

## Calculus

<b>Course Title</b>	Calculus							
<b>Course Code</b>	TMAT-304							
<b>Course Type</b>	This course serves as both Elective and Requirement, according to the program.							
	<table border="1"> <tr> <td>Hospitality Bachelor</td> <td>Maths Elective</td> </tr> <tr> <td>All Programs</td> <td>General Elective</td> </tr> </table>		Hospitality Bachelor	Maths Elective	All Programs	General Elective		
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<b>Level</b>	Bachelor (1 <sup>st</sup> Cycle)							
<b>Year / Semester</b>	Year 3, B' Semester							
<b>Teacher's Name</b>	Mariana Pelekanos							
<b>ECTS</b>	6	<b>Lectures / week</b>	3	<b>Laboratories / week</b>				
<b>Course Purpose and Objectives</b>	The course aims to introduce mathematical concepts, techniques and theories of single-variable differential calculus. Topics include functions, limits, rate of change, tangents, derivatives, rules of differentiation and related applications.							
<b>Learning Outcomes</b>	<p>Upon completion of this course students will be able to:</p> <ol style="list-style-type: none"> <li>1. Examine elements of calculus.</li> <li>2. Identify the type of functions that exist in calculus and explain the process of using the functions as mathematical models in real life scenarios.</li> <li>3. Differentiate functions using a wide range of techniques</li> <li>4. Calculate the limits for standard function types and determine their continuity</li> <li>5. Develop a firm, basic understanding of single-variable differentials rules and their applications.</li> </ol>							
<b>Prerequisites</b>	TMAT – 102 College Algebra	<b>Required</b>						
<b>Course Content</b>	<ol style="list-style-type: none"> <li>1. Functions and models</li> <li>2. Limits</li> <li>3. Continuity</li> </ol>							

	<ol style="list-style-type: none"> <li>4. Derivatives</li> <li>5. The Derivative as a function</li> <li>6. Differentiation rules</li> <li>7. Applications of differentiation</li> </ol>								
<b>Teaching Methodology</b>	The course is delivered through lectures, tutorials and exercises.								
<b>Mode of delivery</b>	Face to face.								
<b>Bibliography</b>	<b>Required</b>								
	Stewart, J., <i>Calculus: Early Transcendentals</i> , 7 <sup>th</sup> ed.								
	<b>Recommended</b>								
	Anton, H., <i>Calculus</i> , 7th ed., John Wiley, 2002.								
<b>Assessment</b>	<p>The following assessment methods are employed to assess this course:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">30 – 50 %</td> <td style="text-align: center;">Final Exam</td> </tr> <tr> <td style="text-align: center;">20 – 40 %</td> <td style="text-align: center;">Mid –Term / Tests / Quizzes</td> </tr> <tr> <td style="text-align: center;">10 – 30 %</td> <td style="text-align: center;">Assignments / Projects</td> </tr> <tr> <td style="text-align: center;">0 – 10 %</td> <td style="text-align: center;">Class Attendance &amp; Participation</td> </tr> </table>	30 – 50 %	Final Exam	20 – 40 %	Mid –Term / Tests / Quizzes	10 – 30 %	Assignments / Projects	0 – 10 %	Class Attendance & Participation
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<b>Language</b>	English								