

(For students admitted in 2017-18 under the 4-year degree)

## BEng in Aerospace Engineering

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.

Some courses can be used to fulfill both Major and University Common Core Requirements. Students may reuse a maximum of 9 credits of these courses to count towards both Requirements.

### Major Requirements

#### Engineering Fundamental Course(s)

			Credit(s) attained
COMP		Note: COMP 1021 <u>OR</u> COMP 1022P <u>OR</u> COMP 1022Q <u>OR</u> COMP 2011	3-4
COMP	1021	Introduction to Computer Science	3
COMP	1022P	Introduction to Computing with Java	3
COMP	1022Q	Introduction to Computing with Excel VBA	3
COMP	2011	Introduction to Object-oriented Programming	4
ENGG	1010	Academic Orientation	0
LANG	2030	Technical Communication I	3
MATH		Note: [(MATH 1012 <u>OR</u> MATH 1013 <u>OR</u> MATH 1023) <u>AND</u> (MATH 1014 <u>OR</u> MATH 1024)] <u>OR</u> [MATH 1020]	4-7
MATH	1012	Calculus IA	4
MATH	1013	Calculus IB	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		Note: MATH 2111 <u>OR</u> MATH 2350 <u>OR</u> MATH 2351	3
MATH	2111	Matrix Algebra and Applications	3
MATH	2350	Applied Linear Algebra and Differential Equations	3
MATH	2351	Introduction to Differential Equations	3
PHYS		Note: PHYS 1112 <u>OR</u> PHYS 1312	3
PHYS	1112	General Physics I with Calculus	3
PHYS	1312	Honors General Physics I	3
CHEM/LIFS/ PHYS		Science 1000-level course (Any 1 course of the subject and level as specified)	3

## Required Course(s)

			<b>Credit(s) attained</b>
MECH	1907	Introduction to Aerospace Engineering	3
MECH	1990	Industrial Training	0
MECH	2020	Statics and Dynamics	3
MECH	2040	Solid Mechanics I	3
MECH	2210	Fluid Mechanics	3
MECH	2310	Thermodynamics	3
MECH	2410	Engineering Materials I	3
MECH	3610	Control Principles	3
MECH	3620	Aircraft Design	3
MECH	3640	Aerodynamics	3
MECH	3650	Aircraft Structural Analysis	3
MECH	3660	Gas Turbines and Jet Propulsion	3
MECH	3670	Aircraft Performance and Stability	3
MECH	3690	Aerospace Engineering Laboratory	3
MECH	4980	Final Year Aerospace Design Project	6
ELEC	2420	Basic Electronics	3
ENGG	2010	Engineering Seminar Series	0
LANG	4034	Technical Communication II for Mechanical and Aerospace Engineering	3

## Elective(s)

			<b>Minimum credit(s) required</b>
MECH		MECH Electives in Aerospace (4 courses from the specified elective list)	12
MECH	2520	Design and Manufacturing I	3
MECH	3310	Heat Transfer	3
MECH	3680	Avionics Systems	3
MECH	4100	Experiential Projects in Aerospace Engineering	3
MECH	4810**	Unmanned Aviation Vehicle	3
MECH	4820	Flight Mechanics	3
MECH	4830**	Aviation Systems and Logistics	3
MECH	4840**	Air Traffic Control/Management	3
MECH	4850	Vibration and Acoustics	3
MECH	4860	Aeroelasticity	3
MECH	4870**	Computational Fluid Dynamics (CFD)	3
MECH	4880	Combustion	3

Student may opt to graduate with or without an option. Students who take an option MUST complete all requirements specified in addition to the major requirements.

## Option(s)

### Research Option

Required Course(s)

			<b>Credit(s) attained</b>
MECH	4990	Aerospace Research Project	6

**\*\*Remarks on course(s):**

- MECH 4810: This is a new course subject to approval.
- MECH 4830: This is a new course subject to approval.
- MECH 4840: This is a new course subject to approval.
- MECH 4870: This is a new course subject to approval.