		Total Credit Hours	**15**

Senior Year:

Semester 1:	**CR**	***Semester 2:***	**CR**
PHYS 3510 Analog & Digital Electronics	4	PHYS 4880 Physics Research III	3
PHYS Upper Level Course	3	PHYS 3310 Optics	3
PHYS 4870 Physics Research II	0	PHYS 3320 Optics Laboratory	1
Allied Elective	3	PHYS Upper Division Course	3
Allied Elective	3	Allied Elective	3
Cultural Diversity Elective	3	General Elective	3
Total Credit Hours	**16**	**Total Credit Hours**	**16**

Total Credit Hours: 122

Prerequisites:

CHEM 1110/1115 General Chemistry I/Lab __
CSCI 1060 Intro. to CS: Scientific Programming __
PHYS 1110 Introduction to Physics __
PHYS 1610 Engineering Physics I __
PHYS 1620 Engineering Physics I Lab __
PHYS 1630 Engineering Physics II __
PHYS 1640 Engineering Physics II Lab __

Knowledge of Differential & Integral Calculus:

MATH 1510 Calculus I __
MATH 1520 Calculus II __
MATH 2530 Calculus III __

Required Courses:

MATH 3550 Differential Equations I __
MATH 3270 Advanced Mathematics for Engineers __
MATH 3240 Numerical Analysis __
MATH 3850 Foundations of Statistics __
PHYS 2610 Modern Physics I __
PHYS 2620 Modern Physics Lab __
PHYS 3110 Classical Mechanics __
PHYS 3310 Optics __
PHYS 3320 Optics Laboratory __
PHYS 3410 Thermodynamics & Statistical Mechanics __
PHYS 3510 Analog & Digital Electronics/Lab __
PHYS 3610 Modern Physics II __
PHYS 4210 Electricity & Magnetism I __
PHYS 4610 Quantum Mechanics __

Two additional courses selected from:

PHYS 3120 Advanced Classical Mechanics __
PHYS 4220 Electricity & Magnetism II __
PHYS 4620 Application of Quantum Mechanics __

Allied Electives:

Seven courses (21 hours) selected in consultation with mentor:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____

Research Experience:

PHYS 3860 Physics Research I __
PHYS 4870 Physics Research II __
PHYS 4880 Physics Research III __

College Core:

CMM 2220 Small Group Presentation __
Written Communication (ENGL1900 or 1920) __
PHIL 2050 Ethics __
THEO 1000 Theological Foundations __
Social/Behavioral Science Elective __
Humanities Elective __
General Elective (Social/Behavioral or Humanities) __
Cultural Diversity Elective __

Open Elective:

One course __

Physics Minor (22 Cr.)

PHYS 1610-1640
PHYS 2610 (with lab)
and any three upper
division courses (1 with lab)