Course Information

- Course Homepage: [http://www.me.uvic.ca/~mech410/](http://www.me.uvic.ca/~mech410/)
- 24 hrs Open Lab
- Help Available at Scheduled Lab Hours

<table>
<thead>
<tr>
<th>Laboratory and Project</th>
<th>Unigraphics NX Design Modeling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laboratory 1</td>
<td>Unigraphics NX Assembly/Drawing</td>
</tr>
<tr>
<td>Laboratory 2</td>
<td>Unigraphics NX Structural Analysis</td>
</tr>
<tr>
<td>Laboratory 3</td>
<td>Unigraphics NX Sensitivity and Optimization</td>
</tr>
<tr>
<td>Laboratory 4</td>
<td>Unigraphics NX Tool Path Generation</td>
</tr>
<tr>
<td>Laboratory 5a</td>
<td>Unigraphics NX Modeling</td>
</tr>
<tr>
<td>Laboratory 5b</td>
<td>Application of CAD/CAE/CAM</td>
</tr>
</tbody>
</table>

**Final Project** Application of CAD/CAE/CAM

- Solidworks
- Unigraphics NX
- Comsol

Quiz 1 (1 lecture time, Sections 1-7)

Quiz 2 (1 lecture time, Sections 8-12)

Course Contents

- **Computer Graphics Theory**
  - Geometric Representation, Projection, Transformations
  - Solid and Surface Models of CAD Systems

- **Advanced/Integrated CAD/CAE/CAM Systems**
  - Solidworks
  - Unigraphics NX
  - Comsol

- **3D Modeling/ Assembly/ Mechanical drawing.** Basic and advanced techniques

- **Computer Engineering Analysis.**
  Solid mechanics, thermal, and fluid analysis.

- **Design Optimization**
  Using Computer Virtual Prototypes