DMSE DEPARTMENT OF MATERIALS SCIENCE & ENGINEERING

**Sample Roadmap, New MSE Curriculum beginning Fall 2020**
SB in Materials Science and Engineering (Course 3)

This is a roadmap which shows a *possible* path to complete Course 3. In this example, the student does not enter MIT with any advanced standing, begins the major in Fall 2020, pursues 18.03 Differential Equations in the sophomore fall term, pursues the Course 3 Internship Program; and completes 48 units of Unrestricted Electives.

| First Year Fall Term | | |
|---|---|---|
| **GIR** | Calculus I | 12 |
| **GIR** | Physics I | 12 |
| **3.091** | Introduction to Solid-State Chemistry | 12 |
| **GIR** | HASS Subject | 12 |

| First Year Spring Term | | |
|---|---|---|
| **GIR** | Calculus II | 12 |
| **GIR** | Physics II | 12 |
| **GIR** | Biology | 12 |
| **GIR** | HASS Subject | 12 |

| Sophomore Year Fall Term | | |
|---|---|---|
| **3.010** | Structure of Materials (partial CI-M) | 12 |
| **3.013** | Mechanical Behavior of Materials | 12 |
| **3.019** | Introduction to Symbolic and Mathematical Computing | 3 |
| **18.03** | Differential Equations | 12 |
| **GIR** | HASS Subject | 12 |

| Sophomore Year Spring Term | | |
|---|---|---|
| **3.020** | Thermodynamics of Materials (partial CI-M) | 12 |
| **3.023** | Synthesis and Design of Materials | 12 |
| **3.029** | Mathematics and Computational Thinking for Materials Scientists and Engineers I | 9 |
| **GIR** | HASS Subject | 12 |

*In the summer term between sophomore and junior year, student registers for 3.930 Internship Program (6 units).*

| Junior Year Fall Term | | |
|---|---|---|
| **3.030** | Microstructural Evolution in Materials | 12 |
| **3.033** | Electronic, Optical, and Magnetic Properties of Materials | 12 |
| **3.039** | Mathematics and Computational Thinking for Materials Scientists and Engineers II | 9 |
| **GIR** | HASS Subject | 12 |

| Junior Year Spring Term | | |
|---|---|---|
| **3.044** | Materials Processing | 12 |
| **RE** | Restricted Elective in Course 3 | 12 |
| **URE** | Unrestricted Elective | 12 |
| **GIR** | HASS Subject | 12 |

*In the summer term between junior and senior year, student registers for 3.931 Internship Program (6 units).*

| Senior Year Fall Term | | |
|---|---|---|
| **3.042** | Materials Project Laboratory (CI-M) | 12 |
| **RE** | Restricted Elective in Course 3 | 12 |
| **URE** | Unrestricted Elective | 12 |
| **GIR** | HASS Subject | 12 |

| Senior Year Spring Term | | |
|---|---|---|
| **RE** | Restricted Elective in Course 3 | 12 |
| **URE** | Unrestricted Elective | 12 |
| **URE** | Unrestricted Elective | 12 |
| **GIR** | HASS Subject | 12 |

**Abbreviations**
**GIR** General Institute Requirement; **HASS** Humanities, Arts, and Social Sciences; **RE** Restricted Elective; **URE** Unrestricted Elective; **PE** Program Elective

DMSE DEPARTMENT OF MATERIALS SCIENCE & ENGINEERING

**Sample Roadmap, New MSE Curriculum beginning Fall 2020**
SB in Materials Science and Engineering (Course 3)

This is a roadmap which shows a *possible* path to complete Course 3. In this example, the student does not enter MIT with any advanced standing, begins the major in Fall 2020, pursues 18.03 Differential Equations in the sophomore fall term, pursues the Course 3 Thesis Program; and completes 48 units of Unrestricted Electives.

