

ADVANCED MANUFACTURING SCIENCES MAJOR, B.S.

Aerospace Concentration 2026-2027

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

Semester 2 - Spring	
Course	Hours
Written Communications (GS) ENG 1020 Research and Argument Writing	3
Historical (GS; ESSJ or GD)	3
Arts & Humanities (GS; ESSJ or GD)	3
MET 1010 Manufacturing Processes OR IND 2830 Manufacturing Materials and Processes	3
MTH 1120 College Trigonometry	3
TOTAL CREDIT HOURS	15

Semester 3 - Fall	
Course	Hours
AES 1050 Introduction to Space	3
CEE 1001 Introduction to Computer & Electrical Engineering	3
JMP 2610 Introduction to Technical Writing	3
Natural & Physical Sciences (GS) Suggested: MET 1040 Introduction to Engineering	3
MET 1200 Technical Drawing OR IND 1450 Technical Drawing and CAD OR CET 1215 Engineering Graphics	3
TOTAL CREDIT HOURS	15

Semester 4 - Spring	
Course	Hours
AES 2607 Introduction to Aerospace Systems Simulation	3
AES 3530 Aerodynamics	3
MET 1310 Principles of Quality Assurance	3
Natural & Physical Sciences (GS) Suggested: PHY 2010 - College Physics I AND PHY 2030 College Physics I Laboratory	5
Social & Behavioral Science (GS)	3
TOTAL CREDIT HOURS	17

Semester 5 - Fall	
Course	Hours
AES 3600 Space Flight Operations I	3
AMS 3010 Additive Manufacturing Stratatsys Cert Prep	3
MET 2010 CNC Machining and Inspection	3
MET 3000 Manufacturing Analysis	4
AES 3850 Human Factors and Physiology of Flight	3
TOTAL CREDIT HOURS	16

Semester 6 - Spring	
Course	Hours
AES 4601 Space Flight Operations II	3
CS 1030 - Computer Science Principles	4
Social & Behavioral Sciences (GS) Suggested: CET 3120 Engineering Economy	3
MET 3630 Lean Manufacturing Systems Engineering	3
TOTAL CREDIT HOURS	13

Semester 7 - Fall	
Course	Hours
AES 3610 Elements of Spacecraft Design I	3
AES 4603 Aerospace Operations System Analysis and Design	3
CSS 2751 - Principles of Cybersecurity	3
Elective	3
Elective	3
TOTAL CREDIT HOURS	15

Semester 8 - Spring	
Course	Hours
AMS 4950 Professional Internship	3
AES 4620 Elements of Space Craft Design II	3
CSS 3753 Computing & Security for Manufacturing	3
Elective	3
Elective	3
TOTAL CREDIT HOURS	15

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.