

MATH 102 – CALCULUS II / Summer 2026

Instructor: Ayşe Soysal, soysala@mef.edu.tr

Textbook: Thomas, Weir, Hass: *Thomas' Calculus*

Course Schedule:

M12 T12 W12 Th12

EXAM DATES: MID-TERM: THURSDAY, JULY 23, 17:00-18:30
FINAL: TBA BY THE REGISTRATION OFFICE

Problem Sessions: TBA

There may not be Problem Sessions in the first week. Please check your mails for notifications.

Office Hours: TBA

TA's Office Hours: TBA

Exams & grading: Midterm exam – 40%
Final exam – 60%

Final policy: You must get at least 10% of the mid-term exam score to be able to take the final exam.

Make-up policy: Due to time constraints, There will NOT be any make-up exams even if you have a valid excuse. If you miss one of the exams, you fail the course.

Week	Topics (subject to change)	Sections
1	3-d coordinate system. Vectors. The dot product. The cross product.	12.1, 12.2, 12.3, 12.4
2	Lines and planes. Quadric surfaces.	12.5, 12.6
3	Parametrization of plane curves. Calculus with parametric curves. Curves in space and their tangents. Integrals of vector functions.	11.1, 11.2, 13.1, 13.2,
4	Arc length in space. Curvature and normal vectors of a curve.	13.3, 13.4
5	Tangential and normal components of acceleration. Functions of several variables. Limits and continuity.	13.5, 14.1, 14.2.
6	Partial derivatives. The chain rule. Directional derivatives and gradient vectors.	14.3, 14.4, 14.5
7	Tangent planes and differentials. Extreme values and saddle points. Lagrange multipliers.	14.6, 14.7, 14.8
8	Iterated integrals over rectangles. Double integrals over general regions. Area by double integration. Polar coordinates. Graphing in polar coordinates. Areas and lengths in polar coordinates.	15.1, 15.2, 15.3, 11.3, 11.4, 11.5
9	Double integrals in polar form. Triple integrals in rectangular coordinates. Triple integrals in cylindrical and spherical coordinates.	15.4, 15.5, 15.7
10	Substitution in multiple integrals. Line integrals.	15.8, 16.1
11	Vector fields and line integrals. Path independence, conservative fields.	16.2, 16.3
12	Green's theorem. Surfaces and area. Surface integrals.	16.4, 16.5, 16.6
13	Stokes's theorem. Divergence theorem.	16.7, 16.8