

Nuclear Engineering Major Courses (56 credits) (<https://engineering.purdue.edu/NE/Academics/Ugradman2010.pdf>)

Required NUCL Courses (41 credits)

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| _____ (3) NUCL 20000- Introduction to Nuclear Engineering (Critical) | (3) NUCL 40200 - Nuclear Power Systems |
| _____ (2) NUCL 20500- Nuclear Engineering Lab | (3) NUCL 32000 – Materials for Nuclear Application |
| _____ (3) NUCL 27300- Mechanics of Materials | (3) NUCL 32500 – Nuclear Materials Lab I |
| _____ (0) NUCL 29800- Nuclear Engineering Sophomore seminar | (3) NUCL 35000 – Nuclear Thermal Hydraulics I |
| _____ (3) NUCL 30000- Nuclear Structure and Radiation interaction | (3) NUCL 35100 – Nuclear Thermal Hydraulics II |
| _____ (2) NUCL 30500- Nuclear Engineering Lab II | (3) NUCL 35500 – Nuclear Thermal Hydraulics –Lab |
| _____ (3) NUCL 31000- Introduction to neutron Physics | (0) NUCL 39800 – Nuclear Engineering Junior seminar |
| _____ (1) NUCL 44900 – Senior Design Proposal | (3) NUCL 45000 – Senior Design |
| _____ (0) NUCL 49800 - Senior Seminar | (3) NUCL 51000 or 42001 – Reactor theory/ Materials |
| _____ (3) ME 20000 – Thermodynamics | (3) ME 27000- Basic Mechanics I |
| _____ (3) ME 274 – Basic Mechanics II | (3) ECE 20100 – Linear Circuit analysis |
| _____ (3) MA Elective – 300 level or above | |

NE technical Electives - (15 credits) (https://engineering.purdue.edu/NE/Academics/Undergrad/tech_electives.html)

- _____ (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 (48 credits)

- _____ (4/5) MA 16500/16100 – Calculus I (Satisfies FYE requirement)
- _____ (4/5) MA 16600/16200 – Calculus II(Satisfies FYE requirement)
- _____ (4) CHM 11500 – General Chemistry I
- _____ (4) CHM 11600 – General Chemistry II
- _____ (2) ENGR 13100- Transforming Ideas to Innovation I(Satisfies FYE requirement)
- _____ (2) ENGR 13200 - Transforming Ideas to Innovation II(Satisfies FYE requirement)
- _____ (4) ENGL 10600 – English Composition(Satisfies FYE requirement)
- _____ (3) COM 11400- First-Year General Education Elective((Satisfies FYE requirement)
- _____ (4) PHYS 17200- Physics I(Satisfies FYE requirement)
- _____ (3) CS 15900- Science Elective(Satisfies FYE requirement)
- _____ (4) MA 26100 - (satisfies Math and physics requirement)
- _____ (3) MA 26500- (satisfies Math and physics requirement)
- _____ (3) MA 26600 - (satisfies Math and physics requirement)
- _____ (4) PHYS 24100 or PHYS 27200 - (satisfies Math and physics requirement)

NOTE: COM 114 is counted separately from the 15 credits of Gen Ed requirement. Therefore the Gen Ed requirement can be considered to be 12 + 3 credits = 15 when including COM 114

General Electives (12 credits) (<https://engineering.purdue.edu/NE/Academics/Ugradman2010.pdf>) (6 in Social sciences and 6 In Humanities)

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|----------------------------------|---------------------------------------|
| _____ (3) Lower level Humanities | _____ (3) Lower level Social Sciences |
| _____ (3) Upper level Humanities | _____ (3) Upper level Social Sciences |

University Core Requirements

- Human Cultures Humanities
- Human Cultures Behavioral/Social Science
- Information Literacy
- Science Selective
- Science Selective

- Science, Technology & Society Selective
- Written Communication
- Oral Communication
- Quantitative Reasoning

The student is ultimately responsible for knowing and completing all degree requirements.

