

TISHK INTERNATIONAL UNIVERSITY FACULTY OF ENGINEERING Department of CIVIL ENGINEERING, 2020-2021 Spring Course Information for MATH 102 CALCULUS II					
Course Name:		CALCULUS II			
Code	Regular Semester	Theoretical	Practical	Credits	ECTS
MATH 102	2	4	-	4	6
Name of Lecturer(s)- Academic Title:		Siyamand Taher Peerdawood -			
Teaching Assistant:		-			
Course Language:		English			
Course Type:		Main			
Office Hours		11:00 -1:00 Monday			
Contact Email:		ciyamand@gmail.com or siyamand.peerdawood@tiu.edu.iq			
		Tel:07504482616			
Teacher's academic profile:		Master in Soil Mechanic & Foundation Engineering.			
Course Objectives:		After completing this course, students should demonstrate competency in the following skills: Finding the integrals by using Technics of integrals. Evaluating integrals both by using Riemann sums and by using the Fundamental Theorem of Calculus. Evaluating integrals by using different methods of integration. Finding the area under curve. Finding the area between two curves. Finding the volume of the region by revolving about x-axis and y- axis.			
Course Description (Course overview):		Quadratic, Cubic, Exponential Logarithmic and Hyperbolic functions, the inverse of these functions and their graphs, Limits, Continuity and Derivatives and some Applications, the mean-Value theorem of differentiation and its applications, integration which is one of the basic subjects of calculus with definite and indefinite integral, some application of integration.			
COURSE CONTENT					
Week	Hour	Date	Topic		
1	4	28/3-1/4/2021	Y=ln x functions-definition-graph-examples		
2	4	4-8/4/2021	derivative of ln x function examples		
3	4	11-15/4/2021	integration of ln x function - examples		
4	4	18-22/4/2021	y=ex function- graph- examples		
5	4	25-29/4/2021	derivative of ex function examples		
6	4	2-6/5/2021	integration of ex function - examples		
7	4	9-11/5/2021	volume of solids by revaluation		
8	4	16-20/5/2021	Midterm Exam		
9	4	23-27/5/2021	continue on solids		
10	4	30/5-3/6/2021	trapezoidal method for integration		
11	4	6-10/6/2021	Simpson method for integration		
12	4	13-17/6/2021	Review		
13	4	20-24/6/2021	Final Exam		
COURSE/STUDENT LEARNING OUTCOMES					
1	Definition of Integrals				
2	Technics of integrals				

- 3 Integration by approximation methods
- 4 Volume of solids by integrals
- 5 Area of regions

COURSE'S CONTRIBUTION TO PROGRAM OUTCOMES

(Blank : no contribution, I: Introduction, P: Proficient, A: Advanced)

Program Learning Outcomes

	Cont.
1 Apply principles of mathematics, science, and engineering	P
2 Design and conduct experiments, as well as analyze and interpret data accurately.	I
3 Design an engineering system, component, or process to meet desired industrial needs.	P
4 Identify, formulate and solve complex engineering problems	I
5 Apply, in design and construction, the most modern design codes, standards and specifications such as; AISC, ACI, ASCE 7, IBC, etc.	A
6 Use the techniques, skills, and modern engineering tools, such as surveying instruments, and designing software that are necessary for engineering practices.	P
7 Apply knowledge and skills in construction project management and recognition of international standards and methodologies	I
8 Manage to work with multi-disciplinary teams and communicate effectively.	I
9 Identify the moral values that ought to guide the Civil Engineering profession and resolve the moral issues in the profession.	I
10 Apply the principles of sustainable development in their professional duties which go in line with the paramount safety, health and welfare of the public.	I
11 Analyze the impact of engineering solutions in a global and social context	I
12 Identify the need and have the ability to engage in lifelong learning and knowledge of contemporary issues.	I

Prerequisites (Course Reading List and References):

Thomas, G.B.(7th edition). Calculus and analytic geometry.

Student's obligation (Special Requirements):

Attendance, reading assignments, write homework, quizzes, midterm and final exams.

Course Book/Textbook:

Thomas' Calculus" 11th edition

Other Course Materials/References:

1-Calculus I and Calculus II by Paul Dawkins 2- Calculus I and II by Thomas 3- Lectures in Mathematics by Siyamand T. Peerdawood

Teaching Methods (Forms of Teaching):

Lectures, Excersises, Self Evaluation, Project, Assignments

COURSE EVALUATION CRITERIA

Method	Quantity	Percentage (%)
Attendance	1	05
Quiz	1	20
Homework	1	5
Midterm Exam(s)	1	30
Final Exam	1	40
Total		100

Examinations: Essay Questions, Short Answers, Matching

Extra Notes:

ECTS (ALLOCATED BASED ON STUDENT) WORKLOAD

Activities	Quantity	Workload Hours for 1 quantity*	Total Workload
Theoretical Hours	13	4	52
Practical Hours	13	0	0
Final Exam	1	100	100
Attendance	1	5	5

Quiz	1	5	5
Homework	1	5	5
Midterm Exam(s)	1	20	20
Total Workload			187
ECTS Credit (Total workload/25)			7.48

Peer review

Signature:

Name:

Lecturer

Signature:

Name:

Head of Department

Signature:

Name:

Dean