Politechnika Krakowska
im. Tadeusza Kościuszki

FACULTY: ENVIRONMENTAL AND THERMAL POWER ENGINEERING

COURSE TITLE: Heat Transfer

Number of contact hours: 30 Lectures, 30 classes

Duration: 1 semester

ECTS credits: 6

Programme description: The course includes lectures and classes. The objectives of the Heat Transfer course are:

-To cover all necessary principles of heat transfer;

-Acquainting with the necessary terminology, theory, quantity and units related to heat transfer;

-Presents engineering heat transfer applied examples and tasks to give students a understanding of engineering practice;

-Develop skills in solving heat transfer design problems.

Course includes the following sections:

- Steady state heat conduction
- Transient heat conduction
- Forced convection
- Natural convection
- Boiling and condensation
- Fundamentals of thermal radiation
- Introduction to heat exchangers

The course covers topics of heat transfer with an emphasis on physics and real-world applications. The approach is more in line with students' intuition and makes learning the subject matter much easier. Students will gain new knowledge as well as develop computational and design skills.

Course type: lectures (30), classes(30),

Literature:

1. Y. A. Cengel: Heat transfer a practical approach, Mc GrawHill 2015
2. F.P. Incropera, D.P. DeWitt, T.L. Bergman, A.S. Lavine: Fundamentals of Heat and Mass Transfer, John Wley&Sons 2012
3. M.M. Rathore, Raul R.A., Kapuno Jr: Engineering Heat Transfer, Jones & Bartlett Learning 2009
4. W.S. Janna: Engineering Heat Transfer, CRC Press 2008

Assessment method: Final evaluation is the average of lecture test exam, exercises classes test

Lecturer: Artur Cebula

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