ARTIFICIAL INTELLIGENCE - BACHELOR OF SCIENCE

Requirements

Students must complete all University degree requirements, which include: General Education requirements, Viewing a Wider World requirements, and elective credits to total at least 120 credits with 48 credits in courses numbered 300 or above. Developmental coursework will not count towards the degree requirements and/or elective credits but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education Requirement		
Area I: Communications [1]		*9-10*
English Composition - Level 1 [2]		
ENGL 1110G	Composition I	4
English Composition - Level 2		
ENGL 2210G	Professional and Technical Communication Honors	3
Oral Communication		
Choose one from the following:		3
COMM 1115G	Introduction to Communication	3
COMM 1130G	Public Speaking	3
HNRS 2175G	Introduction to Communication Honors	3
Area II: Mathematics [3]		*3-4*
MATH 1511G	Calculus and Analytic Geometry I	4
or MATH 1430G	Applications of Calculus I	
Area III/IV: Laboratory Sciences and Social/Behavioral Sciences		*10-11*
Area III: Laboratory Sciences [2]		
Area IV: Social & Behavioral Sciences [2]		
Either an Area III/IV: Laboratory Sciences Course or Social/Behavioral Sciences [2]		
Area V: Humanities [2]		*3*
Area VI: Creative and Fine Arts [2]		*3*
General Education Elective [2]		*3-4*
Viewing a Wider World [4]		**6**
Departmental Requirements		**47**
CSCI 1720	Computer Science I	0,4
CSCI 2210	Object-Oriented Programming	0,4
CSCI 2220	Introduction to Data Structures and Algorithms	0,4
CSCI 2310	Discrete Mathematics for Computer Science	0,4
CSCI 2410	Practical Programming	2
CSCI 3410	Introduction to Intelligent Agents Using Science Fiction	3
CSCI 3710	Software Development	0,4
CSCI 3720	Data Structures and Algorithms	0,4
CSCI 4110	Computing Ethics and Social Implications of Computing	1
CSCI 4980	Senior Project [5]	4
or CSCI 4999	Senior Thesis	
CSCI 4405	Artificial Intelligence I	3
CSCI 4140	Database Management Systems I	3
CSCI 4420	Applied Machine Learning I	3
CSCI 4415	Introduction to Data Mining	3
Additional Selective Requirements		
Select one of the following		*3*
CSCI 4435	Text Mining and Natural Language Processing	3
CSCI 4440	Generative Artificial Intelligence	3
Select 9 credits from the following		*9*
CSCI 4425	Introduction to Deep Learning	3
CSCI 4430	Graph Data Mining	3
CSCI 4265	Modern Web Technologies	3
CSCI 4255	Digital Game Design	3
CSCI 4270	Principles of Virtual Reality	3
CSCI 4250	Human-Centered Computing	3
Select 9 credits from the follo wing: [5]		*9*
CSCI 4225	Introduction to Cryptography	3
CSCI 4230	Architectural Concepts I	3
CSCI 4410	Computer Graphics I	3
CSCI 4996	Special Topics	1,12
C S 479	Special Topics [6]	1-6

CSCI 4205	Computer Security	3
C S 480	Linux System Administration	3
CSCI 4260	Visual Programming	3
C S 484	Computer Networks I	3
CSCI 4305	Bioinformatics	3
C S 489	Bioinformatics Programming	3
CSCI 4215	Parallel Programming	3
CSCI 4220	Cloud and Edge Computing	3
SOCI 4150	Networked and Connected	3
SOCI 4155	Textual Analysis of Digital and Social Media	3
SOCI 4160	Visualizing Social Life	3
E E 406	Quantum Computing	3
E E 408	Noncooperative Game Theory	3
E E 444	Advanced Image Processing	3
E E 446	Digital Image Processing	3
E E 465	Machine Learning I	3
I E 425	Supply Chain Modeling and Analysis	3
I E 467	Discrete-Event Simulation Modeling	3
ICT 439	Advanced Digital Forensics and Incident Response	3
ICT 450	Ethical Hacking	3
M E 486	Introduction to Robotics	3
BCIS 482	Management of Information Security	3
BCIS 461	Business Analytics I	3
BCIS 466	Business Analytics II	3
PSYC 2220	Cognitive Psychology	3
PSYC 2250	Brain and Behavior	3
PSYC 320	Learning	3
PSYC 380	Perception	3
PSYC 383	Memory	3
PSYC 430	Human-Computer Psychology	3
PSYC 442	Thinking	3
Non-Departmental Requirements (in addition to Gen.Ed/VWW)		**3**
Select one from the following :		
MATH 1350G	Introduction to Statistics	3
MATH 2350G	Statistical Methods	3
A ST 311	Statistical Applications	3
STAT 3110	Statistics for Engineers and Scientists	3
STAT 4210	Probability: Theory and Applications	3
Second Language Requirements: not required		
Electives, to bring the total credits to 120 [7]		**5-7**
Total Credits		**120-126**

