Idaho State University

Catalog Year 2026-2027 B.S., Artificial Intelligence Sciences The program starts in an odd-numbered years.	***(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						
GE Objective 3: MATH 1170 Calculus I	4	C-	GE	F, S, Su	MATH 1144 or MATH 1147	
GE Objective 1: ENGL 1101 English Composition	3	C-	GE	F, S, Su	Appropriate placement score	
GE Objective 7: CS 1181 Computer Science & Prog I	3	C-	GE	F, S	MATH 1143 or MATH 1147	
GE Objective 4: PHIL 1103 Introduction to Ethics	3	C-	GE	F, S, Su		
Free Electives	2					
Total	15					
Semester Two						
MATH 1175 Calculus II	4	C-		F, S, Su	MATH 1170	
MATH 2240 Linear Algebra	3	C-		F, S, Su	MATH 1170	
GE Objective 1: ENGL 1102 Critical Reading & Writing	3	C-	GE	F, S, Su	ENGL 1101 or (1101P) or equivalent	
GE Objective 4	3		GE	F, S, Su		
Free Electives	2			F, S, Su		
Total	15					
Semester Three						
MATH 3350 Statistics for Scientist	3	C-	UM	F, S	MATH 1175	
CS 2281 Data Structures	3	C-		F, S	CS 1181	
GE Objective 5: PHYS 2211 Engineering Physics I (w/lab)	4		GE	F, S, Su	MATH 1170	
CS3310 Database	3		UM	F	CS 2281, CS 1337 and MATH 1144 or MATH 1147	
MATH 2275 Calculus III***	4	C-		F, S	MATH 1175	
Total	17					
Semester Fou						
MATH 3360 Differential Equations***	3	C-	UM	F, S	MATH1175; MATH 2240 or MATH 2275 recommended	
CS 1337 Computer Organization & Architecture	3	C-		F, S	CS1182, MATH 1144 or MATH1147	
MATH 3352 Introduction to Probability	3	C-	UM	F, S	MATH 1175	
MATH3326 Elementary Analysis ****	3	C-	UM	F, S	MATH 1175 and either MATH 2240 or MATH 2287	Satisfies Track 1 Elective.
GE Objective 6	3		GE			
Total	15					
Semester Five						
CS 4433 Applied Neural Networks	3		UM	F	CS 2281, MATH 3332	
ENGL 3307 Professional & Technical Writing	3			F, S	ENGL 1102	
MATH 4450 Mathematical Statistics I	3		UM	OF	MATH 3352, MATH 3326	
GE Objective 5	3		GE			
Track 1 Elective (see approved list)	3			Varies	Varies	
Total	15					
Semester Six						
MATH/CS 3332 Data Science & Applied ML	3	C-	UM	S	MATH 2240, CS 1181	
MATH 4405 Numerical Linear Algebra (Or other courses from the approved list)	3			ES	MATH 2240 and ME 1165 or CS 1181	
Track 1 Elective (see approved list)	3			Varies	Varies	
GE Objective 6	3					
Free Elective	3					
Total	15					
Semester Seven						
MATH 4445 Optimization methods and Their Applications	3		UM	EF	MATH 2240, MATH 2275, and CS 1181; or permission of instructor.	Satisfies Major requirement or Track 1 Elective.
MATH 4457 Applied Regression Analysis	3		UM	EF	MATH 3350 or MATH 3352	
GE Objective 9	3		GE	F, S, Su		
Track 1 Elective (see approved list)	3			Varies	Varies	
Free Elective	3					
Total	15					
Semester Eight						
MATH 4477 Theoretical Foundations of Deep Learning	3		UM	OS	MATH 2240, MATH 2275, MATH 3352	
MATH 4459 Applied Multivariate Analysis	3		UM	OS	MATH 2240 and one of MATH 3350, MATH 4457, MATH 4458	
MATH 3310 Mathematical Modeling	3		UM	S	MATH 1175, CS 1181	
GE Objective 2	3		GE	F, S, Su		
Free Elective	3					
Total	15					

*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.)
*** Even though one out of two courses MATH2275 and MATH3360 should be taken, to meet the requirements for Track 1 both are listed as mandatory.
**** It is a prerequisite for MATH 4450 and has to be taken.

