

(For students admitted in 2023-24 and onwards under the 4-year degree)

BENG IN ARTIFICIAL INTELLIGENCE

120 credits are required for BEng in Artificial Intelligence:

- ◆ **30 credits** for University Common Core Courses
- ◆ **85-86 credits** for Major Requirements, including:
 - **21-22 credits** for Fundamental Courses
 - **37 credits** for Major Required Courses
 - **27 credits** for Major Elective Courses
- ◆ Free Elective Courses can be used to fill in any shortfall in total credits

Major Requirements

Fundamental Courses (21-22 credits)

Course Code		Course Title	Credit(s) attained	
UFUG	1601	Introduction to Computer Science	3	
UFUG		<i>Note: UFUG 2601 OR UFUG 2602</i>	3-4	
UFUG	2601	C++ Programming	4	
UFUG	2602	Data Structure and Algorithm Design	3	
UFUG		<i>Note: UFUG 1102 OR UFUG 1105</i>	3	
UFUG	1102	Calculus I	3	
UFUG	1105	Honors Calculus I	3	
UFUG		<i>Note: UFUG 1103 OR UFUG 1106</i>	3	
UFUG	1103	Calculus II	3	
UFUG	1106	Honors Calculus II	3	
UFUG	2104	Applied Statistics	3	
UFUG	2103	Linear Algebra	3	

UFUG		<i>Note: UFUG 1301 OR UFUG 1302 OR UFUG 1401 OR UFUG 1501 OR UFUG 1503</i>	3	
UFUG	1301	General Chemistry	3	
UFUG	1302	Honors Chemistry I	3	
UFUG	1401	General Biology I	3	
UFUG	1501	General Physics I	3	
UFUG	1503	Honors General Physics I	3	

Major Required Courses (37 credits)				
Course Code		Course Title	Credit(s) attained	
AIAA	1010	Academic Orientation for AI Students	1	
DSAA	2011	Machine Learning	3	
DSAA	2043	Design and Analysis of Algorithms	3	
AIAA	2205	Introduction to Artificial Intelligence	3	
AIAA	2290	Ethics, Privacy and Security in Artificial Intelligence	3	
AIAA	2711	Mathematics for AI	3	
DLED	3020	English Communication I for Information Hub Programs	3	
AIAA	3102	Python Programming for Artificial Intelligence	3	
AIAA	3111	Introduction to Data Mining	3	
AIAA	3201	Introduction to Computer Vision	3	
DLED	4020	English Communication II for Information Hub Programs	3	
AIAA	4490	Final Year Capstone Project	6	

Major Elective Courses (27 credits)

Course Code		Course Title	Minimum credit(s) required	
		<i>AI Electives (9 courses from the specific elective list)</i>	27	
DSAA	1001	Introduction to Data Science and Analytics	3	
DSAA	2012	Deep Learning	3	
AIAA	2211	Exploring Artificial Intelligence	3	
AIAA	3053	Introduction to Reinforcement Learning	3	
AIAA	3210	Machine Learning and Information Processing for Robotics	3	
AIAA	3225	Learning and Optimization for Artificial Intelligence	3	
AIAA	3511	Operating Systems	3	
AIAA	4051	Introduction to Natural Language Processing	3	
AIAA	4213	Introduction to Bayesian Networks	3	
AIAA	4220	Introduction to Embodied AI	3	
AIAA	4250	Robotic Manipulation and Mobility	3	
AIAA	4255	Machine Learning with Structured Data	3	
AIAA	4330	Introduction to Artificial Intelligence and Big Data in Finance	3	
AIAA	4332	Big Data Mining and Management	3	
AIAA	4432	Statistical Machine Learning	3	
AIAA	4641	Social Information Network Analysis and Engineering	3	
AIAA	4711	Introduction to Advanced Algorithmic Techniques	3	
AIAA	4911	IT Entrepreneurship	3	