# Mech and Aero - Joint (MAAJ)

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Title</th>
</tr>
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<tbody>
<tr>
<td>MAAJ 5001</td>
<td>0.5</td>
<td>Theory of Elasticity</td>
</tr>
<tr>
<td>MAAJ 5002</td>
<td>0.5</td>
<td>Advanced Stress Analysis</td>
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<tr>
<td>MAAJ 5003</td>
<td>0.5</td>
<td>Theory Perfectly Plastic Solid</td>
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<td>MAAJ 5004</td>
<td>0.5</td>
<td>Theory of Plates and Shells</td>
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<td>MAAJ 5005</td>
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<td>Continuum Mechanics</td>
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<td>MAAJ 5006</td>
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<td>Advanced Topics in Elasticity</td>
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<tr>
<td>MAAJ 5007</td>
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<td>Adv. Dynamics w/Applications</td>
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<tr>
<td>MAAJ 5008</td>
<td>0.5</td>
<td>Finite Element Analysis</td>
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<td>MAAJ 5009</td>
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<td>Topics: Finite Element Analysis</td>
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<tr>
<td>MAAJ 5050</td>
<td>0.5</td>
<td>Fundamentals of Fluid Dynamics</td>
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<td>MAAJ 5059</td>
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<td>Environmental Fluid Mechanics</td>
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<td>MAAJ 5100</td>
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<td>Micromechanics of Solids</td>
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<td>MAAJ 5101</td>
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<td>Gas Dynamics</td>
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<td>MAAJ 5104</td>
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<td>Analy and Des: Pressure Vessels</td>
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<td>MAAJ 5105</td>
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<td>Non-Linear Optimization</td>
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<td>MAAJ 5107</td>
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<td>Intro to Composite Materials</td>
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<td>MAAJ 5108</td>
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<td>Introduction to Plasticity</td>
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<td>MAAJ 5109</td>
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<td>Fracture Mechanics</td>
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<tr>
<td>MAAJ 5151</td>
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<td>Dynamics and Aerodynamics of Flight</td>
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<td>MAAJ 5155</td>
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<td>Orbital Mechanics and Space Control</td>
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<td>MAAJ 5206</td>
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<td>Deformation of Materials</td>
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<td>MAAJ 5209</td>
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<td>Hot Working of Metals</td>
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<td>MAAJ 5254</td>
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<td>Fundamentals of Combustion</td>
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<td>MAAJ 5255</td>
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<td>Building Performance Simulation</td>
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<tr>
<td>MAAJ 5301</td>
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<td>Heat Transfer by Conduction</td>
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<td>MAAJ 5302</td>
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<td>Heat Transfer by Convection</td>
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<tr>
<td>MAAJ 5303</td>
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<td>Heat Transfer by Radiation</td>
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<td>MAAJ 5304</td>
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<td>Heat Transfer w/Phase Change</td>
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<td>Fluid Mech and Heat Transfer</td>
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<td>MAAJ 5307</td>
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<td>Solid Mechanics and Materials</td>
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<td>MAAJ 5308</td>
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<td>Topics in Mech Engineering</td>
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<td>MAAJ 5352</td>
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<td>Instrumentation Techniques</td>
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<td>Computational Fluid Dynamics of Compressible Flow</td>
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<td>Statistical Thermodynamics</td>
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<td>Theorie d’Ecoulement Visqueux</td>
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<td>MAAJ 5409</td>
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<td>Theorie de Turbulence</td>
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<tr>
<td>MAAJ 5451</td>
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<td>Turbomachinery</td>
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*Also listed as MECH 5101.*
*Also listed as MECH 5105.*
*Also listed as MECH 5204.*
*Also listed as MECH 5205.*
*Also listed as MECH 5131.*
*Also listed as MECH 5132.*
*Also listed as MECH 5133.*
*Also listed as MECH 5134.*
*Also listed as MECH 5136.*
*Also listed as MECH 5137.*
*Also listed as MECH 5138.*
*Also listed as MECH 5302.*
*Also listed as MECH 5304.*
*Also listed as MECH 5141.*
*Also listed as MECH 5309.*
*Also listed as MECH 5551.*
*Also listed as MECH 5552.*
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 5780 [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