Politechnika Krakowska
im. Tadeusza Kościuszki

COURSE TITLE: Solar Energy

Number of contact hours: 30

Duration: 1 semester (fall / spring)

ECTS credits: 4

Program Description: This course provides an understanding of solar radiation and the use of solar energy.

The objective of this subject is to develop the following issues:

- Fundamentals of Solar Radiation (The Physics of the Sun and Its Energy Transport, Solar Radiation)
- Estimation of Solar Radiant Energy Reaching an Arbitrarily Situated Surface
- Solar Thermal Collectors (Radiative Properties and Characteristics of Materials, Flat-Plate Collectors, Concentrating Solar Collectors, Parabolic Trough Concentrator)
- Solar Heating Systems
- Solar Thermal Power
- Photovoltaics

Course type: lectures (15), laboratory (15)

Literature:

1. John A. Duffie, William A. Beckman. *Solar Engineering of Thermal Processes*, John Wiley & Sons, 2013.
2. D. Yogi Goswami. *Principles of Solar Engineering*, 4th Edition. CRC Press, 2023.

Assessment method: written assessment and reports from laboratory

Lecturer: Wiesław Zima

Contact person: Wiesław Zima (e-mail: wieslaw.zima@pk.edu.pl)