# Mech and Aero - Joint (MAAJ)

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
<th>Notes</th>
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<tbody>
<tr>
<td>MAAJ 5001</td>
<td>Theory of Elasticity</td>
<td>0.5</td>
<td>MCG 5101</td>
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<td>MAAJ 5002</td>
<td>Advanced Stress Analysis</td>
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<td>MAAJ 5003</td>
<td>Theory Perfectly Plastic Solid</td>
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<td>MAAJ 5004</td>
<td>Theory of Plates and Shells</td>
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<td>Continuum Mechanics</td>
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<td>MAAJ 5007</td>
<td>Adv. Dynamics w/Applications</td>
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<td>MAAJ 5008</td>
<td>Finite Element Analysis</td>
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<td>MAAJ 5009</td>
<td>Topics: Finite Element Analysis</td>
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<td>MAAJ 5050</td>
<td>Fundamentals of Fluid Dynamics</td>
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<td>MAAJ 5059</td>
<td>Environmental Fluid Mechanics</td>
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<td>Micromechanics of Solids</td>
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<td>Gas Dynamics</td>
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<td>MAAJ 5104</td>
<td>Analy and Des: Pressure Vessels</td>
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<td>MAAJ 5105</td>
<td>Non-Linear Optimization</td>
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<td>Intro to Composite Materials</td>
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<td>MAAJ 5108</td>
<td>Introduction to Plasticity</td>
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<td>Fracture Mechanics</td>
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<tr>
<td>MAAJ 5151</td>
<td>Dynamics and Aerodynamics of Flight</td>
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<td>MAAJ 5155</td>
<td>Orbital Mechanics and Space Control</td>
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<td>MAAJ 5206</td>
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<td>Fundamentals of Combustion</td>
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<td>Building Performance Simulation</td>
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<td>MAAJ 5301</td>
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<td>Heat Transfer w/Phase Change</td>
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<td>Solid Mechanics and Materials</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>MAAJ 5401</td>
<td>Statistical Thermodynamics</td>
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<td>Theorie d’Ecoulement Visqueux</td>
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<td>Theorie de Turbulence</td>
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<td>MAAJ 5451</td>
<td>Turbomachinery</td>
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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