20XX-20XX Major Requirements	CR	GENERAL EDUCATION OBJECTIVES Satisfy Objectives 1,2,3,4,5,6 (7 or 8) and 9	36 cr. min
MAJOR REQUIREMENTS		1. Written English (6 cr. min) ENGL 1101	3
Mathematics/Computer Science Core	14	ENGL 1102,	3
MATH 1170 Calculus I (4 cr counted in Objective 3)		2. Spoken English (3 cr. min) COMM 1101, or BIOL 1104	3
MATH 1175 Calculus II	4	3. Mathematics (3 cr. min) Recommended by Dept	
		4. Humanities, Fine Arts, Foreign Lang. **(2 courses; 2 categories; 6 cr. min)**	
MATH 2240 Linear Algebra	F, S, Su 3		
MATH 3350 Statistics for Scientist MATH 3352 Introduction to probability	F, S F, S, 3		
CS 1181 Computer Science & Prog I CS 1337 Computer Organization & Architecture CS 2281 Data Structures CS3310 Database CS 3332/MATH 3332 Data Science and Applied Machine Learning ENGL 3307 Professional & Technical Writing	F, S F, S F, S F D/S	5. Natural Sciences **(2 lectures-different course prefixes, 1 lab; 7 cr. min)**	
Major Requirements			
Choose 6 Upper Division credits from list below^^:	**6**		
MATH 4441 Introduction to Numerical Analysis I	OF 3		
MATH 4445 Optimization methods and Their Applications	EF 3	6. Behavioral and Social Science **(2 courses-different prefixes; 6 cr. min)**	
MATH 4405 Numerical Linear Algebra	ES 3		
CS4433 Applied Neural Networks	NA 3		
Choose 1 of the following two tracks		One Course from EITHER Objective 7 OR 8 **(1course; 3 cr. min)**	
Track 1: Concentration in Mathematics and Statistics	33-34	7. Critical Thinking CS1181	
Choose 1 of the following two courses:	3-4	8. Information Literacy (Not Applicable)	
MATH 2275 Calculus III	F, S, Su	9. Cultural Diversity **(1 course; 3 cr. min)**	
MATH 3360 Differential Equations	F, S		
MATH 3310 Mathematical Modelling	S 3	General Education Elective to reach 36 cr. min. **(if necessary)**	
MATH 4450 Mathematical Statistics I	OF 3		
MATH 4457 Applied Regression	EF 3	**Total GE**	
MATH 4459 Applied Multivariate Analysis	OS	Undergraduate Catalog and GE Objectives by Catalog Year *http://coursecat.isu.edu/undergraduate/programs/*	
MATH 4477 Theoretical Foundations of Deep Learning	OS		
Choose one additional course from following two courses:	3		
MATH 4441 Introduction to Numerical Analysis I	OF		
MATH 4445 Optimization methods and Their Applications	EF		
MATH 4405 Numerical Linear Algebra	ES	**MAP Credit Summary**	**CR**
CS4433 Applied Neural Networks	F	Major	
Track 1 elective:		General Education	
Students must take 12 additional credits from the following list to complete the degree:		Upper Division Free Electives to reach 36 credits	
MATH 2275 Calculus III	F, S, Su	Free Electives to reach 120 credits	
MATH 3326 Elementary Analysis	F, S	TOTAL	
MATH 3360 Differential Equations	F, S		
MATH 4441 Introduction to Numerical Analysis I	OF		
MATH 4451 Mathematical Statistics II	ES		
MATH 4453 Topics in Statistics*	D		
MATH 4458 Experimental Design	D	**Graduation Requirement Minimum Credit Checklist**	**Confirmed**
MATH 4463 Topics in Applied Mathematics**	D	Minimum 36 cr. General Education Objectives (15 cr. AAS)	
MATH 4465 Partial Differential Equations	OS	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)***	
*, **: These courses are 1-3 credit courses, repeated for up to 3 credits.		*Date*
	CAA or COT:	

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 5.12.2026