

# Mechanical Engineering Option Selection Form

Effective May 2017, Mechanical Engineering Options were removed from the program. As a transition measure, students graduating after May 2017, but no later than May 2020, may still choose to register for an Option as per the requirements of the Undergraduate Calendar 2016-2017 (see reverse).

Please specify which option you would like to choose, or indicate that you are choosing to have no option.

<b>Name:</b> _____ <b>I.D.:</b> _____		
Please indicated if this is a: <input type="checkbox"/> First-time Option Selection <input type="checkbox"/> Change of Option		
<b>Which option would you like to choose?</b>  <div style="text-align: center;"> <input type="checkbox"/> A - Aerospace and Propulsion (must graduate by May 2020*)  <input type="checkbox"/> B - Design and Manufacturing (must graduate by May 2020*)  <input type="checkbox"/> C - Systems and Mechatronics (must graduate by May 2020*)  <input type="checkbox"/> No Option (beginning September 2018-2019)         </div>		
<b>*Students choosing Option A, B or C must show that s/he will be completing the program before May 2020. List all remaining courses in the spaces below (core, electives, capstone...).</b>		
<b>SUMMER 2019</b>	<b>FALL 2019</b>	<b>WINTER 2020</b>
1. _____ 2. _____ 3. _____ 4. _____ 5. _____	1. _____ 2. _____ 3. _____ 4. _____ 5. _____	1. _____ 2. _____ 3. _____ 4. _____ 5. _____
<b>Student Signature:</b>  Signature: _____ Date: _____		

**New applications are only accepted beginning March 1st of the current year.  
 Please submit your form to the Undergraduate Program Assistant, EV4.144 or fax to 514-848-3175.**

# OPTION REQUIREMENTS 2016-2017

## Option Requirements (prior to 2018-2019)

Students in the Mechanical Engineering program must complete at least 19.75 elective credits from within one of options A, B, or C. Prior to registration for elective courses, students indicate their choice of option on a form available from the Department, which must be submitted to the Chair's office for approval *prior to March 30*. With permission of the Department, students may take one technical elective course from another option. Students work in the area of their option within their MECH 490 project.

### 1. Option A — Aerospace and Propulsion

Students must complete the following compulsory courses from the Option Core and at least 12.75 credits from the Option Electives.

Option A Core	Credits
AERO 464 Aerodynamics	3.00
MECH 490A Capstone Mechanical Engineering Design Project	4.00

Option A Electives	Credits
AERO 417 Standards, Regulations and Certification	3.00
AERO 431 Principles of Aeroelasticity	3.00
AERO 462 Turbomachinery and Propulsion	3.00
AERO 465 Gas Turbine Design	3.50
AERO 480 Flight Control Systems	3.50
AERO 482 Avionic Navigation Systems	3.00
AERO 483 Integration of Avionics Systems	3.00
AERO 485 Introduction to Space Systems	3.00
AERO 486 Aircraft Stress Analysis	3.00
AERO 487 Design of Aircraft Structures	3.00
ENGR 411 Special Technical Report	1.00
ENGR 412 Honours Research Project	3.00
MECH 452 Heat Transfer II	3.50
MECH 453 Heating, Ventilation and Air Conditioning Systems	3.00
MECH 460 Finite Element Analysis	3.75
MECH 461 Gas Dynamics	3.50
MECH 498 Topics in Mechanical Engineering	3.00

### 2. Option B — Design and Manufacturing

Students must complete the following compulsory courses from the Option Core and at least 12.25 credits from the Option Electives.

Option B Core	Credits
MECH 412 Computer-Aided Mechanical Design	3.50
MECH 490B Capstone Mechanical Engineering Design Project	4.00

Option B Electives	Credits
ENGR 411 Special Technical Report	1.00
ENGR 412 Honours Research Project	3.00
INDU 372 Quality Control and Reliability	3.00
INDU 410 Safety Engineering	3.50
INDU 411 Computer Integrated Manufacturing	3.50
INDU 440 Product Design and Development	3.00
MECH 411 Instrumentation and Measurements	3.50
MECH 414 Computer Numerically Controlled Machining	3.50
MECH 415 Advanced Programming for Mechanical and Industrial Engineers	3.00
MECH 421 Mechanical Shaping of Metals and Plastics	3.50
MECH 422 Mechanical Behaviour of Polymer Composite Materials	3.00
MECH 423 Casting, Welding, Heat Treating, and Non-Destructive Testing	3.50
MECH 424 MEMS — Design and Fabrication	3.50
MECH 425 Manufacturing of Composites	3.50
MECH 426 Stress and Failure Analysis of Machinery	3.00
MECH 460 Finite Element Analysis	3.75
MECH 498 Topics in Mechanical Engineering	3.00

### 3. Option C — Systems and Mechatronics

Students must complete the following compulsory course from the Option Core and at least 15.75 credits from the Option Electives.

Option C Core	Credits
MECH 490C Capstone Mechanical Engineering Design Project	4.00

Option C Electives	Credits
AERO 480 Flight Control Systems	3.50
AERO 482 Avionic Navigation Systems	3.00
ENGR 411 Special Technical Report	1.00
ENGR 412 Honours Research Project	3.00
ENGR 472 Robot Manipulators	3.50
MECH 411 Instrumentation and Measurements	3.50
MECH 415 Advanced Programming for Mechanical and Industrial Engineers	3.00
MECH 444 Guided Vehicle Systems	3.00
MECH 447 Fundamentals of Vehicle System Design	3.50
MECH 448 Vehicle Dynamics	3.00
MECH 454 Vehicular Internal Combustion Engines	3.00
MECH 463 Fluid Power Control	3.50
MECH 471 Microcontrollers for Mechatronics	3.50
MECH 472 Mechatronics and Automation	3.50
MECH 473 Control System Design	3.50
MECH 474 Mechatronics	3.75
MECH 498 Topics in Mechanical Engineering	3.00

Note: Students choosing an Option may take one technical elective course from another option.  
No Student Request Form required.

