<table>
<thead>
<tr>
<th>Course Title</th>
<th>Numerical Methods in Engineering</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Code</td>
<td>CEE 201</td>
</tr>
<tr>
<td>Course Type</td>
<td>Compulsory</td>
</tr>
<tr>
<td>Level</td>
<td>Undergraduate</td>
</tr>
<tr>
<td>Year / Semester</td>
<td>2\textsuperscript{nd} year/ Spring</td>
</tr>
<tr>
<td>Teacher’s Name</td>
<td>Balafas I.</td>
</tr>
<tr>
<td>ECTS</td>
<td>5</td>
</tr>
<tr>
<td>Lectures / week</td>
<td>2\times1.5hr</td>
</tr>
<tr>
<td>Laboratories / week</td>
<td>-</td>
</tr>
<tr>
<td>Course Purpose and Objectives</td>
<td>Learning methods for solving mathematical problems, such as finding roots, derivation, integration, solving differential equations using numerical methods, and programming them in computer language.</td>
</tr>
<tr>
<td>Learning Outcomes</td>
<td>Students will be able to know:</td>
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<tr>
<td></td>
<td>\begin{itemize}</td>
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<tr>
<td></td>
<td>\item basic concepts of numerical analysis</td>
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<tr>
<td></td>
<td>\item how to calculate / analyze errors in numerical analyzes</td>
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<tr>
<td></td>
<td>\item how to solve variety of mathematical problems (eg finding roots of nonlinear equations, solving linear systems, computation of eigenvalues and eigenvectors, numerical differentiation and integration, solution of differential equations, etc.) using numerical methods</td>
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<tr>
<td></td>
<td>\item how to implement / plan numerical algorithms via software (MATLAB, MS-Excel), to study practical engineering applications.</td>
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<tr>
<td>Prerequisites</td>
<td>N/A</td>
</tr>
<tr>
<td>Required</td>
<td>N/A</td>
</tr>
<tr>
<td>Teaching Methodology</td>
<td>Lectures (3 hours/week)</td>
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<table>
<thead>
<tr>
<th>Assessment</th>
<th>Final exam, midterm exam and homework</th>
</tr>
</thead>
<tbody>
<tr>
<td>Language</td>
<td>Greek</td>
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</table>