Degree Works is knowledge source for specific requirements and completion

Revised 4/2016 (effective Fall 2015)

Nuclear Engineering

<https://engineering.purdue.edu/NE/Academics/Ugradman2010.pdf>

Suggested Arrangement of Courses:

Credits	Fall 1st Year	Prerequisite	Credits	Spring 1st Year	Prerequisite
4	MA 16500		4	MA 16600	MA 16500
4	CHM 11500		4	CHM 11600	CHM 11500
4	ENGL 10600		3	CS 15900	
2	ENGR 13100		2	ENGR 13200	ENGR 13100
4	PHYS 17200		3	COM 11400	
18			16		

Credits	Fall 2nd Year	Prerequisite	Credits	Spring 2nd Year	Prerequisite
0	NUCL 29800		0	NUCL 29800	
3	General Elective I		3	MA 26600	MA 16200/16600
4	MA 26100	MA 16600/ 16200	3	NUCL 27300	ME 270
3	NUCL 20000 (Critical Course)	MA 16200, PHYS 17200	4	PHYS 24100 or PHYS 27200	
3	ME 27000	PHYS 17200, ENGR 13200, MA 16200/16600	3	General Elective II	
3	ME 20000	MA 26100, ENGR 13200	3	ME 274	
			2	NUCL 205	NUCL 200
16			18		

Credits	Fall 3rd Year	Prerequisite	Credits	Spring 3rd Year	Prerequisite
0	NUCL 39800		0	NUCL 39800	
3	NUCL 32500		3	NUCL 31000	MA 26600, NUCL 30000
3	NUCL 30000	MA 26100	3	NUCL 35100	NUCL 35000
3	NUCL 32000	NUCL 273	3	NUCL 35500	NUCL 35000, NUCL 35100
3	MA 26500		3	Math Elective (MA 300+)	
3	NUCL 35000	ME 20000, ME 27400	3	Technical Elective	
3	General Elective III				
18			15		

Credits	Fall 4th Year	Prerequisite	Credits	Spring 4th Year	Prerequisite
3	Technical Elective		3	ECE 20100	
2	NUCL 30500	NUCL 20500	3	NUCL 45000	NUCL 31000, NUCL 40200, NUCL 44900
3	NUCL 40200	NUCL 35100	0	NUCL 49800	
1	NUCL 44900		3	Technical Elective	
0	NUCL 49800		3	General Elective IV	
3	NUCL 51000 or NUCL 42001	NO FRESHMEN/ SOPHOMORE	3	Technical Elective	
3	Technical Elective	NO FRESHMEN/ SOPHOMORE			
15			15		

**131 semester credits required for Bachelor of Engineering degree.
Students must have a graduation index of 2.0**

The student is ultimately responsible for knowing and completing all degree requirements.

Degree Works is knowledge source for specific requirements and completion

Technical Electives (No Petition)

Classes that do NOT require petition

Updated 2.19.2016

AAE 30100	HSCI 57000	ME 36500
ASTR 56300	IE 33000	ME 37500
CE 35000	IE 34300	ME 43800
CE 39800	IE 35500	ME 46300
CS 35500	IE 37000	MSE 51000
ECE 31100	MA 51000	PHYS 34200
ECE 55200	MA 51900	PHYS 36000
HSCI 31200	MA 69200	PHYS 41600
HSCI 53400	ME 30000	PHYS 43100
HSCI 54000	ME 35200	PHYS 58000

AAE 30100- Signal Analysis for Aerospace Engineering
 ASTR 56300- Astroparticle Physics
 CE 35000- Introduction to Environmental and Ecological Engineering
 CE 39800- Introduction to Civil Engineering Systems Design
 CS 35500- Introduction to Cryptography
 ECE 31100- Electric and Magnetic Fields
 ECE 55200- Introduction to Lasers
 HSCI 31200- Radiation Science Fundamentals
 HSCI 53400- Applied Health Physics
 HSCI 54000- Radiation Biology
 HSCI 57000- Introduction to Medical Diagnostic Imaging
 IE 33000- Probability and Statistics in ENGR II
 IE 34300- Engineering Economics
 IE 35500 Statistical Process Control I
 IE 37000- Manufacturing Processes
 MA 51000- Vector Calculus
 MA 51900- Introduction to Probability
 MA 69200- Math Intro Kinetic Theory
 ME 30000- Thermodynamics II
 ME 35200- Machine Design
 ME 36500- Measurement and Control Systems I
 ME 37500- Measurement and Control Systems II
 ME 43800- Gas Turbine Engines
 MSE 51000- Microstructural Characterization Techniques
 PHYS 34200- Modern Physics
 PHYS 36000- Quantum Mechanics
 PHYS 41600- Thermal & Stat Physics Honors
 PHYS 43100- Electricity & Magnet II Honors
 PHYS 58000- Physical Chemical Principles

