DEPARTMENT OF MECHANICAL ENGINEERING

MECHENG 712, AEROHYDRODYNAMICS, 2012

Lecturers: Dr R N Sharma (course organiser)
Prof R G J Flay, Assoc. Prof. P J Richards,

Assessment: Final examination 70% + coursework 30%. (Note that there is no plussage).
Coursework consists of:
15% Aerofoil modelling project and laboratory (Sharma)
10% Assignment (Flay)
5% Glider competition (Richards)

Examination: Closed book

Timetable: Lectures: Tuesday 2 pm ALR5/421W-301
Wednesday 1 pm 206-315 [Check SSO for changes]
Friday 3 pm ALR5/421W-301

Labs: Aerofoil
Weeks 3, 4 (Times as per SSO) Aero Lab Rm 3.209
Monoplane
Weeks 10, 11 (Times as per SSO) Aero Lab Rm 3.209

Assignment
Starts week 2 Due 12noon Friday week 5 to SSS.

Aerofoil Project:
Starts week 5 Due 12noon Friday week 7 to SSS.

Glider competition (WRK):
Starts week 9 Fly-off 8-11am Wednesday week 12, Rec Centre.
[Check SSO for confirmation of change from Thursday]

Useful References:
[5] Wind Loading of Structures by J.D. Holmes (1st or 2nd ed) (Spon)

Outline and Schedule of Lectures:

<table>
<thead>
<tr>
<th>Lecturer</th>
<th>Week</th>
<th>Subject</th>
<th>Reading Ref</th>
</tr>
</thead>
<tbody>
<tr>
<td>Richard Flay</td>
<td>1</td>
<td>Lift and Drag</td>
<td>[1,2,6]</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Yacht motion, Equations of fluid motion</td>
<td>[1 – 3,6]</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Lift in 2D</td>
<td>[1,2,6]</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Lift &amp; Drag in 3D</td>
<td>[1,2,6]</td>
</tr>
<tr>
<td>Rajnish Sharma</td>
<td>5</td>
<td>CFD (Computational Fluid Dynamics)</td>
<td>[1, 4]</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Thin shear layers</td>
<td>[1]</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>Thin shear layers (continued)</td>
<td>[1]</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Wind engineering</td>
<td>[5]</td>
</tr>
<tr>
<td>Peter Richards</td>
<td>9</td>
<td>Aircraft stability</td>
<td>[6]</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>Aircraft performance</td>
<td>[6]</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>Wind turbines</td>
<td>[7]</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>Compressible flow, shock waves</td>
<td>[1]</td>
</tr>
</tbody>
</table>