

MECH 761
Convective Heat Transfer
Spring 2008

Tuesday & Thursday 8:00~9:15AM, PE208 (new time)
Tuesday & Thursday 2:30~3:45PM, LP 104 (old time)

Objective: Introduce classical methods of analysis of convective heat transfer

Instructor: Chanwoo Park, Rm: PE 209, Tel.: 682-6301 (office), email: chanwoo@unr.edu

Office Hours: Tuesday & Wednesday 2~4PM, or by appointment

Text: Convection Heat Transfer, Adrian Bejan, 3rd ed., Wiley, 2004

Grading Policy: The grade is based on two exams, homework and a project.

Mid-Term Exam	25%	Tuesday, March 11
Final Exam (comprehensive)	25%	Tuesday, May 6
Homework	25%	
Project	25%	Friday, May 9, 8:00~10:00AM

The exams are open book. Make-up exams are not given. Homework is not accepted late.

Course Coverage

Topic	Reading (Ch.)
1. Fundamental Principles	1
2. Laminar Boundary Layer Flow	2
3. Laminar Duct Flow	3
4. Natural Convection	4,5
5. Turbulent Boundary Layer Flow	6,7
6. Turbulent Duct Flow	8,9
7. Convection with Change of Phase	10
8. Convection in Porous Media	12

References:

1. W.M. Kays and M.E. Crawford, "Convective Heat and Mass Transfer," 4th ed., McGraw-Hill, 2004.
2. V.S. Aparchi and P.S. Larsen, "Convection Heat Transfer," Prentice-Hall, 1984.
3. J.A. Schetz, "Foundation of Boundary Layer-Theory," Prentice-Hall, 1984.
4. H. Schlichting and K. Gersten, "Boundary-Layer Theory," 8th ed., Springer, 2000.
5. J.G. Collier and J.R. Thome, "Convective Boiling and Condensation," 3rd ed., Oxford University Press, 1996.
6. M. Kaviany, "Principles of Heat Transfer in Porous Media, 2 ed., 1995, 2nd corr. 2nd printing, 1999, Springer-Verlag.