

## NUCLEAR SCIENCE AND ENGINEERING (COURSE 22)

Department of Nuclear Science and Engineering (<http://catalog.mit.edu/schools/engineering/nuclear-science-engineering/#undergraduatetext>)

### Bachelor of Science in Nuclear Science and Engineering

#### General Institute Requirements (GIRs)

The General Institute Requirements include a Communication Requirement that is integrated into both the HASS Requirement and the requirements of each major; see details below.

Summary of Subject Requirements	Subjects
Science Requirement	6
Humanities, Arts, and Social Sciences (HASS) Requirement [can be satisfied by 22.04]] in the Departmental Program]; at least two of these subjects must be designated as communication-intensive (CI-H) to fulfill the Communication Requirement.	8
Restricted Electives in Science and Technology (REST) Requirement [can be satisfied by 8.03 and 22.071 in the Departmental Program]	2
Laboratory Requirement (12 units) [can be satisfied by 22.09 in the Departmental Program]	1
<b>Total GIR Subjects Required for SB Degree</b>	<b>17</b>

#### Physical Education Requirement

Swimming requirement, plus four physical education courses for eight points.

#### Departmental Program

Choose at least two subjects in the major that are designated as communication-intensive (CI-M) to fulfill the Communication Requirement.

Basic Requirements	Units
2.005 Thermal-Fluids Engineering I	12
8.03 Physics III	12
18.03 Differential Equations <sup>1</sup>	12
22.01 Introduction to Nuclear Engineering and Ionizing Radiation	12
22.071 Electronics, Signals, and Measurement	12
<i>Select one of the following:</i>	12
1.000 Computer Programming for Engineering Applications	
2.086 Numerical Computation for Mechanical Engineers	

6.00	Introduction to Computer Science and Programming	
12.010	Computational Methods of Scientific Programming	

#### Required Core Subjects

22.02	Introduction to Applied Nuclear Physics	12
22.033	Nuclear Systems Design Project	15
22.04]]	Social Problems of Nuclear Energy	12
22.05	Neutron Science and Reactor Physics	12
22.06	Engineering of Nuclear Systems	12
22.09	Principles of Nuclear Radiation Measurement and Protection	12

#### Required Thesis <sup>2</sup>

22.THT	Undergraduate Thesis Tutorial	3
22.THU	Undergraduate Thesis	9

#### Mathematics Elective

<i>Select one of the following:</i>		12
6.041A & 6.041B	Introduction to Probability I and Introduction to Probability II	
18.04	Complex Variables with Applications	
18.05	Introduction to Probability and Statistics	
18.0751	Methods for Scientists and Engineers	
18.600	Probability and Random Variables	

#### Restricted Electives in NSE

In consultation with advisor, select two subjects in NSE	24
--	----

**Units in Major** 195

**Unrestricted Electives** 48

Units in Major That Also Satisfy the GIRs (48)

**Total Units Beyond the GIRs Required for SB Degree** 195

The units for any subject that counts as one of the 17 GIR subjects cannot also be counted as units required beyond the GIRs.

<sup>1</sup> 18.032 Differential Equations is also an acceptable option.

<sup>2</sup> Unit totals shown are the minimum requirements.