

February 14, 2017

TO: The Faculty of the College of Engineering

FROM: School of Nuclear Engineering

RE: Curriculum Change for the Bachelor of Science in Nuclear Engineering (B.S.NE)

The faculty of the School of Nuclear Engineering have approved the following new changes in the curriculum for the B.S. degree in Nuclear Engineering effective for students entering the School in the Fall Semester 2017. This action is now submitted to the Engineering Faculty with a recommendation for approval.

New Requirements: A new honors course number has been established in First Year Engineering, ENGR 16100 and 16200.

Reason: Incorporated ENGR 16100 and 16200 into NE curriculum as acceptable for PHYS 17200.



Klod Kokini, Interim Department Head
School of Nuclear Engineering



Martin Lopez-de-Bertodano,
Undergraduate Chair, School of
Nuclear Engineering

Nuclear Engineering
Sample Plan of Study (effective Fall 2017)
125 Credit Hours

Changes highlighted in Yellow

Fall Semester 1**Spring Semester 2**

Credits	Recommended Courses	Credits	Recommended Courses
4-5	MA 16100 or 16500	4-5	MA 16200 or 16600
4	CHM 11500	3	CS 15900
3-4	ENGL 106 or other approved written communication foundational outcome*	4-6	ENGR 13200 and PHYS 17200 OR ENGR 16200
2-4	ENGR 13100 or ENGR 16100	3	COM 11400 or COM 21700
13-17		14-17	

Fall Semester 3**Spring Semester 4**

Credits	Recommended Courses	Credits	Recommended Courses
4	MA 26100	3	ME 27400
3	NUCL 20000 (Critical Course)	3	MA 26600
3	ME 20000	3	NUCL 27300
3	ME 27000	2	NUCL 20500
0	NUCL 29800	0	NUCL 29800
3	General Elective Course	3-4	PHYS 24100 or 27200
		3	General Elective Course
16		17	

Fall Semester 5**Spring Semester 6**

Credits	Recommended Courses	Credits	Recommended Courses
3	MA 26500	3	NUCL 31000
3	NUCL 30000	3	MA Elective (300 level or above)
3	NUCL 32000	3	NUCL 35100
3	NUCL 32500	3	NUCL 35500
0	NUCL 39800	0	NUCL 39800
3	NUCL 35000	3	Technical Elective Course
3	General Elective Course		
18		15	

Fall Semester 7**Spring Semester 8**

Credits	Recommended Courses	Credits	Recommended Courses
2	NUCL 30500	3	NUCL 45000
3	NUCL 40200	0	NUCL 49800
1	NUCL 44900	3	ECE 20100
3	NUCL 42001 or 51000	3	General Elective Course
0	NUCL 49800	3	Technical Elective Course
3	Technical Elective Course	3	Technical Elective Course
3	Technical Elective Course		
15		15	

*Other Approved Written Foundational Outcome Courses include: ENGL 108, COM 204, HONR 1903

Nuclear Engineering
College of Engineering

125 Credits for Graduation

Students must have a graduation index of 2.0

Nuclear Engineering Major Courses (56 credits)

Required NUCL courses (41 credits)

- (3) NUCL 20000 – Introduction to Nuclear Engineering (Critical)
 - (2) NUCL 20500 – Nuclear Engineering Lab
 - (3) NUCL 27300 – Mechanics of Materials
 - (0) NUCL 29800 – Nuclear Engineering Sophomore Seminar
 - (3) NUCL 30000 – Nuclear Structure and Radiation Interaction
 - (2) NUCL 30500 – Nuclear Engineering Lab II
 - (3) NUCL 31000 – Introduction to Neutron Physics
 - (3) NUCL 32000 – Materials for Nuclear Applications
 - (3) NUCL 32500 – Nuclear Materials Lab I
 - (3) NUCL 35000 – Nuclear Thermal Hydraulics I
 - (3) NUCL 35100 – Nuclear Thermal Hydraulics II
 - (3) NUCL 35500 – Nuclear Thermal Hydraulics Lab
 - (0) NUCL 39800 – Nuclear Engineering Junior Seminar
 - (3) NUCL 40200 – Nuclear Power Systems
 - (1) NUCL 44900 – Senior Design Proposal
 - (3) NUCL 45000 – Senior Design
 - (0) NUCL 49800 – Senior Seminar
 - (3) NUCL 42001 *or* 51000 – Radiation Interaction with Materials and Applications *or* Nuclear Reactor Theory
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- (3) ECE 20100 – Linear Circuit Analysis
 - (3) ME 20000 – Thermodynamics
 - (3) ME 27000 – Basic Mechanics I
 - (3) ME 27400 – Basic Mechanics II
 - (3) MA Elective – 300 level or above

NE Technical Electives (15 credits)

- (3) Technical Elective I
- (3) Technical Elective II
- (3) Technical Elective III
- (3) Technical Elective IV
- (3) Technical Elective V

Other Departmental/Program Course Requirements (44 credits)

- (4/5) MA 16500/16100 – Calculus I (*Quantitative Reasoning*)
- (4/5) MA 16600/16200 – Calculus II
- (4) CHM 11500 – General Chemistry I (*Science Selective*)

(2) ENGR 13100 – Transforming Ideas to Innovation I (*Information Literacy*) and (2) ENGR 13200 – Transforming Ideas to Innovation II and (4) PHYS 172000 – Physics 1 **OR** (4) ENGR 161000 and (4) ENGR 16200

(3/4) ENGL 10600 or other approved written communication foundational outcome course – ENGL 10800, COM 20400, HONR 19903

(*Written Communication*)

(3) COM 11400 – Fundamentals of Speech Communication or COM 21700 – Science Writing and Presentations (*Oral Communication*)

(3) CS 15900 – Programming Applications for Engineers (*Science Selective*)

(4) MA 26100 – Calculus III

(3) MA 26500 – Linear Algebra

(3) MA 26600 – Ordinary Differential Equations

(3/4) PHYS 24100 or PHYS 27200 – Electricity and Optics or Electric and Magnetic Interactions

General Electives (12 credits)*

(3) Lower Level Humanities

(3) Upper Level Humanities

(3) Lower Level Behavioral and Social Sciences

(3) Upper Level Behavioral and Social Sciences

Students must also meet:

(3) *Science, Technology and Society Selective*

(3) *Human Cultures Humanities*

(3) *Human Cultures Behavioral and Social Sciences*

**If student select courses that meet 2 foundational outcomes simultaneously, then they can complete the General Elective requirements with 12 credit hours.*