



UNIVERSITÀ DI PAVIA

Anno Accademico 2021/2022

| PHYSICS B | |
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| Enrollment year | 2021/2022 |
| Academic year | 2021/2022 |
| Regulations | DM270 |
| Academic discipline | FIS/01 (EXPERIMENTAL PHYSICS) |
| Department | DEPARTMENT OF CIVIL ENGINEERING AND ARCHITECTURE |
| Course | CIVIL AND ENVIRONMENTAL ENGINEERING |
| Curriculum | PERCORSO COMUNE |
| Year of study | 1° |
| Period | 2nd semester (07/03/2022 - 17/06/2022) |
| ECTS | 6 |
| Lesson hours | 53 lesson hours |
| Language | Italian |
| Activity type | WRITTEN AND ORAL TEST |
| Teacher | LACAVA COSIMO - 6 ECTS |
| Prerequisites | Those required for admission and for understanding basic notions of Calculus, Geometry and Algebra. This second module is the natural continuation of Module A. |
| Learning outcomes | The basic concepts of kinematics, dynamics of point masses and particle systems will be introduced in the first semester; the second semester deals with rigid bodies dynamics and statics, as well as thermodynamics. Students will be trained to problem solving with simple applicative exercises. The course emphasizes the importance of understanding basic principles, and encourages the students to affine their analytic and algebraic techniques for solving the proposed exercises. |
| Course contents | Module B (second semester) Central forces, Newtonian Gravitation. Rotational dynamics, pure rolling. Oscillations and waves, basics of elasticity. temperature, heat and |

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| | internal energy. Ideal gases and first principle of thermodynamics. Heat transfer. Second principle of Thermodynamics and entropy. |
| Teaching methods | Lectures (hours/year in lecture theatre): 33 Practical class (hours/year in lecture theatre): 20 Practicals / Workshops (hours/year in lecture theatre): 0 |
| Reccomended or required readings | <ul style="list-style-type: none"> - Serway Jewett, "Fisica per Scienze e Ingegneria", vol. 1, 5a edizione, EdiSES? - Mazzoldi Nigro Voci, "Elementi di Fisica - meccanica e termodinamica", EdiSES? - Halliday Resnick Walker, "Fondamenti di Fisica", Casa Editrice Ambrosiana - C. Mencuccini, V. Silvestrini, "Fisica – Meccanica e Termodinamica", Casa Editrice Ambrosiana? - Appunti delle lezioni (mod. A) (A. Agnesi), webpage |
| Assessment methods | Exam consists in both a written and oral test. At the end of the first module (end of first semester) and the second module (end of the second semester) students may decide to sustain partial written exams. A positive result of the partial exams (minimum mark 15/30) permits to avoid the written exam. The minimum mark for admission to the oral part of the exam is 15/30. The final mark is determined by both the oral and written tests. |
| Further information | Exam consists in both a written and oral test. At the end of the first module (end of first semester) and the second module (end of the second semester) students may decide to sustain partial written exams. A positive result of the partial exams (minimum mark 15/30) permits to avoid the written exam. The minimum mark for admission to the oral part of the exam is 15/30. The final mark is determined by both the oral and written tests. |
| Sustainable development goals - Agenda 2030 | \$Ibl legenda sviluppo sostenibile |