

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
Total GIR Subjects Required for SB Degree	17

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 ¹	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 ²

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
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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.

¹ 18.032 Differential Equations is also an acceptable option.

² Unit totals shown are the minimum requirements.