Advanced Manufacturing Systems, BS (Oakland)

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