

NUCLEAR ENGINEERING CURRICULUM

| SEMESTER 1 | | | SEMESTER 2 | | |
|-------------------------------|---|-----------|-------------------------------|--|-------------|
| Course | | Credits | Course | | Credits |
| (a,c) CHEM 110 | Chemical Principles | 3 | FYS | First Year Seminar | 1 |
| CHEM 111 | Experimental Chemistry | 1 | (g) AHS course | (GA, GH, or GS) | 3 |
| ENGL 015 | Rhetoric and Composition -or- | 3 | (g) ECON 102 | Microeconomic Analysis & Policy (GS) -or- | 3 |
| ENGL 030 | Honors Freshman Composition | | ECON 104 | Macroeconomic Analysis & Policy (GS) | |
| EDSGN 100 | Introduction to Engineering Design | 3 | (a,c) PHYS 211 | Mechanics | 4 |
| (a,b,c) MATH 140 | Calculus with Analytic Geometry I -or- | 4 | (a,b,c) MATH 141 | Calc with Analytic Geometry II -or- | 4 |
| MATH 140E | Calc with Engineering Applications I | | MATH 141E | Calc with Engineering Applications II | |
| (g) AHS course | (GA, GH, or GS) | 3 | (f) GHA | Health/Physical Activity | 1.5 |
| Total Semester Credits | | 17 | Total Semester Credits | | 17 |
| SEMESTER 3 | | | SEMESTER 4 | | |
| Course | | Credits | Course | | Credits |
| CMPSC 201 | C++ for Engineers (Preferred) -or- | 3 | E MCH 212 | Dynamics | 3 |
| CMPSC 200 | Programming with MATLAB | | E MCH 213 | Strength of Materials -or- | 3 |
| E MCH 211 | Statics | 3 | EMCH 213D | Strength of Materials with Design | |
| (a,c) MATH 251 | Ordinary and Partial Differential Eq. | 4 | (f) GHA | Health/Physical Activity | 1.5 |
| (a,c) PHYS 212 | Electricity and Magnetism | 4 | M E 300 | Engineering Thermodynamics I | 3 |
| (g) AHS course | (GA, GH, or GS) | 3 | MATH 230 | Calculus of Several Variables | 4 |
| | | | PHYS 214 | Wave Motion and Quantum Physics | 2 |
| Total Semester Credits | | 17 | Total Semester Credits | | 16.5 |
| SEMESTER 5 | | | SEMESTER 6 | | |
| Course | | Credits | Course | | Credits |
| CAS 100A/B | Effective Speech | 3 | EE 212 | Intro to Electronic Measuring Systems | 3 |
| M E 320 | Fluid Flow | 3 | M E 410 | Heat Transfer | 3 |
| (c,*) NUCE 301 | Fundamentals of Reactor Physics | 4 | E MCH 315 | Mechanical Response of Engr. Mat'l. | 2 |
| (c,*) NUCE 309 | Analytical Techniques for Nuclear Concepts | 3 | E MCH 316 | Experimental Determination of Mechanical Response of Materials | 1 |
| (*) NUCE 310W | Issues in Nuclear Engineering | 2 | (c,**) NUCE 302 | Intro to Reactor Design | 4 |
| | | | (c,**) NUCE 450 | Radiation Detection and Measurement | 3 |
| Total Semester Credits | | 15 | Total Semester Credits | | 16 |
| SEMESTER 7 | | | SEMESTER 8 | | |
| Course | | Credits | Course | | Credits |
| ENGL 202C | Technical Writing | 3 | (g) AHS course | (GA, GH, or GS) | 3 |
| (*) NUCE 403 | Advanced Reactor Design | 3 | (g) AHS course | (GA, GH, or GS) | 3 |
| (c,*) NUC E 430 | Design Principles of Reactor Systems | 3 | (e,f) GTE | General Technical Elective | 3 |
| (*) NUCE 451 | Experiments in Reactor Physics | 3 | (**) NUCE 431W | Nuclear Reactor Core Design Synthesis | 4 |
| (d) NUCE TE | NUCE Technical Elective | 3 | (d) NUCE TE | NUCE Technical Elective | 3 |
| Total Semester Credits | | 15 | Total Semester Credits | | 16 |

- a) Courses listed in **boldface italic type** require a C or better for entrance to major.
- b) MATH 140E & 141E are only available at University Park in the semester listed.
- c) Courses listed in **boldface type** require a C or better for graduation in this major.
- d) Select from Nuclear Engineering Programs List (NUC E 405, 406, 408, 409, 420, 446, 470, 490, 497, or BIOE 406).
- e) Nuclear Engineering courses not required for the major are also permitted, except Nuc E 401 (See department list). Three credits of co-op may also be used for the GTE after completion of three co-op rotations.
- f) Six ROTC credits may be substituted for three credits of GHA plus three GTE credits upon completion of the basic ROTC Program.
- g) An elective course to satisfy General Education AHS requirements: GA - General Arts, GH - Humanities, GS - Social & Behavioral Sciences, selected from the lists published in the University General Education Handbook.

* These Nuc E courses are **ONLY** offered in the **Fall** semester *

** These Nuc E courses are **ONLY** offered in the **Spring** semester *