| First Year Fall Term | | |
|---|---|---|
| **GIR** | Calculus I | 12 |
| **GIR** | Physics I | 12 |
| **3.091** | Introduction to Solid-State Chemistry | 12 |
| **GIR** | HASS Subject | 12 |

| First Year Spring Term | | |
|---|---|---|
| **GIR** | Calculus II | 12 |
| **GIR** | Physics II | 12 |
| **GIR** | Biology | 12 |
| **GIR** | HASS Subject | 12 |

| Sophomore Year Fall Term | | |
|---|---|---|
| **3.010** | Structure of Materials (partial CI-M) | 12 |
| **3.013** | Mechanical Behavior of Materials | 12 |
| **3.019** | Introduction to Symbolic and Mathematical Computing | 3 |
| **18.03** | Differential Equations | 12 |
| **GIR** | HASS Subject | 12 |

| Sophomore Year Spring Term | | |
|---|---|---|
| **3.020** | Thermodynamics of Materials (partial CI-M) | 12 |
| **3.023** | Synthesis and Design of Materials | 12 |
| **3.029** | Mathematics and Computational Thinking for Materials Scientists and Engineers I | 9 |
| **GIR** | HASS Subject | 12 |

| Junior Year Fall Term | | |
|---|---|---|
| **3.030** | Microstructural Evolution in Materials | 12 |
| **3.033** | Electronic, Optical, and Magnetic Properties of Materials | 12 |
| **3.039** | Mathematics and Computational Thinking for Materials Scientists and Engineers II | 9 |
| **GIR** | HASS Subject | 12 |

| Junior Year Spring Term | | |
|---|---|---|
| **3.044** | Materials Processing | 12 |
| **3.042** | Materials Project Laboratory (CI-M) | 12 |
| **RE** | Restricted Elective in Course 3 | 12 |
| **GIR** | HASS Subject | 12 |

*In the summer term between junior and senior year, student begins preparing an Undergraduate Thesis Proposal.*

| Senior Year Fall Term | | |
|---|---|---|
| **3.THU** | Undergraduate Thesis | 6 |
| **RE** | Restricted Elective in Course 3 | 12 |
| **URE** | Unrestricted Elective | 12 |
| **URE** | Unrestricted Elective | 12 |
| **GIR** | HASS Subject | 12 |

| Senior Year Spring Term | | |
|---|---|---|
| **3.THU** | Undergraduate Thesis | 6 |
| **RE** | Restricted Elective in Course 3 | 12 |
| **URE** | Unrestricted Elective | 12 |
| **GIR** | HASS Subject | 12 |

**Abbreviations**
**GIR** General Institute Requirement; **HASS** Humanities, Arts, and Social Sciences; **RE** Restricted Elective; **URE** Unrestricted Elective; **PE** Program Elective

DMSE DEPARTMENT OF MATERIALS SCIENCE & ENGINEERING

**Sample Roadmap, New MSE Curriculum beginning Fall 2020**
SB as recommended by the Department of Materials Science and Engineering (Course 3-A)

This is a roadmap which shows a *possible* path to complete Course 3-A. In this example, the student does not enter MIT with any advanced standing, begins the major in Fall 2020, pursues 18.03 Differential Equations in the sophomore fall term, pursues an individual path of Program Electives in Course 3-A; and completes 48 units of Unrestricted Electives.

| First Year Fall Term | | |
|---|---|---|
| **GIR** | Calculus I | 12 |
| **GIR** | Physics I | 12 |
| **3.091** | Introduction to Solid-State Chemistry | 12 |
| **GIR** | HASS Subject | 12 |

| First Year Spring Term | | |
|---|---|---|
| **GIR** | Calculus II | 12 |
| **GIR** | Physics II | 12 |
| **GIR** | Biology | 12 |
| **GIR** | HASS Subject | 12 |

| Sophomore Year Fall Term | | |
|---|---|---|
| **3.010** | Structure of Materials (partial CI-M) | 12 |
| **3.013** | Mechanical Behavior of Materials | 12 |
| **3.019** | Introduction to Symbolic and Mathematical Computing | 3 |
| **18.03** | Differential Equations | 12 |
| **GIR** | HASS Subject | 12 |

| Sophomore Year Spring Term | | |
|---|---|---|
| **3.020** | Thermodynamics of Materials (partial CI-M) | 12 |
| **PE** | Program Elective in Course 3-A | 12 |
| **PE** | Program Elective in Course 3-A | 12 |
| **GIR** | HASS Subject | 12 |

| Junior Year Fall Term | | |
|---|---|---|
| **3.030** | Microstructural Evolution in Materials | 12 |
| **PE** | Program Elective in Course 3-A | 12 |
| **PE** | Program Elective in Course 3-A | 12 |
| **GIR** | HASS Subject | 12 |

