

Please follow these instructions while selecting courses:

1. Consult the [list of graduate courses posted on the UTIAS website](#) to select courses for your entire MEng program, breaking down course selection by term.
2. Complete the [Course Selection form](#) and email the form to the [UTIAS MEng Office](#).
3. You may enrol using ACORN as soon as you have selected your courses; you need not wait for approval from the UTIAS MEng Office. Changes to course selection can be made up to the add / drop dates for the relevant term.

## **Selecting MEng Courses**

### *Course requirements*

All MEng students are required to take five Full-Course Equivalents (FCEs). As most graduate courses are considered to be half-courses (0.5 FCEs), this means ten courses. Students may take courses from UTIAS (AER and ROB courses), other UofT engineering departments (MIE, CIV, CSC, etc), or from the Faculty of Applied Science and Engineering (APS). There are restrictions on which courses may be taken:

1. At least half of the courses must be AER or ROB.
2. At least seven courses must be technical. Note that AER 1601H is the only non-technical AER course. Most courses offered by other engineering departments are technical; most APS courses are non-technical. If you are unsure whether a course is technical or non-technical, **contact the UTIAS MEng Office for advice before the course starts**.
3. At most three courses may be 500-level.
4. All MEng students may take a maximum of 10 (ten) half courses (5.0 FCEs). The only exception is for MEng students wishing to qualify for the [ELITE certificate](#), who may take seven technical courses and four non-technical courses, or 5.5 FCEs. AER 1601 is considered a non-technical course.
5. Students wishing to take the [ELITE certificate](#), and hence take eleven courses, must take at least six AER/ROB courses to satisfy the requirement that at least half of their courses are AER/ROB.
6. Students will be recommended for graduation at the conclusion of the term in which they complete their tenth course (eleventh course if pursuing the ELITE certificate).

### *Course load limitations by program*

MEng students are registered in one of three options: full-time, extended full-time or part-time. The maximum course load per term or academic year are determined by the MEng option. Course load limitations for each status are as follows:

1. Full-time: Full-time MEng students are not restricted in the number of courses they may take per academic term or per academic year.

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2. Extended full-time: Extended full-time MEng students may take a maximum of 3 (three) courses per term, and a maximum of 6 (six) courses per academic year. This means that it will take at least five terms from the start of the program to complete the course requirements.
3. Part-time: Part-time MEng students may take a maximum of 2 (two) courses per term and 4 (four) courses per academic year.

### *Course Timing*

All AER and ROB courses except AER 1810 MEng Project and AER 1820 Directed Reading are taught in either the Fall term or the Winter term. When selecting courses please consult the [timetable](#) to ensure that you are spreading your courses through appropriate terms. During the Summer term there are very few technical courses available. Some MEng students elect to take AER 1810 during the Summer term. There are, however, [non-technical APS courses related to the ELITE program](#), which many students elect to take.

### *Post-graduation work authorization*

Many international students wish to apply for a Canadian work visa following graduation. To apply prior to convocation requires a Confirmation of Degree Requirements from the School of Graduate Studies stating that all the degree requirements are complete. Before issuing this letter, UTIAS must send a Master's Degree Recommendation to the School of Graduate Studies.

**UTIAS cannot under any circumstances send this recommendation before ALL course grades are posted on ROSI.** This applies even if a missing grade is for a course that is surplus to the degree requirements. As a consequence, if you wish to apply for a work authorization as early as possible, it is advisable to avoid selecting courses in the second half of the summer term to ensure that all grades are available as early as possible.

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### *Thematic course selections*

Many students want to take a selection of courses that follow a particular theme. The following groups of courses are related to the various research themes pursued at UTIAS. They will form only part of the required total of ten courses. It is not necessary to select courses from one of these themes. Students may select any courses from the UofT calendar that satisfy the MEng requirements, but some students find these lists helpful. Please note that not all courses are offered every year. Consult the timetable for details. It is also possible to qualify for an Emphasis, which is recorded on the transcript. The Emphases available to UTIAS students are listed in the [School of Graduate Studies calendar](#). Note that the themes listed below are **NOT** Emphases.

#### Theme: Fluid Mechanics and Aerodynamics

AER 1303	Advanced Fluid Mechanics
AER 1307	Introduction to Aeroacoustics
AER 1310	Turbulence Modelling
AER 1311	Unsteady Gasdynamics
AER1324	Introduction to Turbulence
MIE 1201	Advanced Fluid Mechanics

#### Theme: Propulsion and Combustion

AER 510	Aerospace Propulsion
AER 1301	Kinetic Theory of Gases
AER 1304	Fundamentals of Combustion
AER 1311	Unsteady Gasdynamics
AER1324	Introduction to Turbulence
MIE 1222	Multiphase Flows

#### Theme: Robotics

ROB 501	Computer Vision for Robotics
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- AER 1217    Development of Autonomous UAS
- AER 1513    State Estimation for Aerospace Vehicles
- AER 1515    Perception for Robotics
- AER 1516    Robotic Motion Planning
- CSC 2503    Foundations of Computer Vision
- CSC 2515    Introduction to Machine Learning
- CSC 2516    Neural Networks and Deep Learning

Theme: Computational Engineering

- AER 1316    Fundamentals of Computational Fluid Mechanics
- AER 1319    Finite Volume Methods for CFD
- AER 1410    Topology Optimization
- AER 1415    Computational Optimization
- AER 1416    Numerical Methods for Uncertainty Quantification
- AER 1418    Variational Methods for Partial Differential  
Equations
- MIE 1621    Nonlinear Optimization

Theme: Structures and Materials

- AER 503    Aeroelasticity
- AER 1403    Advanced Aerospace Structures
- AER 1410    Topology Optimization
- AER 1415    Computational Optimization
- MIE 1804    Finite Element Method in Mechanical Engineering

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MIE 1621     Nonlinear Optimization

Theme: UAVs and Drones

ROB 501     Computer Vision for Robotics

AER 1202     Advanced Flight Dynamics

AER 1216     Fundamentals of UAVs

AER 1217     Development of Autonomous UAS

AER 1513     State Estimation for Aerospace Vehicles

CSC 2503     Foundations of Computer Vision

Theme: Propulsion and Combustion

AER 510     Aerospace Propulsion

AER 1301     Kinetic Theory of Gases

AER 1304     Fundamentals of Combustion

AER 1311     Unsteady Gasdynamics

AER1324     Introduction to Turbulence

MIE 1222     Multiphase Flows

Theme: Space Systems

AER 506     Spacecraft Dynamics and Control I

AER 510     Aerospace Propulsion

AER 1503     Spacecraft Dynamics and Control II

AER 1512     Multibody Dynamics

AER 1513     State Estimation for Aerospace Vehicles