<table>
<thead>
<tr>
<th><strong>Course Title</strong></th>
<th>Fluid Mechanics for Civil and Environmental Engineers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Course Code</strong></td>
<td>CEE 270</td>
</tr>
<tr>
<td><strong>Course Type</strong></td>
<td>Compulsory</td>
</tr>
<tr>
<td><strong>Level</strong></td>
<td>Undergraduate</td>
</tr>
<tr>
<td><strong>Year / Semester</strong></td>
<td>2nd year / Fall</td>
</tr>
<tr>
<td><strong>Teacher’s Name</strong></td>
<td>Neophytou M.</td>
</tr>
<tr>
<td><strong>ECTS</strong></td>
<td>5</td>
</tr>
<tr>
<td><strong>Lectures / week</strong></td>
<td>2x1.5hr</td>
</tr>
<tr>
<td><strong>Laboratories / week</strong></td>
<td>-</td>
</tr>
</tbody>
</table>

**Course Purpose and Objectives**
The objectives of the course include the learning of basic principles of fluid mechanics and understanding of the flow phenomena and their mathematical formulation and analysis.

**Learning Outcomes**
- Understanding of basic terms in fluid dynamics
- Familiarization of students with the scope and applications of fluid mechanics.
- Understanding of fundamental governing equations (mass and momentum) for a control volume.
- Examine engineering applications, such as buoyancy, flow measurement, lift and drag forces, etc.
- Demonstrate the application of basic principles of Fluid Dynamics in natural phenomena as well as in civil and environmental engineering problems.

**Prerequisites**
- PHY 134

**Course Content**
1. Introduction to Fluid Mechanics
2. Fluid Statics (Hydrostatics)
3. Control volume approach
4. Steady-flow momentum equation
5. Equations tangential and perpendicular to streamlines: Bernoulli’s equation and curved streamlines
6. Differential analysis of two-dimensional flows and viscous effects
7. External Flows and Boundary layers
8. Similarity Principles
9. Scaling and Model Testing

**Teaching Methodology**
Lecture (3 hours/week)

**Bibliography**
1. Lecture Handouts (delivered at each lecture by the instructor)

**Assessment**
Final exam, Mid-term exam and regular series of exercises as homework
| Language | Greek |