



UNIVERSITI TEKNOLOGI MARA

PHY433: PHY433: FUNDAMENTAL PHYSICS:MECHANICS AND HEAT

<b>Course Name (English)</b>	PHY433: FUNDAMENTAL PHYSICS:MECHANICS AND HEAT <b>APPROVED</b>				
<b>Course Code</b>	PHY433				
<b>MQF Credit</b>	4				
<b>Course Description</b>	This course will interactively engage students cognitively and scientifically in the areas of mechanics, properties of matter, wave vibrations and thermodynamics. Students will define concepts, state and explain laws and theories, make predictions as to the possible outcome of an event, perform investigations via laboratory exercises and verbally and in writing, discuss the results and relationships with peers and facilitators. The designed lecture session is used to discuss results of investigations leading to its relation to the existing laws, principles or theories. Lecture sessions employ a mixture of lecturers and active learning (self and peer discussion). The outcomes shall be accessed through a variety of tools which include the traditional paper examination, concepts maps, informal interviews and classroom engagement.				
<b>Transferable Skills</b>	1. Effective unit conversion and vector algebra. 2. Explain and solve problems related to mechanics and heat. 3. Explain and perform several experiments in mechanics and heat.				
<b>Teaching Methodologies</b>	Lectures, Lab Work				
<b>CLO</b>	CLO1 Explain the concepts, laws and theories in mechanics, properties of matter, wave vibrations and thermodynamics. (C2) CLO2 Evaluate the concepts, laws and theories in mechanics, properties of matter, wave vibrations and thermodynamics. (C4) CLO3 Write written reports related to mechanics, properties of matter, wave vibrations and thermodynamics. (A2) CLO4 Apply the concepts, laws and theories in mechanics, properties of matter, wave vibrations and thermodynamics to solve qualitative & quantitative problem visually, mathematically and occasionally numerically. (C4)				
<b>Pre-Requisite Courses</b>	No course recommendations				
<b>Reading List</b>	<table border="1"><tr><td><b>Recommended Text</b></td><td>• Raymond A. Serway, John W. Jewett 2010, <i>Physics for Scientists and Engineers with Modern Physics</i>, Thomson Brooks/Cole [ISBN: 1439048754]</td></tr><tr><td><b>Reference Book Resources</b></td><td>• David Halliday, Jearl Walker, Robert Resnick 2013, <i>Fundamentals of Physics</i>, John Wiley &amp; Sons [ISBN: 111823071X] • Hugh D. Young, Roger A. Freedman, Albert Lewis Ford 2012, <i>Sears and Zemansky's University Physics</i>, Addison-Wesley Professional [ISBN: 0321696867]</td></tr></table>	<b>Recommended Text</b>	• Raymond A. Serway, John W. Jewett 2010, <i>Physics for Scientists and Engineers with Modern Physics</i> , Thomson Brooks/Cole [ISBN: 1439048754]	<b>Reference Book Resources</b>	• David Halliday, Jearl Walker, Robert Resnick 2013, <i>Fundamentals of Physics</i> , John Wiley & Sons [ISBN: 111823071X] • Hugh D. Young, Roger A. Freedman, Albert Lewis Ford 2012, <i>Sears and Zemansky's University Physics</i> , Addison-Wesley Professional [ISBN: 0321696867]
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<b>Article/Paper List</b>	This Course does not have any article/paper resources				
<b>Other References</b>	This Course does not have any other resources				