

Advanced Manufacturing Systems, BS (Boston)

Northeastern University's Bachelor of Science in Advanced Manufacturing Systems will create pathways for entry- and midlevel manufacturing employees to deepen their knowledge and gain new skills across the advanced manufacturing ecosystem. The program's challenge-based learning architecture balances autonomy with a structured path through a rigorous curriculum.

Program Requirements

Complete all courses listed below unless otherwise indicated.

Universitywide Requirement

Minimum 120 total semester hours required

Minimum 2.000 GPA required

Students must earn a minimum of 60 Northeastern University semester hours in order to receive a bachelor's degree.

Note: Individual program requirements may exceed the above minima.

CPS Undergraduate Core Requirements

All College of Professional Studies undergraduate students are required to complete the CPS Undergraduate Core Requirements (<https://catalog.northeastern.edu/professional-studies/university-academics/general-education-requirements/>).

Foundation Courses

32 semester hours required

| Code | Title | Hours |
|--------------------------|--|-------|
| English | | |
| ENG 1105 and ENG 1106 | College Writing 1 and Lab for ENG 1105 | 4 |
| ENG 3105 and ENG 3106 | Writing for the Professions: Science and Engineering and Lab for ENG 3105 | 4 |
| Math | | |
| MTH 2120 | Technical Math 1 | 3 |
| MTH 2220 | Technical Math 2 | 3 |
| MTH 2500 | Statistical Quality Control | 3 |
| Science | | |
| CHM 1100 | General Chemistry 1 | 3 |
| EET 2005 | Circuits AC/DC | 3 |
| PHY 1200 | Physics 1 | 3 |
| Philosophy | | |
| PHL 2140 | Ethical Issues in Science and Engineering | 3 |
| Communication | | |
| CMN 1100 | Organizational Communication | 3 |

Advanced Manufacturing Foundation Courses

21 semester hours required

| Code | Title | Hours |
|----------|--|-------|
| AVM 1100 | Fundamental Measurement Analysis | 3 |
| AVM 1150 | Fundamentals of Manufacturing Systems | 3 |
| AVM 2200 | Composite Materials and Applications | 3 |
| EET 3100 | Electronics 1 | 3 |
| GET 1150 | Foundations of Engineering Graphics and Design | 3 |
| MET 2000 | Engineering Computer-Aided Design and Tolerance Analysis | 3 |
| MET 2040 | Engineering Manufacturing Process | 3 |

Advanced Manufacturing Core Courses

30 semester hours required

| Code | Title | Hours |
|----------|---|-------|
| AVM 2250 | Materials Performance and Applications | 3 |
| AVM 3000 | Materials Processing | 3 |
| AVM 3100 | Nondestructive Testing | 3 |
| AVM 3500 | Business Operations and Supply Chain | 3 |
| AVM 4100 | Mechatronics (Mechatronics) | 3 |
| AVM 4300 | Advanced Manufacturing and Additive Processes | 3 |
| GET 3100 | Computer Control of Manufacturing Processes | 3 |
| MET 3300 | Engineering Materials Science | 3 |
| MET 4100 | Mechanical Engineering Systems Design | 3 |
| MGT 2220 | Supply Chain Management | 3 |

Advanced Manufacturing Capstone

6 semester hours required

| Code | Title | Hours |
|----------|--|-------|
| GET 4840 | Engineering Technology Capstone Project Preparation and Proposal | 2 |
| GET 4850 | Engineering Technology Capstone Project Execution | 4 |

Electives

Complete a minimum of 31 semester hours to reach 120 semester hours.

Plan of Study

| Term 1 | Hours |
|--------------------------|-------|
| AVM 1150 | 3 |
| MET 2040 | 3 |
| ENG 1105 and ENG 1106 | 4 |
| | 10 |
| Term 2 | Hours |
| GET 1150 | 3 |
| AVM 1100 | 3 |
| MTH 2120 | 3 |
| PHL 2140 | 3 |
| | 12 |
| Term 3 | Hours |
| CHM 1100 | 3 |
| MET 2000 | 3 |
| ENG 3105 and ENG 3106 | 4 |
| | 10 |
| Term 4 | Hours |
| MET 3300 | 3 |
| MGT 2220 | 3 |
| MTH 2220 | 3 |
| AVM 2200 | 3 |
| | 12 |
| Term 5 | Hours |
| AVM 3000 | 3 |
| AVM 3500 | 3 |
| MTH 2500 | 3 |

| | |
|-------------------------|--------------|
| PHY 1200 | 3 |
| | 12 |
| Term 6 | Hours |
| AVM 2250 | 3 |
| EET 2005 | 3 |
| MET 4100 | 3 |
| Elective | 3 |
| Elective | 3 |
| | 15 |
| Term 7 | Hours |
| AVM 3100 | 3 |
| EET 3100 | 3 |
| CMN 1100 | 3 |
| Elective | 3 |
| Elective | 3 |
| | 15 |
| Term 8 | Hours |
| AVM 4300 | 3 |
| AVM 4100 | 3 |
| Elective | 3 |
| Elective | 3 |
| | 12 |
| Term 9 | Hours |
| GET 4840 | 2 |
| GET 3100 | 3 |
| Elective | 3 |
| Elective | 3 |
| | 11 |
| Term 10 | Hours |
| GET 4850 | 4 |
| Elective | 3 |
| Elective | 3 |
| Elective | 3 |
| | 13 |
| Total Hours: 122 | |