**Course characteristics**

Bio-Economy postgraduate course at the University of South Bohemia is responding to modern market requirements, demanding professionals for a new field of Bio-Economy. Bio-Economy reflects a new, sustainable approach to science and technology.

This course provides students with the newly emerging concept of Bio-Economy, which is highly valued in the scientific, industrial and political circles. Potential of Bio-Economy lies in the large scale replacement of fossil fuels and synthetic materials with renewable, biological resources. This issue affects a large number of sectors and applications, from energy production, chemicals manufacturing and agriculture to construction and waste management. Technological innovation play significant role in the implementation of the Bio-Economy . This course examines relevant technological trends, and puts it in the context of economic, social and political context.

Support of  Bio-Economy is mentioned in the strategic concept of the EU in 2012, "Innovating for Sustainable Growth: A Bioeconomy for Europe". Bio-Economy is also part of the strategy OECD (The Bioeconomy to 2030 Designing a Policy Agenda, OECD, 2009) and the subject of numerous international conferences, exceeding EU framework. As an example of scientific cooperation beyond the EU's framework could serve International Knowledge - Based Bioeconomy forum (KBBE forum), founded in 2010, which involves cooperation between the EU, Australia, Canada and New Zealand in order to respond to major global challenges that affect the Bio-Economy. Bioeconomy is also part of the challenge H2020, supporting European research.

**PRELIMINARY PROGRAM OF THE COURSE**

**Day 1 (May 23, 2016) – Theoretical lectures providing introduction to bioeconomy from economic, political and environmental point of view**

**Main speakers:**

* **Dr. Alfredo Aguilar** - he is head of the Bioeconomy Unit of the European Federation of Biotechnology.
* **Prof. Patricia Osseweijer** - she is professor specialized in issues of science communication and sustainability issues. She is involved in the Bioeconomy course in Delft University.
* **Prof. Costas Vorgias -** Biochemistry professor in Athens University. He became the head of a new Bioeconomy course.
* **Dr. George Sakellaris, Ph.D. -** Institute of Experimental Medicine in Prague, Academy of Sciences of the Czech Republic
* **Assoc. Prof. Eva Cudlínová, Ph.D.** - a member of EU Bioeconomic Panel, Faculty of Economics, University of South Bohemia.
* Entering of practical topics (of case studies)  for students, team work, presentation of results - last day of the course

**Day 2 (May 24, 2016) – One day excursion – bioeconomy in practice**

* Development of biologically active preparations from algae and cyanobacteria - Institute of  Microbiology, Czech Academy of Sciences of the Czech Republic, town of Třeboň – Opatovický mill
* Biogas plant, unconventional use of hemp, Sasov by Jihlava

**Day 3 (May 25, 2016) -  Excursion to labs with an expert guide focused on following themes:**

* Testing of bio-preparations for plant preservation and soil enrichment
* Production of protein concentrates from waste water of starch processing.
* Molecular biology
* Biotechnologies - protective agents against Borreliosis

**Day 4  (May 26, 2016) – Good practice presentation of companies,  case studies focused on  bioeconomy in region**

Bioeconomy good practice  – foreign case studies presentation:

* Novamont (Italy)
* Hemp (the Netherlands)
* Lecture of Japanese experience

Presentations of representatives from:

* The South Bohemian Agency for Support to Innovative Enterprising (JAIP)
* Regional Contact Organization (RKO – ERA)
* Czech Biogas Association (CzBA)
* Forestina company, Střelské Hoštice - production of organic fertilizers and related products

**Day 5 (May 27, 2016) – Presentation of  students' teamwork results**