ENS 204 MECHANICS

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COURSE ATTRIBUTES   Sabanci University – 2022-23 Summer Semester
                    Undergraduate - 3 SU Credit / 10 ECTS/ 42 Teaching Hours
COURSE SCHEDULE    Thursday 08:40-11:30 FENS L047
                    Friday    08:40-11.30 FENS L063
                    Thursday 14:40-16:30 (Recit) FENS L063
PREREQUISITES      A passing grade in NS 101, MATH 101 and MATH 102

LEARNING OUTCOMES
At the end of the course student must demonstrate the ability to
• Use vector algebra in calculation of forces and moments.
• Apply equilibrium equations in the solution of 2- and 3-dimensional concurrent or non-
  concurrent force systems.
• Solve for unknown forces and moments using both the scalar and vector methods.
• Develop appropriate free-body diagrams and to use them in solution of statics problems.
• Formulate and solve the equilibrium equations for rigid bodies made up of multiple
  members.
• Calculate the geometric and mass properties of interest in solid mechanics.

COURSE CONTENT

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<th>Week</th>
<th>Topic</th>
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<tbody>
<tr>
<td>1</td>
<td>General principles and force vectors</td>
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<td>2</td>
<td>Force system resultants</td>
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<td>3</td>
<td>Equilibrium of a particle and rigid body</td>
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<td>Structural analysis</td>
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<td>Internal forces</td>
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<td>6</td>
<td>Internal forces (continued) &amp; Friction</td>
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<td>Moments of inertia</td>
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(HW1)  (HW2)  (HW3)  (Midterm)  (HW4)  (HW5)
REFERENCES

ASSESSMENT CRITERIA
Midterm (35%), Homework (%15), Final Exam (50%)

COURSE MATERIAL
The outline of lecture notes, homework, and other course-related material will be posted at the SUCourse site (https://sucourse.sabanciuniv.edu/)