***Course name:*** **FOREST PROTECTION AND FIRE PREVENTION**

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|---|---|
| ECTS | 3 |
| Course status | optional, facultativ |
| Course final assessment /evaluation of outcomes | Exam / graded credit |
| Prerequisite | graduated first degree programs such as Bachelor (BA or BSc.) in forestry |

**Main field of study**: **ERASMUS +**

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| Educational profile | General academic |
| Code of studies and education level | MSc |
| Semester of studies | winter or summer |
| Language of instruction | English |

**Course offered by**:

| | |
|---|---|
| Name of faculty offering the course | Faculty of Forestry |
| Name of department offering the course | Department of Forest Ecosystems Protection |
| Course coordinator | Bartłomiej Bednarz PhD, DSc. Eng. |

**Learning outcomes**:

| Symbol of outcome | Description of the learning outcome | Reference to main field of study outcomes | Area symbol* |
|---|---|---|---|
| KNOWLEDGE – student knows and understands | | | |
| LES_OLZP_W01 | Graduate has an extended knowledge about the risks associated with abiotic, biotic and anthropogenic factors, limiting the risk of forest damage, knows the principles of biocenotic processes control and principles of protection of forest ecosystems, knows and understands the principles of planning and organizing work in this area, has an extended knowledge about forest fires risk determination and fire prevention strategies | LES2_W02 | RL |
| SKILLS – student is able to | | | |
| LES_OLZP_U01 | Determine the health status and make risk forecasts, plan and supervise the use of means and methods for insect pests control, is able to regulate biocenotic processes in forest ecosystems using biological, biotechnical and hylotechnical methods, is able to monitor forest fire risk and planning the forest fires prevention strategies | LES2 _U05 | RL |
| SOCIAL COMPETENCIES – student is ready to: | | | |
| LES_OLZP_K01 | Critically assess and participate in discussions in terms of cognitive and practical value of knowledge | LES2 _K01 | RL |
| LES_OLZP_K02 | Is ready to critically assess themselves, teams in which work and to lead a group and take responsibility for it, as well as act in a resourceful manner | LES2 _K02 | RL |

**Teaching contents**

| **Lectures** | **12 hours** |
|---|---|
| Topics | Introduction to forest protection in Poland<br>Basic problems of forest risks<br>Biotic and abiotic threats causing destabilization of forest ecosystems in Poland<br>The consequences of anthropopression in forest areas<br>Causes, mechanisms and effects of currently observed changes in nature with particular emphasis on processes registered in forests<br>Biotic, abiotic and anthropogenic risk factors assessment and strategies of prevention<br>Forest fire risk in Poland - methods of fires risk determination and prevention strategies |
| Accomplished learning outcomes | LES_OLZP_W01; LES_OLZP_W02 |
| Means of verification, rules and criteria of assessment | Written exam limited in time (minimum 55% of correct answers to obtain the 3.0 mark); the participation of the positive grade from the lectures in the final evaluation is 60%. |

| **Classes:** | **15 hours** |
|---|---|
| Topics | Protective procedure in forests threatened by biotic factors - analysis of game management consequences for forest ecosystems<br>Protective procedure in forests threatened by abiotic factors - analysis of consequences for forest ecosystems<br>Protective procedure in pine stands threatened by primary pest insects - analysis of consequences for forest ecosystems<br>Protective procedure in forest stands threatened by secondary pest insects<br>Forest susceptibility to the negative impact of factors anthropogenic<br>Protective procedure in forests threatened by fires risk - determination of forest fire hazard category and daily degree of fire risk<br>Forest fires prevention strategies |
| Accomplished learning outcomes | LES_OLZP_U01; LES_OLZP_K01; LES_OLZP_K02 |
| Means of verification, rules and criteria of assessment | Passing projects on a grade.<br>Assessment of group activity and skills,<br>the participation of the positive grade from the completion of the exercises in the final evaluation is 30%. |

| **Field training:** | **16 hours** |
|---|---|
| Topics | Methods of forest protection and forest fire prevention in practice.<br>Implementation, according to the current procedure in the State Forests.<br>Recognize and classify the threat degrees to forests due to influence of anthropopression.<br>Practices to identify different harmful factors occurred in different stages of stand development as exemplified by selected case study.<br>Spring control of the threat condition of pine stands in the area of phytophagous insects outbreak.<br>Preparing a group report of the results of field practices and recommendations regarding the forest ecosystem protection. |
| Accomplished learning outcomes | L.A1a. FPFP.SM.LLSXX_U01,<br>L.A1a. FPFP.SM.LLSXX_K01,<br>L.A1a. FPFP.SM.LLSXX_K02 |
| Means of verification, rules and criteria of assessment | Passing the project on a grade.<br>Assessment of group activity and skills, the participation of the positive grade from the completion of the exercises in the final evaluation is 10%. |

**References**:


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| Basic | Głowacka B., (red). (2013). Metodyka integrowanej ochrony drzewostanów liściastych. Instytut Badawczy Leśnictwa. . DGLP. Warszawa, pp.87. ISBN 978-83-62830-27-5.<br>Głowacka B., (red). (2013). Metodyka integrowanej ochrony drzewostanów iglastych. Instytut Badawczy Leśnictwa. . DGLP. Warszawa, pp.120. ISBN 978- |

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|---|---|
| | 83-62830-28-2.<br>Instrukcja ochrony lasu (2012). Centrum Informacyjne Lasów Państwowych. DGLP Warszawa.<br>Instrukcja ochrony przeciwpożarowej lasu (2020).Centrum informacyjne Lasów Państwowych. DGLP. Warszawa, pp. 132. ISBN 978-83-65659-49-1. |
| Supplementary | Burley, J., Youngquist, J., Evans, J. (2004). Encyclopedia of forest sciences. Elsevier<br>Forests in Poland (2019). The State Forests Information Centre, Warszawa.<br>Lieutier, F., Day, K. R., Battisti, A., Grégoire, J.-C., & Evans, H. F. (Eds.). (2004). Bark and Wood Boring Insects in Living Trees in Europe, a Synthesis. Dordrecht: Springer Netherlands.<br>Łęski O. (red) (2001). Poradnik ochrony lasu. Oficyna Edytorska „Wydawnictwo Świt". Warszawa, pp. 500. |

**Structure of learning outcomes**

| | | |
|---|---|---|
| Area of academic study: R – Agricultural sciences, L -Forestry | 3 | ECTS |

**Structure of student activity**

| | | | | | |
|---|---|---|---|---|---|
| Contact hours | | 51 | hrs. | 2 | ECTS** |
| Including: | lectures | 12 | hrs. | | |
| | classes and seminars | 31 | hrs. | | |
| | consultations | 5 | hrs. | | |
| | participation in research | … | hrs. | | |
| | obligatory traineeships | | hrs. | | |
| | participation in examination | 3 | hrs. | | |
| e-learning | | … | hrs. | …. | ECTS** |
| student own work | | 25 | hrs. | 1 | ECTS** |

*Areas of academic study in the fields of: H- humanities; S - social studies; P – biological sciences; T – technological sciences; M- medical, sport and health sciences; R – Agricultural, forestry and veterinary sciences; A – the arts

** stated with an accuracy to 0.1 ECTS, where 1 ECTS = 25 - 30 hours of classes