Idaho State University

Catalog Year 2026-2027
BAS, Cyber-Physical Systems Engineering Technology

(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
Program Requirement						
Completion of an AAS in Energy Systems Instrumentation Engineering Technology, Energy Systems Electrical Engineering Technology, Energy Systems Mechanical Engineering Technology, Energy Systems Nuclear Operations Technology, or Industrial Cybersecurity Engineering Technology	38					
Total	53-54					
Semester Five						
GE Objective 1: ENGL 1102 Writing and Rhetoric II	3	D-	GE	F, S, Su	ENGL 1101 or equivalent	
GE Objective 3: MGT 2216 Business Statistics	3	D-	GE	F, S	ENGL 1101/P and MATH 1108 or MGT 1116, OR TGE 1140	
CYBR 3383: Security Design for Cyber-Physical Systems	3	C-	UM	F, D	ESET 1181, 2223, 2227, 2282 with a minimum grade of C-, or instructor approval	ESET 1181, 2223, 2227, 2282 with a minimum grade of C-, or instructor approval
CYBR 4410: Professional Foundations in Cybersecurity	3	C-	UM	D		
ESET 1181: Introduction to Cyber-Physical Systems	3	C-		F, D		
ESET 2282: Introduction to Networking	3	C-		F		
Total	18					
Semester Six						
CYBR 3384: Risk Management for Cyber-Physical Systems	3	C-	UM	F, D	ESET 1181, 2223, 2227, 2282, CYBR 3383 with a minimum grade of C-, or instructor approval	ESET 1181, 2223, 2227, 2282, CYBR 3383 with a minimum grade of C-, or instructor approval
CYBR 4481: Defending Critical Infrastructure and Cyber Physical Systems	3	C-	UM	S, D	CYBR 3383, 3384, ESET 2282 with a minimum grade of C-, or instructor approval	
CYBR 4486: Network Security for Industrial Environments	3	C-	UM	S, D	CYBE 3383, ESET 2282 with a minimum grade of C-, or instructor approval	
CYBR 4487: Professional Development and Certification	3	C-	UM	S, D	CYBR 3383, 3384, 4481, 4486 with a minimum grade of C-	CYBR 3384, 4481, 4486 with a minimum grade of C-
CYBR 4489: Capstone in Industrial Cybersecurity **OR** ESET 4497: Internship	3	C-	UM	F, S D	CYBR 4481, 4486 with a minimum grade of C- Instructor approval	CYBR 4481, 4486 with a minimum grade of C-
ENGL 3307: Professional and Technical Writing	3	D-	UM	F, S	45 credits and ENGL 1102	
Total	18					
Semester Seven						
GE Objective 4: Any	3	D-	GE			
GE Objective 6: ECON 2201 Principles of Macroeconomics **(Recommended)**	3	D-	GE	F, S, Su		
GE Objective 7: CS 1181 Computer Science and Programming I **OR** GE Objective 8: INFO 1101 Digital Information Literacy	3	D-	GE	F, S	MATH 1143 or 1144 or 1147 or CS 1111 AND MATH 1108 or MGT 1116	
¥BA 3316: Introduction to Data Analytics **OR** INFO 4150: Information Systems and Controls	3	D-	UM	F, S	MGT 2216, 2217	MGT 2217
MGT 2217: Applied Business Statistics	3	D-		F, S	MGT 2216 AND MATH 1108 or MGT 1116	
Total	15					

Course Subject and Title	Cr.	Min. Grade	*GE, UU or UM	**Sem. Offered	Prerequisite	Co-Requisite
Semester Eight						
GE Objective 5: CHEM 1100 Concepts of Chemistry **OR** CHEM 1111/L General Chemistry I and Lab **OR** CHEM 1112/L General Chemistry II and Lab **OR** PHYS 1100 Essentials of Physics **OR** PHYS 1101/L Elements of Physics and Lab **OR** PHYS 1111/1113 General Physics I and Lab **OR** PHYS 1112/1114 General Physics II and Lab	4-5	D-	GE			
GE Objective 9: Any	3	D-	GE			
MGT 3312: Individual and Organizational Behavior	3	D-	UM	F, S	ENGL 1102 or HONS 1101	
¥MGT 3329: Operations and Supply Chain Management **OR** INFO 4380: Networking and Cybersecurity	3	D-	UM	F, S	MGT 2216, 2217	MGT 2217
MGT 4482: Project Management	3	D-	UM	D	MGT 2216 or MATH 2254	
Total	16-17					

*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.)

