**Mech and Aero - Joint (MAAJ)**

**Mechanical and Aerospace Engineering (Joint) (MAAJ) Courses**

- **MAAJ 5001 [0.5 credit] (MCG 5101)**
  Theory of Elasticity

- **MAAJ 5002 [0.5 credit] (MCG 5102)**
  Advanced Stress Analysis

- **MAAJ 5003 [0.5 credit] (MCG5103)**
  Theory Perfectly Plastic Solid

- **MAAJ 5004 [0.5 credit] (MCG 5104)**
  Theory of Plates and Shells

- **MAAJ 5005 [0.5 credit] (MCG 5105)**
  Continuum Mechanics

- **MAAJ 5006 [0.5 credit] (MCG 5106)**
  Advanced Topics in Elasticity

- **MAAJ 5007 [0.5 credit] (MCG 5107)**
  Adv. Dynamics w/Applications

- **MAAJ 5008 [0.5 credit] (MCG 5108)**
  Finite Element Analysis

- **MAAJ 5009 [0.5 credit] (MCG 5109)**
  Topics: Finite Element Analysis

- **MAAJ 5050 [0.5 credit]**
  Fundamentals of Fluid Dynamics
  Also listed as MECH 5000.

- **MAAJ 5059 [0.5 credit]**
  Environmental Fluid Mechanics
  Also listed as MECH 5009.

- **MAAJ 5100 [0.5 credit] (MCG 5110)**
  Micromechanics of Solids

- **MAAJ 5101 [0.5 credit] (MCG 5111)**
  Gas Dynamics

- **MAAJ 5104 [0.5 credit] (MCG 5114)**
  Analy and Des: Pressure Vessels

- **MAAJ 5105 [0.5 credit] (MCG 5115)**
  Non-Linear Optimization

- **MAAJ 5107 [0.5 credit] (MCG 5117)**
  Intro to Composite Materials

- **MAAJ 5108 [0.5 credit] (MCG 5118)**
  Introduction to Plasticity

- **MAAJ 5109 [0.5 credit] (MCG 5119)**
  Fracture Mechanics

- **MAAJ 5151 [0.5 credit]**
  Dynamics and Aerodynamics of Flight
  Also listed as MECH 5101.

- **MAAJ 5155 [0.5 credit]**
  Orbital Mechanics and Space Control
  Also listed as MECH 5105.

- **MAAJ 5206 [0.5 credit] (MCG 5126)**
  Deformation of Materials

- **MAAJ 5209 [0.5 credit] (MCG 5129)**
  Hot Working of Metals

- **MAAJ 5254 [0.5 credit]**
  Fundamentals of Combustion
  Also listed as MECH 5204.

- **MAAJ 5255 [0.5 credit]**
  Building Performance Simulation
  Also listed as MECH 5205.

- **MAAJ 5301 [0.5 credit] (MCG 5131)**
  Heat Transfer by Conduction

- **MAAJ 5302 [0.5 credit] (MCG 5132)**
  Heat Transfer by Convection

- **MAAJ 5303 [0.5 credit] (MCG 5133)**
  Heat Transfer by Radiation

- **MAAJ 5304 [0.5 credit] (MCG 5134)**
  Heat Transfer w/Phase Change

- **MAAJ 5306 [0.5 credit] (MCG 5136)**
  Fluid Mech and Heat Transfer

- **MAAJ 5307 [0.5 credit] (MCG 5137)**
  Solid Mechanics and Materials

- **MAAJ 5308 [0.5 credit] (MCG 5138)**
  Topics in Mech Engineering

- **MAAJ 5352 [0.5 credit]**
  Instrumentation Techniques
  Also listed as MECH 5302.

- **MAAJ 5354 [0.5 credit]**
  Computational Fluid Dynamics of Compressible Flow
  Also listed as MECH 5304.

- **MAAJ 5401 [0.5 credit] (MCG 5141)**
  Statistical Thermodynamics

- **MAAJ 5408 [0.5 credit] (MCG 5551)**
  Theorie d’Ecoulement Visqueux

- **MAAJ 5409 [0.5 credit] (MCG 5552)**
  Theorie de Turbulence

- **MAAJ 5451 [0.5 credit]**
  Turbomachinery
  Also listed as MECH 5401.
MAAJ 5457 [0.5 credit]  
Conductive and Radiative Heat Transfer  
Also listed as MECH 5407.

