

Information sheet for the course Fundamentals of Ecology and Environmental Sciences

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| University: <i>Alexander Dubček University of Trenčín</i> | |
| Faculty: <i>Faculty of Industrial Technologies in Púchov</i> | |
| Course unit code: <i>MI-P-8</i> | Course unit title: <i>Fundamentals of Ecology and Environmental Sciences</i> |
| Type of course unit: compulsory | |
| Planned types, learning activities and teaching methods: <i>Lecture: 2 hours weekly/26 hours per semester of study; face to face</i> <i>Seminar: 1 hours weekly/13 hours per semester of study; face to face</i> <i>Laboratory tutorial: 0</i> | |
| Number of credits: 3 | |
| Recommended semester: <i>1st semester in the 1st year full-time</i> <i>1st semester in the 1st year part-time</i> | |
| Degree of study: <i>the 1st degree of study (Bachelor's degree)</i> | |
| Course prerequisites: none | |
| Assessment methods: <i>Student individually develops the project in the field of ecology and environmental science individually. Each student will present the project in PowerPoint at the seminar and answer the questions during the discussion. Except of all Lecturers and seminars, the students will write the test which is focused on knowledge obtained by student during the semester. For graduation of course unit is needed the successful defence of the project as well as to achieve minimally 50 % from the written test.</i> | |
| Learning outcomes of the course unit: <i>Student has a complex knowledge about the ecology as science field as well as the structure and characteristics of the abiotic and biotic components of the environment. Student knows the context and relations between the development and the basic principles of ecosystem behaviour.</i> | |
| Course contents: <ol style="list-style-type: none"> 1. <i>Ecology and environmental science – definition, classification, basic notions in the ecology</i> 2. <i>Biosphere, spheres of Earth, components of environment</i> 3. <i>Abiotic components of environment, climatic factors, cosmic factors, atmosphere factors</i> 4. <i>Cycle of material in biosphere. Biogeochemical cycles. Hydrological cycle</i> 5. <i>Biotic components of environment. Population – characterization, growth. Population of plants and animals.</i> 6. <i>Reproduction. Interactions between populations.</i> 7. <i>Biocenose – characterization, classes, basic principle.</i> 8. <i>Ecosystem – definition, structure, characterization and behaviour.</i> 9. <i>Biome. Agroecosystem. Hydrosystem. Classification and development of ecosystems.</i> 10. <i>Succession, classes, stages, climax. Biotic systems, organisms, their creation and development. Periods of development and characterization of life.</i> 11. <i>Material-energy flows and productivity of ecosystems.</i> 12. <i>Food (trophic) chains. Trophic pyramids, classes and characteristics. Energy flow in ecosystem. Primary production. Secondary production.</i> 13. <i>The human as ecological factor. Environment and working surrounding. Actual environment and health.</i> | |

Recommended of required reading:

1. FARGAŠOVÁ, A.: *Všeobecná ekológia*. Bratislava : UK, 2003
2. PROUSEK, J., ČÍK, G.: *Základy ekológie a environmentalistiky*. Bratislava : STU, 2004.
3. HERČÍK, M.: *Životní prostředí. Základy environmentalistiky*. Ostrava : TU, 2007.
4. KUDRNA, K. a kol.: *Biosféra a lidstvo*. Praha : Academia, 1988.
5. TÖLGYESSY, J., FARGAŠOVÁ, A.: *Základy ekológie a toxikológie*. Bratislava : STU, 1993.
6. LAŠTŮVKA, Z., KREJČOVÁ, P.: *Ekologie*. Brno: Konvoj, 2000.

Language: *Slovak***Remarks:****Evaluation history:**

| A | B | C | D | E | FX |
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Lecturers: *prof. Ing. Darina Ondrušová, PhD., Ing. Jana Pagáčová, PhD.***Last modification:** *31.03.2014***Supervisor:** *prof. Ing. Darina Ondrušová, PhD.*