

İZMİR INSTITUTE OF TECHNOLOGY
DEPARTMENT OF MECHANICAL ENGINEERING
ME477 INTRODUCTION TO KINEMATIC SYNTHESIS OF PLANAR LINKAGES
FALL 2023-2024

COURSE INSTRUCTOR

Prof. Dr. Gökhan Kiper (Room: Z14, gokhankiper@iyte.edu.tr, 750 6777)

COURSE ASSISTANTS

Dr. Talha Eraz (Room: Z27, talhaeraz@iyte.edu.tr, 750 6752)

COURSE SCHEDULE

Monday 13:30 – 17:15 @ room D7

COURSE WEB SITE

İYTE LMS: <http://cloud-lms.iyte.edu.tr> ⇒ ME477

STRONGLY RECOMMENDED PREREQUISITES

ME331 Theory of Machines I, ME332 Theory of Machines II

COURSE CONTENT

Introduction, motion generation, path generation, dead-center design, function generation, numerical optimization methods

TEXT BOOK

E. Söylemez, Kinematic Synthesis of Mechanisms: Using Excel and Geogebra, Springer, 2023.

Supplementary materials: <http://maked.org.tr/en/kinematic-synthesis-of-mechanisms/>

REFERENCES

G. N. Sandor & A. G. Erdman, Advanced Mechanism Design: Analysis and Synthesis, Vol. 2, Prentice-Hall, 1984.

J. M. McCarthy & G. S. Soh, Geometric Design of Linkages, 2nd Ed., Springer, 2011.

A. S. Hall, Kinematics and Linkage Design, Prentice-Hall, 1961.

W. Lichtenheldt, Mekanizmaların Konstrüksiyonu (Çeviren: F. Pasin), İTÜ, 1975 (Original 1964)

K. Hain, Applied Kinematics, McGraw-Hill, 2nd Ed., 1967.

R. S. Hartenberg & J. Denavit, Kinematic Synthesis of Linkages, McGraw-Hill, 1964.

C. H., Suh & C. W., Radcliffe, Kinematics and Mechanisms Design, John Wiley & Sons, 1978.

COMPUTER SESSIONS

Every week, the last two hours of the lecture will be about computer applications with Geogebra and Excel.

EXAMINATIONS

Examination dates, hours and rooms will be announced by the department. Make-up examinations are offered only for the students who have a valid excuse approved by the department.

TENTATIVE GRADING

Computer work %30 + Midterm Examination %35 + Final Examination %35

ACADEMIC ETHICS

All written submissions (homeworks, exams, etc.) must reflect purely independent and individual efforts. All reference material (books, scientific papers, web sites, etc.) in these submissions should be properly cited. Academic dishonesty, including any form of cheating will not be tolerated and may result in failure of the course and/or formal disciplinary proceedings that may lead to suspension or dismissal. Cheating includes but is not limited to such acts as offering or receiving unpermitted assistance in the exams, using any type of unauthorized written material during the exams, handing in any part or all of someone else's work as your own, copying from an internet source. Plagiarism (using someone else's work without giving credit) is a specific form of cheating and it is a form of literary theft.