



# ADVANCED MANUFACTURING SCIENCES MAJOR, B.S.

## Industrial Design Concentration | 2024-2025

### SAMPLE ACADEMIC PLAN OF STUDY

The following academic plan is a *sample* pathway to completing degree requirements for this major/concentration within four years.

GS - General Studies  
 ESSJ - Ethnic Studies & Social Justice (3) credit hours  
 GD - Global Diversity (3) credit hours

Semester 1 - Fall	
Written Communications (GS) ENG 1010 Composing Arguments	3
Oral Communication (GS)	3
Arts & Humanities (GS; ESSJ or GD)	3
Quantitative Literacy (GS) <b>Suggested:</b> MTH 1110 - College Algebra for Calculus	4
AMS 1010 Survey of Advanced Manufacturing & Workplace Prep	3
<b>TOTAL CREDIT HOURS</b>	<b>16</b>

Semester 2 - Spring	
Written Communications (GS) ENG 1020 Research and Argument Writing	3
Historical (GS; ESSJ or GD)	3
Arts & Humanities (GS; ESSJ or GD)	3
IND 1000 Introduction to Industrial Design	1
IND 2830 Manufacturing Materials and Processes	3
MTH 1120 College Trigonometry	3
<b>TOTAL CREDIT HOURS</b>	<b>16</b>

Semester 3 - Fall	
IND 1100 Materials I: Materials and Fabrication	3
EET 1001 Electronics: An Introduction	3
JMP 2610 Introduction to Technical Writing	3
Natural & Physical Sciences (GS) <b>Suggested:</b> MET 1040 Introduction to Engineering	3
IND 1450 Technical Drawing and CAD <b>OR</b> MET 1200 Technical Drawing <b>OR</b> CET 1215 Engineering Graphics	3
<b>TOTAL CREDIT HOURS</b>	<b>15</b>

Semester 4 - Spring	
IND 1300 Materials II: Design and Application	3
IND 1470 Design Drawing Techniques	3
MET 1310 Principles of Quality Assurance	3
Natural & Physical Sciences (GS)	3
Elective	3
<b>TOTAL CREDIT HOURS</b>	<b>15</b>

Semester 5 - Fall	
Social & Behavioral Science (GS)	3
AMS 3010 Additive Manufacturing Stratasys Cert Prep	3
MET 2010 CNC Machining and Inspection	3
MET 3000 Manufacturing Analysis	4
<b>TOTAL CREDIT HOURS</b>	<b>13</b>

Semester 6 - Spring	
IND 3000 Design Thinking	3
Social & Behavioral Sciences (GS) <b>Suggested:</b> CET 3120 Engineering Economy	3
CS 1030 Computer Science Principles	4
Elective	3
Elective - upper division	3
<b>TOTAL CREDIT HOURS</b>	<b>16</b>

Semester 7 - Fall	
IND 3400 Product Usability and Ergonomics (do not need prereq)	3
IND 3660 Computer Aided Modeling	3
CSS 2751 Principles of Cybersecurity	3
MET 3630 Lean Manufacturing Systems Engineering	3
Elective - upper division	3
<b>TOTAL CREDIT HOURS</b>	<b>15</b>

Semester 8 - Spring	
AMS 4950 Professional Internship	3
CSS 3753 Computing & Security for Manufacturing	3
MET 3260 Direct Digital Manufacturing	3
IND 3800 Design for Marketability and Manufacturing (do not need prereq)	4
Elective - Industrial Design course (Required)	3
<b>TOTAL CREDIT HOURS</b>	<b>16</b>

Metropolitan State University of Denver reserves the right to withdraw courses; revise the academic calendar; or change curriculum, graduation procedures, requirements and policies that apply to students at any time.