

Date:	Examination No.:	Version:10/10/2021	Start: 31/1/2022
<b>Module Name - Code</b>	Fluid mechanics-		
<b>Module Language:</b>	English		
<b>Responsible:</b>	Evan O. Slaiwa		
<b>Lecture (s):</b>	Mr. Evan O. Slaiwa / MSc		
<b>College:</b>	College of Engineering – Salahaddin University		
<b>Duration:</b>	15 week – Second Semester		
<b>Course outcomes:</b>	<p>At the end of the semester, students would be able to</p> <ol style="list-style-type: none"> <li>1. Interpret a function from an algebraic, numerical, graphical and verbal perspective and extract information relevant to the phenomenon modeled by the function.</li> <li>2. Ability to evaluate the integrals of complex functions.</li> <li>3. Ability to find the integral value of complex function by approximate method.</li> <li>4. Ability to evaluate the integral of function with infinite domain and find the values of integrals.</li> <li>5. Interpret a new coordinate system to represent the data, Polar coordinate.</li> <li>6. Ability to express function in both coordinates Cartesian and Polar Coordinates.</li> <li>7. Ability to find the area under the curves in polar coordinates.</li> <li>8. Interpret the 3-D dimensions and related to the given coordinates.</li> <li>9. Interpret points, lines, and planes in space.</li> </ol> <p>Interpret some things that must express with both direction and magnitude like Force, Velocity, etc.</p>		
<b>Course Content:</b>	<p>Transcendental Functions: Logarithmic, exponential, trigonometric, &amp; hyperbolic functions;  Techniques of Integration: Integration by Part, Integration of Rational Function by Partial Fraction, Trigonometric Substitution, Numerical Integration, and Improper Integrals.</p>		
<b>Literature:</b>	<ol style="list-style-type: none"> <li>1- George B. Thomas, Jr, Maurice D. Weir, Joel Hass, Christopher Heil &lt;&lt;THOMAS' CALCULUS 13/E&gt;&gt; Pub, Pearson, 2010.</li> <li>2- George B. Thomas, Jr, Maurice D. Weir, Joel Hass, Frank R. Gird &lt;&lt;THOMAS' CALCULUS 11/E&gt;&gt; Pub, Pearson, 2005.</li> <li>3- Salas Hile &lt;&lt;CALCULUS ONE VARIABLE 9th edition&gt;&gt; pub, John Wiley and sons, 2003.</li> <li>4- Howard Anton &lt;&lt;CALCULUS WITH ANALYTIC GEOMETRY; 3ed edition&gt;&gt; pub, John Wiley, 1983.</li> <li>5- James Swart &lt;&lt;CALCULUS 5th edition&gt;&gt; pub, Thomson, 2003.</li> <li>6- R. Finney and G. Thomas &lt;&lt;CALCULUS AND ANALYTIC GEOMETRY 10th edition&gt;&gt; pub, Addison Wesley, 2003.</li> </ol>		
<b>Type of Teaching:</b>	3 hrs. theory per week 1 hr. tutorial per week		
<b>Pre-requisites:</b>	1102		
<b>Frequency:</b>	Yearly in spring semester		
<b>Requirements for credit points:</b>	<p>For the award of credit points, it is necessary to pass the module exam.  The module exam contains:  A mid-term exam, class room activities, quizzes, home works and final exam on June. So, the final grade will be based upon the following criteria:</p>		

		Mid-term exam	15%
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		Activities and Quizzes	10%
		Practical	10%
		Final exam	50%
		<b>Total</b>	<b>100%</b>
	<b>Student's attendance is required in all classes.</b>		
<b>Credit point:</b>	5		
<b>Grade Distribution:</b>	The Grade is generated from the examination result(s) with the following Annual Effort (w): 50% Final Exam (w): 50%		
<b>Work load:</b>	The workload is 120h. It is the result of 60h attendance and 60h self-studies.		