

MECHANICAL ENGINEERING 3R3

HEAT TRANSFER COURSE OUTLINE

WINTER TERM 2020

**Instructor:** Dr. R.L. Judd, P. Eng. **Office:** JHE 308/B **Extension:** 24993 **Email:** [juddr@mcmaster.ca](mailto:juddr@mcmaster.ca)

**Teaching Assistants :**

**Lectures:** ABB 102 Tuesday 12:30 pm, Wednesday 12:30 pm and Friday 12:30 pm

**Tutorial:** ABB 102 Monday 10:30 am

**Course Description:**

Application of the laws of conduction, convection and radiation to problems in heat transfer. Steady and transient conduction in solids. Fin analysis. Laminar and turbulent convection. Radiation heat transfer process. Boiling and condensation.

**Objectives:**

The purpose of the course is to teach the student how to “model” realistic heat transfer problems involving conduction, convection and radiation processes in order to obtain “physically meaningful” solutions.

**Format:**

It is expected that the students will attend the lectures and attempt the term tests.

**Assignments:**

One week turn around. The solutions will be posted on the bulletin board in the corridor outside of JHE 308/B for a week on the Monday after the assignments have been graded. Late assignments will not be accepted. The assignments offer those who attempt them experience modeling heat transfer problems, applying heat transfer principles to solve them and using critical judgment to evaluate the appropriateness of the solutions obtained.

**Assessment:**

Term Test #1:	15% of Final Grade
Term Test #2:	15% of Final Grade
Final Examination	70% of Final Grade
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	100% of Final Grade

**Calculator Policy:**

Any calculator may be used during the term tests and final examination.

**Textbook:**

Heat and Mass Transfer, Yunus A. Çengel and Afshin J. Ghajar, Fifth Edition, McGraw Hill Publishing

**Policy Reminder:**

“The Faculty of Engineering is concerned with ensuring an environment that is free of all adverse discrimination. If there is a problem that cannot be resolved by discussion among the persons concerned, individuals are advised that they should contact the Department Chair, the Sexual Harassment Officer or Human Rights Consultant, as soon as possible.