

MODULE INFORMATION      **EG21006 Fluid Mechanics**  
**Semester 1, 2021-2022 Academic Year**

MODULE INSTRUCTOR      Masoud Hayatdavoodi, Ph.D.      *Office:* Fulton Building, J10 (Mind COVID-19)  
Senior Lecturer      *E-mail:* [mhayatdavoodi@dundee.ac.uk](mailto:mhayatdavoodi@dundee.ac.uk)  
School of Science and Engineering      *Website:* <https://sites.dundee.ac.uk/masoud/>

CLASS SCHEDULE      • **Lectures (Online Videos):** Weeks 1-11 (Posted on My Dundee).  
• **Face-to-Face Tutorials:** Weeks 2, 4, 6, 8, 10, Wednesday.  
• **Laboratory:** Weeks 2 & 3 and 6-9, Monday, at Fulton F13, Fluid Mech. Lab.  
• **Online Discussion:** Weeks 1, 3, 5, 7, 9 and 11, Wednesday, 2PM-3PM.

OFFICE HOURS (ONLINE)      Fridays:      03:00PM-04:00PM  
And by appointments.

ASSESSMENT      Online Assignments (five)      75%  
Laboratory Assignments (two)      25%

GRADING SCALE      A  $\geq 70\%$   
B  $\geq 60\%$   
C  $\geq 50\%$   
D  $\geq 40\%$   
F  $< 40\%$   
For more information see:  
<https://www.dundee.ac.uk/governance/policies/policy-taught-provision/>

RECOMMENDED TEXTBOOKS	<ul style="list-style-type: none"> <li>• White, F. M. (2015). Fluid Mechanics, McGraw-Hill Education; 8 edition, 864 p., ISBN: 978-0073398273.</li> <li>• Douglas, John F., Gasoriek, Janusz M., Swaffield. John A. and Jack, Lynne B. (2011). Fluid Mechanics, Prentice Hall; 6 edition, 1012 p., ISBN: 978-0273717720.</li> <li>• Munson, Bruce R., Rothmayer, Alric P., Okiishi, Theodore H. and Huebsch, Wade W. (2012). Fundamentals of Fluid Mechanics, Wiley; 7 edition, 792 p., ISBN: 978-1118116135.</li> <li>• Kundu, Pijush K., Cohen, Ira M., Dowling, David R. (2015). Fluid Mechanics, Academic Press; 6 edition, 928 p., ISBN: 978-0124059351.</li> </ul>
ADDITIONAL RESOURCES	<ul style="list-style-type: none"> <li>• <a href="http://web.mit.edu/hml/ncfmf.html">http://web.mit.edu/hml/ncfmf.html</a></li> <li>• <a href="http://www.efluids.com">http://www.efluids.com</a></li> <li>• <a href="http://ocw.mit.edu">http://ocw.mit.edu</a></li> <li>• <a href="http://www.annualreviews.org/journal/fluid">http://www.annualreviews.org/journal/fluid</a></li> </ul>
MODULE COMMUNICATIONS	<p>Module-related material, along with class communications, are held on <i>My Dundee</i> portal. All Assignments and the solution sets, previous years' examinations, and further helpful resources will be made available online through <i>My Dundee</i> portal. Students are expected to check and use the module webpage regularly. Assignment sheets will be made available at least 7 days before the submission date. All required material should be downloaded from My Dundee and stored locally; access to the module page will not be extended beyond the current academic year.</p>
MODULE AIMS	To introduce the fundamental theoretical and practical aspects of fluid mechanics.
INTENDED LEARNING OUTCOMES	<ul style="list-style-type: none"> <li>• To develop knowledge of and proficiency in the the basic laws of fluid mechanics, the properties of fluids, the terminology used and to recognize the factors that affect flow in pipes and channels.</li> <li>• To develop an understanding of an appreciation of fluid pressure and velocity, viscosity, laminar and turbulent flow, shear forces and friction factors, conservation of mass and momentum, Bernoulli's equation, steady flow in pipes, energy losses in pipes, uniform channel flow.</li> <li>• To be able to carry out simple hydraulic calculations for pipes and channels, carry out laboratory experiments to measure piezometric heads, volumetric flow rates and friction losses in pipes, and to analyze the results within the theoretical framework of the lecture module.</li> </ul>
PREREQUISITES	None
ATTENDANCE POLICES	<p>The module content will be communicated and discussed through (i) My Dundee, (ii) face-to-face sessions, and (iii) online live sessions. It is assumed that students will attend all synchronous sessions (lectures and tutorials). Those who miss any of the lectures must follow a combination of approaches to catch up with the class as soon as possible. These include, but not limited to, (i) use of the concise reading list (available on <i>My Dundee</i>), (ii) use of the module content and schedule, (iii) discussion with the module instructor during office hours, and (iv) discussion with fellow students.</p>