



## Ewha International Summer College

# Course Syllabus

## [Heat Transfer]

**Professor:** Seung-Jae Moon  
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**Home Univ.:** Hanyang University  
**Dept.:** Division of Mechanical Engineering

**Description:** The transport mechanisms of heat energy can be categorized as conduction, convection, and radiation. In these course, the conduction, convection, and radiation heat transfer will be discussed.

**Objective:** The purpose of this course is to provide an overview of basic principle of heat transfer and their application to engineering problems. This overview includes an introduction to steady and unsteady conduction, numerical methods, free and forced convection, and radiation.  
Textbook: Heat and Mass Transfer Fundamentals and Applications Yunus A. Cengel/Afshin J. Ghajar McGraw Hill 978-981-4595-27-9

**Prerequisite:** Ghajar McGraw Hill 978-981-4595-27-9  
Prerequisite: Thermodynamics and Fluid mechanics

Credits	3	Class Hours	45 hours
Week 1	6/25(Thu)	Introduction and basic concepts	
Week 2	6/29(Mon)	Heat conduction equation	
	6/30(Tue)	Steady heat conduction 1	
	7/1(Wed)	Steady heat conduction 2	
	7/2(Thu)	Transient heat conduction	
Week 3	7/6(Mon)	Numerical methods in heat conduction	
	7/7(Tue)	Fundamentals of convection	
	7/8(Wed)	Velocity and thermal boundary layers	
	7/9(Thu)	Midterm exam	
Week 4	7/13(Mon)	External forced convection	
	7/14(Tue)	Internal forced convection	
	7/15(Wed)	Natural convection	
	7/16(Thu)	Fundamentals of thermal radiation	
Week 5	7/20(Mon)	Radiation heat transfer	
	7/21(Tue)	Final	

Evaluation(%)	Midterm	Final	Attendance	Assignments	Participation	Etc.
	40	40	10	10		

**※ Applicants with intent for more than one course are asked to make up a syllabus for each, repeatedly using the above template.**