

# Advanced Manufacturing Systems, BS

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

- Concentrations and course offerings may vary by campus and/or by program modality. Please consult with your advisor or admissions coach for the course availability each term at your campus or within your program modality.
- Certain options within the program may be *required* at certain campuses or for certain program modalities. Please consult with your advisor or admissions coach for requirements at your campus or for your program modality.

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.

### NUpath Requirements

All undergraduate students are required to complete the NUpath requirements (<https://catalog.northeastern.edu/professional-studies/university-academics/nupath/>).

### Foundation Courses

32 semester hours required

Code	Title	Hours
<b>English</b>		
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
<b>Math</b>		
MTH 2120	Technical Math 1	3
MTH 2220	Technical Math 2	3
MTH 2500	Statistical Quality Control	3
<b>Science</b>		
CHM 1100	General Chemistry 1	3
EET 2005	Circuits AC/DC	3
PHY 1200	Physics 1	3
<b>Philosophy</b>		
PHL 2140	Ethical Issues in Science and Engineering	3
<b>Communication</b>		
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

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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
	<b>10</b>
Term 2	Hours
GET 1150	3
AVM 1100	3
MTH 2120	3
PHL 2140	3
	<b>12</b>
Term 3	Hours
CHM 1100	3
MET 2000	3
ENG 3105 and ENG 3106	4
	<b>10</b>
Term 4	Hours
MET 3300	3
MGT 2220	3
MTH 2220	3

AVM 2200		3
		<b>12</b>
<b>Term 5</b>	<b>Hours</b>	
AVM 3000		3
AVM 3500		3
MTH 2500		3
PHY 1200		3
		<b>12</b>
<b>Term 6</b>	<b>Hours</b>	
AVM 2250		3
EET 2005		3
MET 4100		3
Elective		3
Elective		3
		<b>15</b>
<b>Term 7</b>	<b>Hours</b>	
AVM 3100		3
EET 3100		3
CMN 1100		3
Elective		3
Elective		3
		<b>15</b>
<b>Term 8</b>	<b>Hours</b>	
AVM 4300		3
AVM 4100		3
Elective		3
Elective		3
		<b>12</b>
<b>Term 9</b>	<b>Hours</b>	
GET 4840		2
GET 3100		3
Elective		3
Elective		3
		<b>11</b>
<b>Term 10</b>	<b>Hours</b>	
GET 4850		4
Elective		3
Elective		3
Elective		3
		<b>13</b>

**Total Hours: 122**