| Junior Year Spring Term | | |
|---|---|---|
| **3.042** | Materials Project Laboratory | 12 |
| **RE** | Restricted Elective in Course 3-A | 12 |
| **PE** | Program Elective in Course 3-A | 12 |
| **GIR** | HASS Subject | 12 |

| Senior Year Fall Term | | |
|---|---|---|
| **PE** | Program Elective in Course 3-A | 6 |
| **RE** | Restricted Elective in Course 3-A | 12 |
| **URE** | Unrestricted Elective | 12 |
| **URE** | Unrestricted Elective | 12 |
| **GIR** | HASS Subject | 12 |

| Senior Year Spring Term | | |
|---|---|---|
| **RE** | Restricted Elective in Course 3-A | 12 |
| **URE** | Unrestricted Elective | 12 |
| **URE** | Unrestricted Elective | 12 |
| **GIR** | HASS Subject | 12 |

**Abbreviations**
**GIR** General Institute Requirement; **HASS** Humanities, Arts, and Social Sciences; **RE** Restricted Elective; **URE** Unrestricted Elective; **PE** Program Elective

DMSE DEPARTMENT OF MATERIALS SCIENCE & ENGINEERING

**Sample Roadmap, New MSE Curriculum beginning Fall 2020**
SB in Archaeology and Materials as recommended by the Department of Materials Science and Engineering (Course 3-C)

This is a roadmap which shows a *possible* path to complete Course 3-C. In this example, the student does not enter MIT with any advanced standing, begins the major in Fall 2020, pursues 18.03 Differential Equations in the sophomore fall term, and completes 60 units of Unrestricted Electives.

| First Year Fall Term | | |
|---|---|---|
| **GIR** | Calculus I | 12 |
| **GIR** | Physics I | 12 |
| **3.091** | Introduction to Solid-State Chemistry | 12 |
| **GIR** | HASS Subject | 12 |

| First Year Spring Term | | |
|---|---|---|
| **GIR** | Calculus II | 12 |
| **GIR** | Physics II | 12 |
| **GIR** | Biology | 12 |
| **GIR** | HASS Subject | 12 |

| Sophomore Year Fall Term | | |
|---|---|---|
| **3.010** | Structure of Materials (partial CI-M) | 12 |
| **3.013** | Mechanical Behavior of Materials | 12 |
| **3.019** | Introduction to Symbolic and Mathematical Computing | 3 |
| **18.03** | Differential Equations | 12 |
| **3.986** | The Human Past: Introduction to Archaeology (HASS) | 12 |

| Sophomore Year Spring Term | | |
|---|---|---|
| **3.020** | Thermodynamics of Materials (partial CI-M) | 12 |
| **3.029** | Mathematics and Computational Thinking for Materials Scientists and Engineers I | 12 |
| **3.985** | Archaeological Science (HASS) | 12 |
| **URE** | Unrestricted Elective | 12 |

| Junior Year Fall Term | | |
|---|---|---|
| **3.030** | Microstructural Evolution in Materials | 12 |
| **3.987** | Human Evolution: Data from Palaeontology, Archaeology, and Materials Science (HASS) | 12 |
| **12.001** | Introduction to Geology | 12 |
| **21A.00** | Introduction to Anthropology: Comparing Human Cultures | 12 |

| Junior Year Spring Term | | |
|---|---|---|
| **3.990** | Seminar in Archaeological Method and Theory (CI-M) | 12 |
| **12.108** | Structure of Earth Materials | 12 |
| **3.982** | The Ancient Andean World | 9 |
| **URE** | Unrestricted Elective | 12 |
| **GIR** | HASS Subject | 12 |

| Senior Year Fall Term | | |
|---|---|---|
| **3.THU** | Undergraduate Thesis | 12 |
| **3.07** | Introduction to Ceramics | 12 |
| **URE** | Unrestricted Elective | 12 |
| **GIR** | HASS Subject | 12 |

| Senior Year Spring Term | | |
|---|---|---|
| **URE** | Unrestricted Elective | 12 |
| **URE** | Unrestricted Elective | 12 |
| **URE** | Unrestricted Elective | 12 |
| **GIR** | HASS Subject | 12 |

**Abbreviations**
**GIR** General Institute Requirement; **HASS** Humanities, Arts, and Social Sciences; **RE** Restricted Elective;
**URE** Unrestricted Elective; **PE** Program Elective