Technical Electives

Approved Technical Electives for Recommended Pathways

Materials	Fusion	Power
AAE 55300	MA 52000	HSCI 52600
MSE 33500	NUCL 46000	IE 57700
MSE 34000	NUCL 51000	ME 43000
MSE 35000	NUCL 52000	ME 43300
MSE 36700	NUCL 56000	NUCL 46000
MSE 37000	NUCL 56300	NUCL 47000
MSE 38200	NUCL 57000	NUCL 50300
MSE 50200	PHYS 33000	NUCL 51000
MSE 50800		NUCL 51100
MSE 53100		NUCL 51200
MSE 55500		NUCL 52000
MSE 55600		NUCL 54400
MSE 55700		NUCL 55100
MSE 55900		NUCL 55200
MSE 56000		NUCL 56000
MSE 57500		NUCL 56300
MSE 57600		NUCL 57000
NUCL 50300		NUCL 57500
NUCL 51000		
NUCL 52000		
NUCL 50300 – waste management requirement		
Any 40000+ Level Engineering Course Offered at PWL Campus		

*For 30000 level engineering courses or any other course not listed, please consult the Academic Advisor. Some courses may require a petition to the Undergraduate Committee (UGC) and are not guaranteed to be approved.

GENERAL EDUCATION SELECTIVES - PREAPPROVED HUMANITIES AND SOCIAL SCIENCE COURSES

Note: Appropriate 500 level courses may also be approved by the student's advisor.

**Introductory courses are preceded by an asterisk.*

Aerospace Studies (AFT): 35100, 36100

African American Studies (AAS): *27100, All 300-level or higher AAS courses.

Agricultural Economics (AGEC): *25000, 34000, 40600, 41000, 41500, 45000

American Sign Language (ASL): *10100, 10200, 20100, 20200, *28000

American Studies (AMST): *20100, 30100

Anthropology (ANTH): *10000, *20100, *20300, *20400, *20500, *21000, *23000, *23500, *25000, *28200, All 300-level or higher ANTH courses.

Arabic (ARAB): *10100, 10200, 20100, 20200, All 300-level or higher ARAB courses.

Art and Design (AD): *10500, 10600, 11400, *11700, *11300, *11900, *12500, 13000, 20000, 20500, 20600, 21300, *21500, 22000, 22200, *22600, *22700, 23000, *23300, 23500, *23600, 24000, *24200, 24600, 25000, 25100, *25500, 25600, 26000, 26200, *26500, *26600, *26700, *27000, *27100, *27500, 28500, All 300-level or higher AD classes.

Chinese (CHNS): *10100, 10200, 20100, 20200, 22000, 22400, *23000, *24100, 28000, *28500, All 300-level or higher CHNS courses.

Classics (CLCS): *23000, *23700, 33000, 33100, 33300, 33500, 33600, 33700, 33900, 38500

Communications (COM): *10200, *20400, 21000, *21200, *21700, *22400, 23500, 24000, *25000, *25100, 25300, 25600, All 300-level or higher COM courses.

Consumer Sciences and Retailing (CSR): 34200

Dance (DANC): *10100, *10200, *10300, *13000, *13500, 14000, 14400, 20100, 20200, 20300, *23000, 24000, 24100, *25000, All 300-level or higher DANC courses. (**Caution:** Most DANC courses are only 1 or 2 credits)

Earth Atmospheric and Planetary Science (EAPS): 30100, 37500

Economics (ECON): *25100, *25200, All 300-level or higher ECON courses, except for ECON 45100.

Educational and Psychological Studies (EDPS): *23500, 30000, 31500

English (ENGL): *20100, 20500, *22700, *23000, *23100, *23200, *23300, *23400, *23500, *23700, *23800, *23900, *24000, *24100, *25000, *25700, *25800, *26200, *26400, *26600, *26700, *27600, *27900, 28600, All 300-level or higher ENGL courses, except for ENGL42100.

