

**Vocational School / Biomedical Device Technology**  
**2024 - 2025 Academic Year**  
**MATHEMATICS II**  
**Syllabus**

Course Description						
Name		Code	Semester	T+A Hour	Credit	ECTS
MATHEMATICS II		BMT1227150	Spring Semester	3+0	3	5
Prerequisites Courses						
Recommended Elective Courses		Mathematics I				
Language of Instruction		Turkish				
Course Level		Short Cycle (Associate's Degree)				
Course Type		Required				
Course Coordinator		Lect. Hatice ÇAY				
Name of Lecturer(s)		Lect. Büşranur ŞERAN				
Assistant(s)						
Aim		The aim of this course is to explain fundamental math for programming contents, methods, techniques and show how to use these methods in solving certain types of problems which might possibly be encountered in many branches of science.				
Course Content		This course contains; Basic Concepts,Absolute Value and Intervals,Introduction to functions,Trigonometric functions, Logaritmic functions,Exponential functions,Limit,Continuity, Definition of derivative,Applications of derivative,Indefinite integrals,partial integration,Definite integration,Some applications of integral.				
Course Learning Outcomes				Teaching Methods	Assessment Methods	
1. Calculate modular arithmetic.				12, 16, 6, 9	A, D, E, G	
2. Calculate matrix and determinants.				12, 16, 6, 9	A, D, E, G	
3. Calculate functions and logarithmic equaitons.				12, 16, 6, 9	A, D, E, G	
4. Calculate differential equations.				12, 16, 6, 9	A, D, E, G	
5. Explain relationship between derivative and slope.				12, 16, 6, 9	A, D, E, G	
6. Explain double integral.				12, 16, 6, 9	A, D, E, G	
7. Learn the methods of mathematical modelling.				12, 16, 6, 9	A, D, E, G	
Teaching Methods		12: Problem Solving Method, 16: Question - Answer Technique, 6: Experiential Learning, 9: Lecture Method				
Assessment Methods		A: Traditional Written Exam, D: Oral Exam, E: Homework, G: Quiz				
Lecture Schedule						
Sequenc e	Topics		Preliminary Preparation			
1	Basic Concepts					
2	Absolute Value and Intervals					
3	Introduction to functions					
4	Trigonometric functions					
5	Logaritmic functions					
6	Exponential functions					
7	Limit					
8	Continuity					
9	Definition of derivative					
10	Applications of derivative					
11	Indefinite integrals					
12	partial integration					
13	Definite integration					
14	Some applications of integral					
Evaluation Methods			Weight(%)			
Midterm Exam			40			
General Exam			60			

Resources
1. Thomas' Calculus, 14th Edition, George B. Thomas, Maurice D. Weir, Joel R. Hass, Pearson.
2. Kısa Teori ve Çözümlü Problemlerle Matematik Analiz 1, Dr. Salih Çelik, Birsen Yayınevi
3. Lecture notes.