2026-2027 Major Requirements	CR
MAJOR REQUIREMENTS	**83**
Previous AAS in an ESTEC program	38
CYBR 3383: Security Design for Cyber-Physical Systems	3
CYBR 3384: Risk Management for Cyber-Physical Systems	3
CYBR 4410: Professional Foundations in Cybersecurity	3
CYBR 4481: Defending Critical Infrastructure and Cyber-Physical Systems	3
CYBR 4486: Network Security for Industrial Environments	3
CYBR 4487: Professional Development and Certification	3
CYBR 4489: Capstone in Industrial Cybersecurity **OR** ESET 4497: Internship	3
ENGL 3307: Professional and Technical Writing	3
ESET 1181: Introduction to Cyber-Physical Systems	3
ESET 2282: Introduction to Networking	3
MGT 2217: Applied Business Statistics	3
MGT 3312: Individual and Organizational Behavior	3
MGT 4482: Project Management	3
¥**Complete either the following two courses:**	
BA 3316: Introduction to Data Analytics	3
MGT 3329: Operations and Supply Chain Management	3
Or complete the following two courses:	
INFO 4150: Information Systems and Controls	3
INFO 4380: Networking and Cybersecurity	3
MGT 2216: Business Statistics (counted in GE Obj. 3)	
CHEM 1100: Concepts of Chemistry **OR** CHEM 1111/L: General Chemistry I and Laboratory **OR** CHEM 1112/L: General Chemistry II and Laboratory **OR** PHYS 1100: Essentials of Physics **OR** PHYS 1101/L: Elements of Physics and Laboratory **OR** PHYS 1111/1113: General Physics I and Laboratory **OR** PHYS 1112/1114: General Physics II and Laboratory (counted in GE Obj. 5)	
CS 1181: Computer Science and Programming I **OR** INFO 1101: Digital Information Literacy (counted in GE Obj. 7 or 8)	

GENERAL EDUCATION OBJECTIVES Satisfy Objectives 1,2,3,4,5,6 (7 or 8) and 9		36 cr. min
1. Written English (6 cr. min)	AAS - ENGL 1101	3
	ENGL 1102	3
2. Spoken English (3 cr. min)	AAS - COMM 1101	3
3. Mathematics (3 cr. min)	MGT 2216	3
4. Humanities, Fine Arts, Foreign Lang. **(2 courses; 2 categories; 6 cr. min)**		
AAS		3
Any		3
5. Natural Sciences **(2 lectures-different course prefixes, 1 lab; 7 cr. min)**		
AAS		3-4
CHEM 1100 or 1111/L or 1112/L or PHYS 1100 or 1101/L or 1111/1113 or 1112/1114		4-5
6. Behavioral and Social Science **(2 courses-different prefixes; 6 cr. min)**		
AAS		3
ECON 2201: Principles of Macroeconomics **(recommended)**		3
One Course from EITHER Objective 7 OR 8 **(1course; 3 cr. min)**		
7. Critical Thinking	CS 1181 or Obj. 8	3
8. Information Literacy	INFO 1101 or Obj. 7	
9. Cultural Diversity **(1 course; 3 cr. min)**		
Any		3
General Education Elective to reach 36 cr. min. **(if necessary)**		
	Total GE	**37-39**

Undergraduate Catalog and GE Objectives by Catalog Year
http://coursecat.isu.edu/undergraduate/programs/

MAP Credit Summary	**CR**
Major	83
General Education	37-39
Upper Division Free Electives to reach 36 credits	0
Free Electives to reach 120 credits	0
TOTAL	120-122

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)	**X**
Minimum 36 cr. Upper Division Overall (0 cr. Associate)	**X**
Minimum of 120 cr. Total (60 cr. Associate)	**X**

Advising Notes

MAP Completion Status (for internal use only)	
	Date
CAA or COT:	GR 06/17/2026

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

Form Revised 2.14.2023