

|   |   |
|---|---|
| <b>Course Code</b>  | ME 421  |
| <b>Course Title</b>   | Mechanical Engineering Systems Lab  |
| <b>No. of Credits</b>   | 1   |
| <b>Pre-requisites</b>   | ME 321, ME 323 and ME 327   |
| <b>Compulsory/Optional</b>  | Compulsory for Design track and Energy Systems tracks under Mechanical Engineering stream/Optional for others |
| <b>Aim(s):</b> To provide the participants the opportunity to solve as a team an open-ended engineering systems design problem that requires the application of knowledge in the areas of vibrations, control systems and thermal fluids so that all the students will be able to formulate and solve problem as an interconnected system of sub problems.  |   |
| <b>Intended Learning Outcomes:</b><br>On successful completion of the course, the students should be able to;   |   |
| <ul style="list-style-type: none"> <li>• deliberate on alternative approaches to the solution of each sub-problem,</li> <li>• integrate independently developed solutions,</li> <li>• acquire new knowledge on their own,</li> <li>• communicate professionally.</li> </ul>   |   |
| <b>Time Allocation (Hours) :</b> Practical 26, Assignment 04<br><b>(Notional Hours: 50)</b>   |   |
| <b>Course content / Course description :</b>  |   |
| <ul style="list-style-type: none"> <li>• Vibration (specific lab/labs to be decided and announced at the beginning of the class)</li> <li>• Heat exchanger and Heat, Ventilation and air conditioning systems (specific lab/labs to be decided and announced at the beginning of the class)</li> <li>• Control systems (specific lab/labs to be decided and announced at the beginning of the class)</li> </ul> |   |
| <b>Recommended Texts (if any) :</b>   |   |
| <ul style="list-style-type: none"> <li>• Will be provided at the beginning of the class depending on the lab/labs chosen for the given semester.</li> </ul>   |   |
| <b>Assessment</b>   | <b>Percentage Mark</b>  |
| <b>In-course</b>  |   |
| Tutorials/ <u>Assignments/Quizzes/Practicals</u>  |   |
| Reports   | 35  |
| Verbal Presentations  | 35  |
| Mid Semester Examination  | -   |
| <b>End-semester: Viva</b>   | 30  |