Study program: Engineering Ecology

Course title: Sustainable Development

Professor: Aleksandra M. Kokić Arsić

Course status: Compulsory

ECTS credits: 6

# Requirement: none Purpose of the subject:

Students gain knowledge about the basics of contemporary concept of sustainable industrial development, they get familiar with international and national strategic models, determinants and instruments of this concept, and thus they understand the place and role of the industry and its processes, in creating the conditions for sustainable development.

#### **Effect of the subject:**

Students become familiar with all the relevant aspects of sustainable development, which is one of the basic conditions for successful functioning of the industry, factories and companies, for successful business and overcoming the problems of contemporary industry when joining the international market.

### The content of the subject:

Theoretical teaching:

- 1) Basic principles and definitions in the field of sustainable development
- 2) Basic principles of sustainable development
- 3) EU and national strategies on sustainable development
- 4) Indicators and criteria on sustainable development
- 5) Sustainable development of companies and factories
- 6) Rational use of materials and energy
- 7) Managing sustainable development
- 8) Managing quality in sustainable industrial development
- 9) Responsible behavior in sustainable development
- 10) Contemporary technologies and sustainable development
- 11) Development of products in sustainable development

Practical teaching:

Auditory exercises and term papers

#### The Literature:

- 1. Đorđević M., Održivi razvoj, Materijali sa predavanja, Kragujevac 2010.
- 2. Aleksandra Kokić Arsić, Materijali sa predavanja, Kragujevac, 2014.
- 3. Radulović J., Bošnjak M., Spariousu T., Kotlica S, Simić J, Pantović M., Krunić-Lazić M, Koncept održivog razvoja, Beograd, 1997.
- 4. Mihajlov A. Odraz za budućnost, Hisperia Edu, 2007.
- 5. Luken R.A., Towards sustainable development in industry, Edward Elgar Publishing Ltd., Cheltenham, UK 2003.
- 6. Harmsen J., Powell J.B., Sustainable Development in the Process Industries, John Wiley & Sons, Inc., 2010.

Number of hours of active teaching: 5 Lectures: 3 Practical training: 2

## **Teaching methods**

Lectures: interactive approach

Practical teaching: term papers, solving specific problems. Consultations.

#### **Grading system** (maximum 100 points)

grading scale from 5 to 10: below 51 points grade 5, grade 6 from 51-60 points, grade 7 from 61-70 points, grade 8 from 71-80 points, grade 9 from 81-90 points, grade 10 from 91-100 points.

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|---------------------------------------|---------|-------------|---------|
| Pre-exam obligations:                 | Points: | Final exam: | Points: |
| Activity during lectures              | 10      | Oral exam   | 50      |
| Written test(s)                       | 20      |             |         |
| Term paper                            | 20      |             |         |
| Minimum requirement for the final     | 30      |             |         |
| exam                                  |         |             |         |