

Rijeka, 12.06.2024.
University of Mostar, Bosnia and Herzegovina

LIST OF COMPETENCIES

IVAN BEVANDA

University of Mostar – AWARDED DEGREES

UNDERGRADUATE STUDY	→	3-4 YEARS 180-240 ECTS	→	BACHELOR
GRADUATE STUDY	→	1-2 YEARS 60-120 ECTS	→	MASTER
POSTGRADUATE STUDY	→	3 YEARS 180 ECTS	→	PHD

Renewable energy potential in Bosnia and Herzegovina

- Bosnia and Herzegovina boasts significant potential for renewable energy, thanks to its diverse topography and favorable climate conditions
- Particularly well-positioned to harness photovoltaic (PV) solar power, wind energy and hydroenergy.
- Government Incentives: Over the past few years, the government of Bosnia and Herzegovina has introduced various incentives to promote renewable energy sources.
- Market Expansion: These incentives have attracted a significant number of companies to enter the renewable energy market, focusing on solar, wind, and hydro projects.
- Strategic Location: The University of Mostar, located in the sunny region of Herzegovina, is ideally positioned to support this growing industry.
- Demand for Specialized Engineers: There is a high demand from companies for electrical engineers specialized in photovoltaics and other renewable energy systems to support and expand their operations.
- Educational Program Upgrade: To meet this demand, the existing study program at the Faculty of Mechanical Engineering, Computing, and Electrical Engineering should be upgraded to include a stronger focus on renewable energy systems.

Goals

1. To improve study programmes by introducing new elective course and upgrade existing course:
 - Photovoltaic power plants – first year of graduate study
 - Renewable energy sources – third year of undergraduate study
2. To introduce laboratory for renewable energy sources

Photovoltaic power plants

- The aim of the course is to acquire basic knowledge about components and systems for photovoltaic conversion of electricity. Students learn about the characteristics of solar radiation, the physical basis of work and the basic parameters of a solar cell, the materials that are currently used to make solar cells. In addition to conventional ones, students are also introduced to potential concepts and technologies that are included in the so-called the third generation of solar cells. Finally, students will learn to design a simple networked photovoltaic system and calculate the expected production of electricity.

Competences to be acquired

- 1. calculate the components of solar radiation on an inclined surface,
- 2. explain the physical principle of solar cell operation,
- 3. compare existing technologies for the production of solar cells,
- 4. design a networked photovoltaic system,
- 5. calculate the expected electricity production from the photovoltaic system.

Laboratory equipment: Hybrid renewable energy trainer



Thank you for your attention!