



A Major Academic Plan (MAP) is one way to complete a degree in a set number of semesters. The *example* below is only one strategy. Actual plans for individual students will vary based on advisor recommendations and academic needs. Official Program Requirements including Major, General Education, Electives, and university requirements (see pg.2) are based on Catalog Year.

Course Subject and Title	Cr.	Min. Grade	*GE, UU or UM	**Sem. Offered	Prerequisite	Co-Requisite
Semester One						
MACH 1110: Machine Tool Lab I (early 8 weeks)	3	D-		F, S	Minimum score of 14 on ALEKS or equivalent	MACH 1111
MACH 1111: Machine Tool Theory I (early 8 weeks)	2	D-		F, S		MACH 1110
MACH 1112: Machine Math I (early 8 weeks)	3	D-		F, S		
MACH 1120: Machine Tool Lab II (late 8 weeks)	3	D-		F, S		MACH 1121
MACH 1121: Machine Tool Theory II (late 8 weeks)	2	D-		F, S		MACH 1120
MACH 1123: Blueprint Reading (late 8 weeks)	1	D-		F, S		
Total	14					
Semester Two						
MACH 1115: Applied Machining Geometry (early 8 weeks)	2	D-		F, S	MACH 1112	
MACH 2221: CAD and CAM Theory I (early 8 weeks)	3	D-		F, S		MACH 2220
MACH 1131: CNC Mill Setup (early 8 weeks)	2	D-		F, S	MACH 1120	
MACH 1145: Geometric Dimensioning and Tolerancing I (early 8 weeks)	1	D-		F, S	MACH 1123	
MACH 1135: Applied Machining Trigonometry (late 8 weeks)	2	D-		F, S	MACH 1115	
MACH 1141: CNC Lathe Setup (late 8 weeks)	2	D-		F, S	MACH 1110	
MACH 2220: CAD and CAM Applications I (late 8 weeks)	3	D-		F, S		MACH 2221
MACH 2245: Geometric Dimensioning and Tolerancing II (late 8 weeks)	1	D-		F, S	MACH 1145	
Total	16					
Semester Three						
MACH 2270: CNC Programming Practices I (early 8 weeks)	6	D-		F		
MACH 2271: CNC Theory/Programming I (early 8 weeks)	3	D-		F		
MACH 2272: CNC Math I (early 8 weeks)	3	D-		F, S	MACH 1135	
MACH 2275: CAD and CAM Theory II (late 8 weeks)	2	D-		F, S	MACH 2220, 2221	
MACH 2280: CAD and CAM Applications II (late 8 weeks)	4	D-		F, S	MACH 2220	MACH 2275
Total	18					
Semester Four						
MACH 2281: CNC Programming Theory II (early 8 weeks)	1	D-		F, S	MACH 2271	MACH 2290
MACH 2290: CNC Machining Practice II (early 8 weeks)	3	D-		F, S	MACH 2270	MACH 2281
MACH 2285: CAD and CAM Theory III (late 8 weeks)	2	D-		F, S	MACH 2275	MACH 2291
MACH 2291: CAD and CAM Applications III (late 8 weeks)	4	D-		F, S	MACH 2280	MACH 2285
Total	10					

*GE=General Education Objective, UU=Upper Division University, UM= Upper Division Major

**See Course Schedule section of Course Policies page in the e-catalog (or input F, S, Su, etc.)

2025-2026 Major Requirements	CR	GENERAL EDUCATION OBJECTIVES Satisfy Objectives 1 and 2	0 cr. min
MAJOR REQUIREMENTS	58	1. Written English	
MACH 1110: Machine Tool Lab I	3		
MACH 1111: Machine Tool Theory I	2	2. Spoken English	
MACH 1112: Machine Math I	3	3. Mathematics	
MACH 1115: Applied Machining Geometry	2	4. Humanities, Fine Arts, Foreign Lang.	
MACH 1120: Machine Tool Lab II	3		
MACH 1121: Machine Tool Theory II	2		
MACH 1123: Blueprint Reading	1	5. Natural Sciences	
MACH 1131: CNC Mill Setup	2		
MACH 1135: Applied Machining Trigonometry	2		
MACH 1141: CNC Lathe Setup	2		
MACH 1145: Geometric Dimensioning and Tolerancing I	1	6. Behavioral and Social Science	
MACH 2220: CAD and CAM Applications I	3		
MACH 2221: CAD and CAM Theory I	3		
MACH 2245: Geometric Dimensioning and Tolerancing II	1	One Course from EITHER Objective 7 OR 8	
MACH 2270: CNC Programming Practices I	6	7. Critical Thinking	
MACH 2271: CNC Theory/Programming I	3	8. Information Literacy	
MACH 2272: CNC Math I	3	9. Cultural Diversity	
MACH 2275: CAD and CAM Theory II	2		
MACH 2280: CAD and CAM Applications II	4	General Education Elective to reach 36 cr. min.	
MACH 2281: CNC Programming Theory II	1		
MACH 2285: CAD and CAM Theory III	2	Total GE	0
MACH 2290: CNC Machining Practice II	3	Undergraduate Catalog and GE Objectives by Catalog Year	
MACH 2291: CAD and CAM Applications III	4	http://coursecat.isu.edu/undergraduate/programs/	
		MAP Credit Summary	CR
		Major	58
		General Education	0
		Upper Division Free Electives to reach 36 credits	0
		Free Electives to reach 120 credits	0
		TOTAL	58
		Graduation Requirement Minimum Credit Checklist	Confirmed
		Minimum 36 cr. General Education Objectives (15 cr. AAS)	
		Minimum 15 cr. Upper Division in Major (0 cr. Associate)	
		Minimum 36 cr. Upper Division Overall (0 cr. Associate)	
		Minimum of 120 cr. Total (60 cr. Associate)	
Advising Notes		MAP Completion Status (for internal use only)	
			<i>Date</i>
		CAA or COT:	HW 06/13/2025
		Complete College American Momentum Year	
		Math and English course in first year-Specific GE MATH course identified	
		9 credits in the Major area in first year	
		15 credits each semester (or 30 in academic year)	
		Milestone courses	