MAAJ 5500 [0.5 credit] (MCG 5557)  
Mecanique de Fluides

MAAJ 5501 [0.5 credit] (MCG 5151)  
Laminar Flow Theory

MAAJ 5502 [0.5 credit] (MCG 5152)  
Theory of Turbulence

MAAJ 5505 [0.5 credit] (MCG 5155)  
Inviscid Flow Theory

MAAJ 5506 [0.5 credit] (MCG 5156)  
Measurement of Fluid Mech

MAAJ 5507 [0.5 credit] (MCG 5157)  
Num Comp: Fluid Dyn and Heat Tran

MAAJ 5508 [0.5 credit] (MCG 5158)  
Industrial Fluid Mechanics

MAAJ 5509 [0.5 credit] (MCG 5159)  
Production Planning and Control

MAAJ 5550 [0.5 credit]  
Advanced Vibration Analysis  
Also listed as MECH 5500.

MAAJ 5555 [0.5 credit]  
Stability Theory & Application  
Also listed as MECH 5505.

MAAJ 5557 [0.5 credit]  
Advanced Kinematics  
Also listed as MECH 5507.

MAAJ 5601 [0.5 credit] (MCG 5161)  
Environmental Engineering

MAAJ 5608 [0.5 credit] (MCG 5168)  
Industrial Organization

MAAJ 5609 [0.5 credit] (MCG 5169)  
Topics in Reliability Engineer

MAAJ 5655 [0.5 credit]  
Finite Element Analysis I  
Also listed as MECH 5605.

MAAJ 5656 [0.5 credit]  
The Boundary Element Method  
Also listed as MECH 5607.

MAAJ 5657 [0.5 credit]  
Creative Problem Solving and Design  
Also listed as MECH 5601.

MAAJ 5659 [0.5 credit]  
Microstructure and Properties of Materials  
Also listed as MECH 5609.

MAAJ 5700 [0.5 credit] (MCG 5170)  
CAD/CAM

MAAJ 5701 [0.5 credit] (MCG 5171)  
Applied Reliability Theory

MAAJ 5702 [0.5 credit] (MCG 5172)  
Mgmt of Automation

MAAJ 5703 [0.5 credit] (MCG 5173)  
Systems Engineer and Integration

MAAJ 5706 [0.5 credit] (MCG 5176)  
Industrial Control Systems

MAAJ 5707 [0.5 credit] (MCG 5177)  
Robot Mechanics

MAAJ 5708 [0.5 credit] (MCG 5178)  
Advanced Topics in CAD/CAM

MAAJ 5709 [0.5 credit] (MCG 5179)  
Manufacturing System Analysis

MAAJ 5750 [0.5 credit]  
Surfaces and Coatings  
Also listed as MECH 5700.

MAAJ 5751 [0.5 credit] (MCG 5369)  
Metallic Phases and Transformations

MAAJ 5800 [0.5 credit] (MCG 5180)  
Fibre Composite Materials II

MAAJ 5801 [0.5 credit] (MCG 5181)  
Advanced Vibrations

MAAJ 5802 [0.5 credit] (MCG 5182)  
Theory of Elastic Instability

MAAJ 5804 [0.5 credit] (MCG 5184)  
Mechatronics

MAAJ 5805 [0.5 credit] (MCG 5185)  
Multivariate Digital Control

MAAJ 5806 [0.5 credit] (MCG 5186)  
Non-Linear Disc Dyn and Control

MAAJ 5850 [0.5 credit]  
Special Topics in Mechanical and Aerospace Engineering  
Also listed as MECH 5800.

MAAJ 5852 [0.5 credit]  
Special Topics in Mechanical and Aerospace Engineering  
Also listed as MECH 5802.

MAAJ 5853 [0.5 credit]  
Special Topics in Mechanical and Aerospace Engineering  
Also listed as MECH 5803.
MAAJ 5854 [0.5 credit]
Special Topics in Mechanical and Aerospace Engineering
Also listed as MECH 5804.

MAAJ 5855 [0.5 credit]
Special Topics in Mechanical and Aerospace Engineering
Also listed as MECH 5805.

MAAJ 5857 [0.5 credit]
Special Topics in Mechanical and Aerospace Engineering
Also listed as MECH 5807.

MAAJ 5858 [0.5 credit]
Special Topics in Mechanical and Aerospace Engineering
Also listed as MECH 5808.

MAAJ 5901 [0.5 credit] (MCG 5191)
Combustion in Premixed Systems

MAAJ 5902 [0.5 credit] (MCG 5192)
Combustion in Diffusion System

**Summer session**: some of the courses listed in this Calendar are offered during the summer. Hours and scheduling for summer session courses will differ significantly from those reported in the fall/winter Calendar. To determine the scheduling and hours for summer session classes, consult the class schedule at central.carleton.ca

Not all courses listed are offered in a given year. For an up-to-date statement of course offerings for the current session and to determine the term of offering, consult the class schedule at central.carleton.ca