Level: PhD

Course title: Renewable Energy Resources and their Use

Status: elective

ECTS: 11

Requirements: None

Learning objectives

To acquire knowledge of all important renewable energy resources, their availability - globally and in Serbia, accessibility, and the economics of use.

Learning outcomes

The acquired knowledge will enable students to analyse the use of renewable energy resources and their application relative to non-renewable (especially fossil) fuels in terms of improved energy supply, energy security, energy cost and energy economics, emissions and sustainability.

Syllabus

Theoretical instruction

- History of energy supply options
- Non-renewable and fossil fuels
- Renewable energy sources – definitions
- Description of main renewable sources:
  - Solar
  - Hydro
  - Wind
  - Geothermal
  - Biomass and bio-fuels
  - Tidal and Wave
- Advantages and disadvantages of renewable energy fuels and technologies
- Available technologies for exploitation of renewable energy
- Distribution and availability of renewable resources
- The economics of use
- Renewable strategies
- Renewable in Serbia: sources, availability, potential use.

Practical instruction

- Completion of a Student Project, or
- Participation in student research

Weekly teaching load				Other:
Lectures: 4	Exercises: 0	Other forms of teaching: Tutorials and individual discussion. Study trips (solar, geothermal and wind installations).	Student research: Possibility to participate in on-going research project, as an alternative to Student Project.	Exam final score: 50% Student project (or research) 50% oral exam.