

| Teaching commitments, Academic year 2025/2026, (BESSEDIK Madani)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Teaching commitments, Academic year 2025/2026, (BESSEDIK Madani)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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| <p><b>COURSE TITLE* General Hydraulics</b><br/> <b>CODE* HS321 CREDIT* 4 Coefficient* 2</b><br/> <b>HOURLY VOLUME*: Lectures: 1h30, Workshops: 1h30</b><br/> <b>TOTAL SEMESTER DURATION OF THE COURSE (15)</b><br/> <b>FIELD/SPECIALITY* Hydraulics</b><br/> <b>COURSE LANGUAGE* English</b><br/> <b>LEADER [TEACHER and ASSISTANT]* BESSEDIK Madani</b></p> <p><b>GENERAL OBJECTIVE OF THE COURSE</b><br/> To introduce the student to the field of fluid dynamics, more specifically the hydrodynamics of perfect and real fluids.</p> <p><b>LEARNING OBJECTIVES</b><br/> This course is a continuation of the fluid mechanics course from the first semester, so that the student can approach the various fundamental and methodological subjects that he will have to follow in his two subsequent training courses, namely the bachelor's and the master's.</p> <p><b>DESCRIPTION AND STRUCTURE* (AND TIMETABLE?)</b><br/> <u>Chapter I: The hydrodynamics of perfect fluids</u> (7 weeks)<br/> I.1. Definition<br/> I.2. The Continuity Equation<br/> I.3. General Equations of Motion: Euler's Equations<br/> I.4. Momentum Theorem<br/> I.5. Bernoulli's Equations<br/> I.6. Hydraulic Head<br/> <u>Chapter II: The hydrodynamics of real fluids</u> (8 weeks)<br/> II.1 Definition<br/> II.2 Fundamental relations of hydrostatics<br/> II.3- Pressure variation<br/> II.4. Pascal's principle and its applications<br/> II.5. Hydrostatic thrust on walls<br/> II.6. Archimedes' thrust</p> | <p><b>COURSE MATERIALS</b><br/> The course is available on the following platforms: teams, moodle</p> <p><b>PREREQUISITES*</b><br/> Basic mathematics and physics.</p> <p><b>BIBLIOGRAPHICAL RESOURCES</b><br/> R. Comolet, 'Mécanique des fluides expérimentale', Tome 1, 2 and 3, Ed. Masson et Cie.<br/> R. Ouziaux, 'Mécanique des fluides appliquées', Ed. Dunod, 1978<br/> B. R. Munson, D. F. Young, T. H. Okiishi, 'Fundamentals of fluid mechanics', Wiley &amp; sons.<br/> R. V. Gilles, 'Mécanique des fluides et hydraulique : Cours et problèmes', Série Schaum, Mc Graw Hill, 1975.<br/> C. T. Crow, D. F. Elger, J. A. Roberson, 'Engineering fluid mechanics', Wiley &amp; sons<br/> R. W. Fox, A. T. Mc Donald, 'Introduction to fluid mechanics', fluid mechanics'<br/> V. L. Streeter, B. E. Wylie, 'Fluid mechanics', Mc Graw Hill<br/> F. M. White, "Fluid mechanics", Mc Graw Hill<br/> S. Amiroudine, J. L. Battaglia, 'Mécanique des fluides Cours et exercices corrigés', Ed. Dunod</p> <p><b>ORGANISATION AND OPERATING PRINCIPLES OF THE COURSE</b></p> <p><b>INSTRUCTIONS FOR INDIVIDUAL OR GROUP EXERCISES OR TASKS</b><br/> <b>ASSESSMENT*</b> Continuous assessment: 40%; Final examination: 60%.</p> <p><b>INFORMATION ON ADDITIONAL SERVICES</b></p> <p><b>CONTACT</b><br/> <a href="mailto:mabessedik@yahoo.fr">mabessedik@yahoo.fr</a> / <a href="mailto:madani.bessedik@univ-tlemcen.dz">madani.bessedik@univ-tlemcen.dz</a></p> |

\*Rubriques obligatoires