

DMX5206 Applied Fluid Dynamics II

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| Level | 5 |
| Course Code | DMX5206 |
| Course Title | Applied Fluid Dynamics II |
| Credit value | 2 |
| Core/Optional | Core |
| Course Aim | To introduce the concepts, equations and methods of mechanics of fluids, in order to analyze various fluid flows. |
| Course Learning Outcomes (CLO): | <p>At the completion of this course student will be able to:</p> <p>CLO1: Demonstrate the knowledge of different approaches used in fluid flow analysis. CLO2: Derive governing equations for different fluid flows using differential approach. CLO3: Determine the behaviour of real fluid flow based on ideal fluid flow solutions. CLO4: Demonstrate the basic knowledge of CFD used for the analysis of fluid flow</p> |
| Content | <p>Outline Syllabus:</p> <p>Unit 1 : Kinematics of Fluid Flow Unit 2 : Differential Analysis of Fluid Flow Unit 3 : Potential Flow Theory Unit 4 : Boundary Layer Unit 5 : Compressible Flow Unit 6 : Introduction to Computational Fluid Dynamics</p> <p>Laboratory work:</p> <ol style="list-style-type: none"> 1. Flow visualization 2. Wind Tunnel -Pressure distribution and force acting on a cylinder and an aerofoil 3. Simulation of laminar flow past a circular cylinder. |