Foreign Languages and Literatures (FLL): *10100, 10200, 20100, 20200, *23000, *23300, *23500, *23900, *26100, All 300-level or higher FLL courses.

French (FR): *10100, 10200, 10300, 11200, 20100, 20200, 21100, 21200, 22300, *23000, *23100, 24100, 26000, All 300-level or higher FR courses.

General Studies (GS): *10000, *10100

German (GER): *10100, 10200, 10300, 11200, 20100, 20200, 21100, 21200, 22300, 22400, *23000, *23100, 24100, 28000, All 300-level or higher GER courses.

Greek (GREK): *10100, 10200, 20100, 20200, All 300-level or higher GREK courses.

Hebrew (HEBR): *10100, 10200, 12100, 20100, 20200, All 300-level HEBR courses.

History (HIST): *10200, *10300, *10400, *10500, *15100, *15200, *22800, *22900, *24000, *24100, *24300, *24500, *24600, 25000, *27100, *27200, 29000, All 300-level or higher HIST courses.

Human Development and Family Studies (HDFS): *20100, *21000, *25500, 26000, *28000, All 300-level or higher HDFS courses.

Italian (ITAL): *10100, 10200, 10500, 11200, 20100, 20200, 21100, 21200, 23100, 24100, 26000, All 300-level or higher ITAL courses.

Japanese (JPNS): *10100, 10200, 20100, 20200, *23000, 24100, *28000, All 300-level or higher JPNS courses.

Jewish Studies (JWST): 33000

Latin (LATN): *10100, 10200, 20100, 20200, All 300-level or higher LATN courses.

Linguistics (LING): *20100

Music History and Theory (MUS): *25000, 26100, All 300-level or higher MUS courses.

Naval Science (NS): *21300, *21400, 41300, 44000

Organizational Leadership and Supervision (OLS): *27400, *28400, 38600

Philosophy (PHIL): *11000, *11100, *11400, *20600, *21900, *22100, *22300, *22500, *23000, *23100, *24000, *24200, *26000, *27000, *27500, *28000, *29000, All 300-level or higher PHIL courses.

Political Science (POL): *10100, *12000, *13000, *14100, 15000, *19000, 20000, *22200, *22300, 23000, *23100, *23200, *23500, *23700, *29000, All 300-level or higher POL courses.

Portuguese (PTGS): *10100, 10200, 10500, 11200, 20100, 20200, 21100, 21200, All 300-level or higher PTGS courses.

Psychological Sciences (PSY): *12000, 12100, 20000, 20100, 21300, 22000, 22200, 22500, 23000, 23500, 23600, 23900, 24000, 24100, 24200, 24400, 25000, 25100, 27200, 28500, All 300-level or higher PSY courses.

Religious Studies (REL): *20000, *20100, *20300, *20400, 23000, 23100, 25000, All 300-level or higher REL courses.

Russian (RUSS): *10100, 10200, *11100, 11200, 20100, 20200, 21100, 21200, 22300, *23000, *23100, *23200, *23300, *23400, *23600, *23700, 24100, *28100, *28900, All 300-level or higher RUSS courses.

Sociology (SOC): *10000, *22000, *27500, All 300-level or higher SOC courses.

Spanish (SPAN): *10100, 10200, 10300, 11200, 20100, 20200, 21100, 21200, 22400, 23000, *23100, *23500, 24100, 28000, All 300-level or higher SPAN courses.

Speech Language and Hearing Science (SLHS): *11500, *22700, 30900

Theatre (THTR): *13300, *16000, *20100, 21300, 23300, *25300, *25400, *25600, *26300, *26400, 27000, All 300-level or higher THTR courses.

Women's Gender and Sexuality Studies (WGSS): *28000, *28200, All 300-level or higher WGSS courses.

Youth Development and Agricultural Education (YDAE) 49100

University Core Curriculum Courses from the University core lists for Written Communication and also for Oral Communication may be used to fill the Lower Humanities requirements. Upper Level requirements may be filled by taking courses from the above list which do not have an asterisk in front of them which signifies an introductory course.