**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

| 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. | Other: Exam final score: 50% Student project (or research) 50% oral exam. |