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

BEng in Decision Analytics

In addition to the requirements of their major programs, students are required to complete the University requirements for graduation. For details please refer to the respective section on this website.

Students may use no more than 9 credits earned from courses offered in self-paced online delivery mode to satisfy the graduation requirements of a degree program. This 9-credit limit does not apply to credits obtained through the credit transfer procedures of the University.

For students graduating with an additional major, they must take all the requirements specified for that major, within which they must complete at least 20 single-counted credits. These 20 credits cannot be used to fulfill any other requirements for graduation except for the 120-credit degree requirement.

Under the new 30-credit Common Core Program which is applicable to students admitted to the University in 2022-23 and thereafter, courses that have been counted towards Major Requirements are not allowed to be reused for fulfilment of the University Common Core Requirements. Students should look up the details of the Common Core Program including the general and School-/program-specific distributional requirements posted on the Common Core website where the link to it is available on this website.

Major Requirements

Engineering Fundamental Course(s)

			Credit(s) attained
COMP		Note: COMP 1021 OR COMP 1022P OR COMP 2011 OR COMP 2012H	3-5
COMP	1021	Introduction to Computer Science	3
COMP	1022P**	Introduction to Computing with Java	3
COMP	2011	Programming with C++	4
COMP	2012H	Honors Object-Oriented Programming and Data Structures	5
CHEM/PHYS		Note: CHEM 1012 OR PHYS 1112 OR PHYS 1312	3
CHEM	1012	General Chemistry B: Atomic Structure, Molecules, and Bonding Theories	3
PHYS	1112	General Physics I with Calculus	3
PHYS	1312	Honors General Physics I	3
LANG	2030	Technical Communication I	3
MATH		Note: [(MATH 1012 OR MATH 1013 OR MATH 1023) AND (MATH 1014 OR MATH 1024)] OR [MATH 1020]	4-7
MATH	1012**	Calculus IA	4
MATH	1013	Calculus I	3
MATH	1014	Calculus II	3
MATH	1020	Accelerated Calculus	4
MATH	1023	Honors Calculus I	3
MATH	1024	Honors Calculus II	3
MATH	2011	Introduction to Multivariable Calculus	3
MATH	2111	Matrix Algebra and Applications	3

SENG		Engineering Introduction course (If the students take an introduction course included in their major, this course can be counted towards their major requirement.)	3-4
IEDA	2010	Introduction of Industrial Engineering and Decision Analytics	3
BIEN	1010	Introduction to Biomedical Engineering	3
CENG	1000	Foundations of Chemical and Biological Engineering	3
CENG	1500	A First Course on Materials Science and Applications	3
CENG	1700	Introduction to Environmental Engineering	3
CIVL	1100	Discovering Civil and Environmental Engineering	3
CIVL	1210	Fundamental of Green Buildings	3
COMP	1021	Introduction to Computer Science	3
ELEC	1100	Introduction to Electro-Robot Design	4
ELEC	1200	A System View of Communications: from Signals to Packets	4
ENGG	1100	First Year Cornerstone Engineering Design Project Course	3
ISDN	1001	Introduction to Integrative Systems and Design	3
ISDN	1002	Redefining Problems for the Real Needs	3
ISDN	1006	Human-centered Innovation	3
MECH	1902	Energy Systems in a Sustainable World	3
MECH	1906	Mechanical Engineering for Modern Life	3
MECH	1907	Introduction to Aerospace Engineering	3

Required Course(s)

			Credit(s) attained
IEDA	1010	Academic and Professional Development I	0
IEDA	1020	Academic and Professional Development II	0
IEDA	1901	Industrial Training and Experience	0
IEDA	2520	Probability for Engineers	3
IEDA	2540	Statistics for Engineers	3
IEDA	3010	Prescriptive Analytics	3
IEDA	3230	Engineering Economics and Accounting	3
IEDA	3250	Stochastic Models	3
IEDA	3300	Industrial Data Systems	3
IEDA	3560	Predictive Analytics	3
IEDA		Note: IEDA 4901 OR IEDA 4920	6
IEDA	4901	Final Year Thesis	6
IEDA	4920	Decision Analytics Final Year Project	6
ENGG	2010	Engineering Seminar Series	0
ECON		Note: ECON 2103 OR ECON 2113	3
ECON	2103	Principles of Microeconomics	3
ECON	2113	Microeconomics	3
LANG	4032	Technical Communication II for IEDA and ISDN	3

Elective(s)

			Minimum credit(s) required
IEDA/ISOM		Area Electives (5 courses from the specified elective list, of which all 5 courses should be taken from the same area)	15
Financial Engineering			
IEDA	3180**	Data-Driven Portfolio Optimization	3
IEDA	3330	Introduction to Financial Engineering	3
IEDA	4331	Quantitative Methods in Financial Engineering	3
IEDA	4500	Engineering Foundations of FinTech	3
IEDA	4510	Systems Risk Management	3
IEDA	4520	Numerical Methods for Financial Engineering	3
ISOM	4840	Financial Service Operations Management	3
Consulting Services			
IEDA	3460	Demand and Supply Analytics	3
IEDA	4000	Special Topics	1-3
IEDA	4100	Integrated Production Systems	3
IEDA	4180	Service Engineering and Management	3
IEDA	4410	Data Driven Supply Chain Management	3
IEDA	4420	Dynamic Pricing and Revenue Optimization	3
IEDA	4510	Systems Risk Management	3

***Remarks on course(s):*

- COMP 1022P: The course was last offered in 2024-25 and was deleted subsequently.
- IEDA 3180: The course was last offered in 2024-25 and was deleted subsequently.
- MATH 1012: The course was last offered in 2024-25 and was deleted subsequently.