METU
Department of Mechanical Engineering
ME 421 Steam Generator and Heat Exchanger Design
Spring 2022

Instructor : Prof. Dr. İlker Tarı, E-104 (ICHMT), itari
Assistant : Kerem Tuğ Gökçek, G-117, gkerem
Text : *Fundamentals of Heat Exchanger Design,* R. K. Shah and D. P. Sekulic
Schedule : Monday 12:40-13:20 and Wednesday 11:40-13:20, in D103 (hybrid).
Web page : http://users.metu.edu.tr/itari/me421

Material	***Reading***
Classification of Heat Exchangers (weeks 1-2)	Chapter 1
Overview of Heat Exchanger Design Methodology (week 3)	Chapter 2
Basic Thermal Design Theory for Recuperators (weeks 4-5)	Chapter 3
Additional Considerations for Thermal Design of Recuperators (week 6)	Chapter 4
Heat Exchanger Pressure Drop Analysis (week 7)	Chapter 6
Surface Basic Heat Transfer and Flow Friction Characteristics (weeks 8-9)	Chapter 7
Heat Exchanger Surface Geometrical Characteristics (week 10)	Chapter 8
Heat Exchanger Design Procedures (weeks 11-13)	Chapter 9
Fouling and Corrosion (week 14)	Chapter 13
Two-Phase Heat Transfer and Pressure Drop Correlations (week 14)	Appendix C

Attendance to the first lecture is required. ME312 grade of DD or better is a must. The ones who do not satisfy this condition should drop the course immediately.

Homework : The problems will be assigned weekly and collected on time. Some will include SMathStudio calculations.
Design project : Project groups will be formed by the instructor. Design problems will be selected in consultation with the instructor.
Grading :

Exams and quizzes	: 50%
Homework	: 25%
Design project	: 25%

Since there is no final exam, there won't be any last two-course resit exam at the end of the term.