<table>
<tr><td>Course Title</td><td colspan="5">Physics II</td></tr>
<tr><td>Course Code</td><td colspan="5">MANS-104</td></tr>
<tr><td>Course Type</td><td colspan="5">Required</td></tr>
<tr><td>Level</td><td colspan="5">1st Cycle</td></tr>
<tr><td>Year / Semester</td><td colspan="5">1st Year, Spring Semester</td></tr>
<tr><td>Teacher’s Name</td><td colspan="5">Mrs. Panayiota Argyrou</td></tr>
<tr><td rowspan="2">ECTS</td><td rowspan="2">4</td><td>Theory</td><td>Laboratory</td><td>Simulation</td><td>Tutorial</td></tr>
<tr><td>3</td><td>----</td><td>---</td><td>----</td></tr>
<tr><td>Course Purpose and Objectives</td><td colspan="5">The main objectives of the course are to:
introduce students to the basic concepts of thermal physics and waves
to assist in the development of strong problem-solving skills
to help cultivate critical thinking in the approach to learning
consolidate the basic principles discussed in the theoretical section of the course with laboratory experiments</td></tr>
<tr><td>Learning Outcomes</td><td colspan="5">After completion of the course students are expected to:
Describe simple harmonic motion, calculate the variables in simple harmonic motion, analyze the period of oscillations with regard to mass and spring stiffness in mass-spring systems.
Understand forced oscillations and the importance of resonance in nature and engineering applications.
Be able to mathematically express a traveling wave and a standing wave as a result of interference.
Understand the principles of electricity and magnetism</td></tr>
<tr><td>Prerequisites</td><td colspan="2">MANS-102</td><td>Required</td><td colspan="2">None</td></tr>
<tr><td>Course Content</td><td colspan="5">Simple harmonic motion and Resonance
Transverse and longitudinal waves, wave characteristics, interference and standing waves
Sound waves, speed of sound, standing waves, Doppler effect
Electricity
Magnetism</td></tr>
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<tr><td></td><td><u>Experiments</u>
Simple Harmonic Motion
Standing waves in string
Speed of sound and resonance tube
Electric Circuits
Magnetic devices</td></tr>
<tr><td>Teaching Methodology</td><td>Lectures, Tutorials, Laboratory Work</td></tr>
<tr><td>Bibliography</td><td>Required Textbooks/Reading:
<table>
<tr><th>Authors</th><th>Title</th><th>Publisher</th><th>Year</th><th>Library Access</th></tr>
<tr><td>D. Giancoli</td><td>Physics, Principles with applications</td><td>Pearson</td><td>7th Edition</td><td>Copy</td></tr>
</table>
Recommended Textbooks/Reading:
<table>
<tr><th>Authors</th><th>Title</th><th>Publisher</th><th>Year</th><th>Library Access</th></tr>
<tr><td>Ben Crowell</td><td>Conceptual</td><td>http://www.lightandmatter.com/</td><td>Ben Crowell</td><td>Free to download</td></tr>
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<tr><td>Assessment</td><td>Midterm Exam, Final Exam, Homework Assignments, Lab reports</td></tr>
<tr><td>Language</td><td>English</td></tr>
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