Course Specifications

Programme(s) on which the course is given: civil Engineering
Major or Minor element of programmes: Major
Department offering the programme: civil Engineering department
Department offering the course: civil Engineering department
Academic year / Level: Second
Date of specification approval: 12/2007

A- Basic Information

Title: Fluid mechanics (1)  Code: C203
Credit Hours: Lecture: 2
Tutorial: Practical: 2  Total: 4

B- Professional Information

1 – Overall Aims of Course
By the end of the course, the student should be familiar with:
   a- Analyze the fundamentals of Engineering fluid mechanics and hydraulics.

2 – Intended Learning Outcomes of Course (ILOs)
By the end of the course, the student should be familiar with:
   a- Knowledge and Understanding:
       a1- Define the main idea of the pressure measurements. (a-1)
   b-Intellectual Skills
       b1- Compute the hydrostatic forces on the gates in different cases.
   c-Professional and Practical Skills
       c1- Design the gates and walls subjected to hydrostatic forces.
   d- General and Transferable Skills
       d1- Join a team work. (d-1) (d-3)

3- Contents

<table>
<thead>
<tr>
<th>Topic</th>
<th>No. of hours</th>
<th>Lecture</th>
<th>Practical</th>
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</thead>
<tbody>
<tr>
<td>1- Fluid and their properties</td>
<td>8</td>
<td>4</td>
<td>4</td>
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<tr>
<td>2- Pressure head</td>
<td>8</td>
<td>4</td>
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<tr>
<td>3- Measurements of pressure</td>
<td>8</td>
<td>4</td>
<td>4</td>
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<tr>
<td>4- Resultant force and center of pressure</td>
<td>6</td>
<td>3</td>
<td>3</td>
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<tr>
<td>5- Principle of buoyancy and floatation</td>
<td>6</td>
<td>3</td>
<td>3</td>
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<td>6- Stability of submerged body</td>
<td>8</td>
<td>4</td>
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<tr>
<td>7- Rigid fluid motion</td>
<td>8</td>
<td>4</td>
<td>4</td>
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</tbody>
</table>
4- Teaching and Learning Methods

4.1- Lectures
4.2- Tutorial classes.
4.3- Laboratory.

5- Student Assessment Methods

5.1 Exercise exams: to assess a1-b1-c1 and d1.
5.2 Oral Examination: to assess a1-b1-c1 and d1.
5.3 Final exams: to assess a1-b1 and c1.

Assessment Schedule

Assessment 1 Semester Work Week 7 to 11
Assessment 2 Oral Examination Week 11
Assessment 3 Final exam Week 14

Weighting of Assessments

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Class exam</td>
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<tr>
<td>Mid-Term Examination</td>
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<tr>
<td>Final-term Examination</td>
<td>60%</td>
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<tr>
<td>Oral Examination</td>
<td>10%</td>
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<tr>
<td>Practical Examination</td>
<td>0%</td>
</tr>
<tr>
<td>Semester Work (exam)</td>
<td>30%</td>
</tr>
<tr>
<td>Other types of assessment</td>
<td>%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Any formative only assessments

6- List of References

6.1- Course notes
1- Streeter, Introduction to fluid Mechanics
2- Written Lecture Notes.
3- Solved example from Khurmi book or schaume series.,
6.2- Required books (Text books)
N.A
6-3- Recommended books,
N.A.
6-3- Periodicals, web sites, etc.
N.A.

7- Facilities Required for Teaching and Learning

a) Computers
b) Lectures halls
c) Experimental facilities

**Course Coordinator:** Dr. Ayman George Awadallh
Dr. Nabil Ahmed Awadallh

**Head of Department:** Prof. Dr. Ayman Sheen