



Catalog Year 2023-2024

AAS, Industrial Cybersecurity
Engineering, Technology
Apprenticeship

(For internal use only)

No change

UCC proposal

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						
ESET 1181: Introduction to Cyber-Physical Systems	3	C-		F, D	Minimum score of 30 on ALEKS	
ESET 1140: Applied Technical Intermediate Algebra (Recommended); OR MATH 1147: College Algebra and Trigonometry	5	C-		F,S,D		
ESET 1182: Information Technology Fundamentals	3	C-				
Total	11					
Semester Two						
ESET 1121: Basic Electricity and Electronics	4	C-		F, S		ESET 1121L
ESET 1121L: Basic Electricity and Electronics Laboratory	3	C-		F, S		ESET 1121
Total	7					
Semester Three						
GE Obj. 1: ENGL 1101: (Recommended) OR ENGL 1102: Writing and Rhetoric II	3	C-	GE	F, S, Su		
GE Obj. 5: PHYS 1101/L: (Recommended) OR CHEM 1100 OR CHEM 1111/L OR CHEM 1112/L OR PHYS 1100 OR PHYS 1111 AND PHYS 1113 OR PHYS 1112 AND PHYS 1114	4-5	C-	GE			
ESET 1162: Industrial Safety and Regulations	2	C-		F, S, D		
Total	9-10					
Semester Four						
ESET 1120: Introduction to Energy Systems	2	C-		F, S, D		ESET 1120L
ESET 1120L: Introduction to Energy Systems Laboratory	1	C-		F, S, D		ESET 1120
ESET 1122: Electrical Systems and Motor Control Theory	3	C-		F, S, D	ESET 1121/L	ESET 1122L
ESET 1122L: Electrical Systems and Motor Control Theory Laboratory	1	C-		F, S, D	ESET 1121/L	ESET 1122
GE Obj. 3: MATH MGT 2216: (Recommended) OR MATH 1143 OR MATH 1147 OR MATH 1153 OR MATH 1160 OR MATH 1170	3-5	C-	GE			
Total	10-12					
Semester Five						
ESET 2205: Fundamentals of Control Logic	3	C-		F, S, D		
ESET 2282: Introduction to Networking	3	C-		F		
INFO 4411: Intermediate Information Assurance	3	C-		D	INFO 1150, 3310, or CS 1337 or permission	
Total	9					
Semester Six						
GE Obj. 2: COMM 1101: Fundamentals of Oral Comm	3	C-	GE	F, S		
GE Obj. 6: Social and Behavioral Ways of Knowing	3	C-	GE			
CYBR 4486: Network Security for Industrial Environments	3	C-		S, D	ESET 2282, CYBR 3383 or permission	
Total	9					
Semester Seven						
ESET 2242: Practical Process Measurement and Control	2	C-		F, D	ESET 1122 or permission	
CYBR 3383: Security Design for Cyber-Physical Systems	3	C-		F, D	ESET 1181, 2282, 2223, 2227, or permission	
CYBR 3384: Risk Management for Cyber-Physical Systems	3	C-		F, D	ESET 1181, 2282, 2223, 2227 or permission	CYBR 3383
Total	8					
Semester Eight						
CYBR 4481: Defending Critical Infrastructure and CPS	3	C-		S, D	ESET 2282, CYBR 3383, 3384, or permission	
CYBR 4487: Professional Development and Certification	3	C-		S, D	CYBR 3383, 3384, 4486	CYBR 4481
Total	6					

*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.)

2023-2024 Major Requirements	CR	GENERAL EDUCATION OBJECTIVES Satisfy Objectives 1,2,3,4,5,6 (7 or 8) and 9		36 cr. min
MAJOR REQUIREMENTS	53	1. Written English (6 cr. min)	ENGL 1101 (Rec)	3
ESET 1120: Introduction to Energy Systems	2			
ESET 1120L: Introduction to Energy Systems Laboratory	1	2. Spoken English (3 cr. min)	COMM 1101	3
ESET 1121: Basic Electricity and Electronics	4	3. Mathematics (3 cr. min)	MGT 2216 (Rec)	3-5
ESET 1121L: Basic Electricity and Electronics Laboratory	3	4. Humanities, Fine Arts, Foreign Lang. (2 courses; 2 categories; 6 cr. min)		
ESET 1122: Electrical Systems and Motor Control Theory	3			
ESET 1122L: Electrical Systems and Motor Control Theory Laboratory	1			
ESET 1140: Applied Technical Intermediate Algebra	5	5. Natural Sciences (2 lectures-different course prefixes, 1 lab; 7 cr. min)		
ESET 1162: Industrial Safety and Regulations	2	PHYS 1101/L (Recommended) OR 1111 AND 1113 OR 1112 AND 1114		4-5
ESET 1181: Introduction to Cyber-Physical Systems	3	OR 1100 OR CHEM 1111/L OR 1112/L OR 1100		
ESET 1182: Information Technology Fundamentals	3			
ESET 2205: Fundamentals of Control Logic	3	6. Behavioral and Social Science (2 courses-different prefixes; 6 cr. min)		
ESET 2242: Practical Process Measurement and Control	2	Any		
ESET 2282: Introduction to Networking	3			3
INFO 4411: Intermediate Information Assurance	3	One Course from EITHER Objective 7 OR 8 (1 course; 3 cr. min)		
CYBR 3383: Security Design for Cyber-Physical Systems	3	7. Critical Thinking		
CYBR 3384: Risk Management for Cyber-Physical Systems	3	8. Information Literacy		
CYBR 4481: Defending Critical Infrastructure and CPS	3	9. Cultural Diversity (1 course; 3 cr. min)		
CYBR 4486: Network Security for Industrial Environments	3			
CYBR 4487: Professional Development and Certification	3	General Education Elective to reach 36 cr. min. (if necessary)		
			Total GE	16-19
		Undergraduate Catalog and GE Objectives by Catalog Year http://coursecat.isu.edu/undergraduate/programs/		
		MAP Credit Summary		CR
		Major		53
		General Education		16-19
		Upper Division Free Electives to reach 36 credits		0
		Free Electives to reach 120 credits		0
			TOTAL	69-72
		Graduation Requirement Minimum Credit Checklist		Confirmed
		Minimum 36 cr. General Education Objectives (15 cr. AAS)		X
		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)		X
Advising Notes		MAP Completion Status (for internal use only)		
			Date	
		OAA or COT:	PJ 6/30/23	
		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		