[1] Students with Area I transfer credits may sometimes complete this requirement with 9 credits

[2] See the General Education (https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/) section of the catalog for a full list of courses

[3] Either MATH 1430G Applications of Calculus I or MATH 1511G Calculus and Analytic Geometry I is required for the degree but students may need to take any prerequisites needed to enter either first.

[4] See the Viewing a Wider World (https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/#viewingawiderworldtext) section of the catalog for a full list of courses.

[5] The current C S 419 course will need to be developed to become a full course for the need of this program.

[6] The project or thesis must be related to AI.

[7] A course can satisfy only one requirement. Courses outside of the department might require additional pre-requisites.

[8] Must be taken for 3 credits to count as a course.

[9] Elective credit may vary based on prerequisites, dual credit, AP credit, double majors, and/or minor coursework. The amount indicated in the requirements list is the amount needed to bring the total to 120 credits and may appear in variable form based on the degree. However students may end up needing to complete more or less on a case-by-case basis and students should discuss elective requirements with their advisor.

Road Map

A Suggested Plan of Study for Students

This roadmap assumes student placement in MATH 1220G College Algebra and ENGL 1110G Composition I . The contents and order of this roadmap may vary depending on initial student placement in Mathematics and English. It is only a suggested plan of study for students and is not intended as a contract. Course availability may vary from fall to spring semester and may be subject to modification or change.

Freshman		**Credits**
CSCI 1720	Computer Science I	0-4
CSCI 2210	Object-Oriented Programming	0-4
CSCI 2220	Introduction to Data Structures and Algorithms	0-4
MATH 1430G or MATH 1511G	Applications of Calculus I [1] or Calculus and Analytic Geometry I	3
ENGL 1110G	Composition I	4
Area III: Laboratory Science Course [2]		3
Area IV: Social/ Behavioral Sciences Course [2]		3
Area V: Humanities Courses [2]		3
Electives as needed to meet the minimum credit requirement for financial aid [6]		2
	Credits	**18-30**
Sophomore		
CSCI 2310	Discrete Mathematics for Computer Science	0-4
CSCI 2410	Practical Programming	2
CSCI 3710	Software Development	0-4
CSCI 3410	Introduction to Intelligent Agents Using Science Fiction	3
ENGL 2210G	Professional and Technical Communication Honors	3
Area III or IV [2]		3
Viewing the Wider World [3]		3
Select one from the following:		3
CSCI 4435	Text Mining and Natural Language Processing	
CSCI 4440	Generative Artificial Intelligence	
Elective credits if needed for financial aid requirements [6]		5
	Credits	**22-30**
Junior		
CSCI 3720	Data Structures and Algorithms	0-4
CSCI 4405	Artificial Intelligence I	3
CSCI 4140	Database Management Systems I	3
Elective Courses from List 1 or 2 [4]		9
Area 6: Humanities [2]		3
Non-Departmental Requirement in addition to Gen. Ed/WWW [5]		3
Viewing a Wider World [3]		3
Elective credits if needed for financial aid requirements [6]		2
	Credits	**26-30**
Senior		
C S 448 or C S 449	Senior Project or Senior Thesis	4
CSCI 4420	Applied Machine Learning I	3
CSCI 4415	Introduction to Data Mining	3
Elective Courses from List 1 and 2 [4]		9
Upper division electives to bring total upper division to 48 [3]		4
Electives as needed to meet minimum credit requirements [6]		4
CSCI 4110	Computing Ethics and Social Implications of Computing	1
	Credits	**28**
	Total Credits	**94-118**

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