**Incoming student mobility**

**Name of UNIOS University Unit: Department of Biology**

**COURSES OFFERED IN FOREIGN LANGUAGE**

**FOR ERASMUS+ INDIVIDUAL INCOMING STUDENTS**

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| **Department or Chair within the UNIOS Unit** | **Department of Biology** |

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| **Study program** | **Graduate University Study Programme in Biology** |

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| **Study level** | **Graduate (master)** |

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| **Course title** | **Modeling biological processes** |
| **Course code (if any)** | **BMZ72** |
| **Language of instruction** | **English** |
| **Brief course description** | **To teach students the basic methods of mathematical modeling of biological processes at different levels – from molecular to ecological.**  **Discrete dynamic systems. Compartmental analysis and differential equations. Logistic models. Recursive functions. Stochastic processes. Interpretation of stochastic data. Creating stochastic models. Model validation. Model of human population. Repetition of matrix algebra. Eigen values and vector analysis. Empirical models. Interpolation. Simple regression statistics. Continuous models. Geometric analysis and non-linear equations. Continuous stochastic processes.** |
| **Form of teaching** | **Lectures and seminars** |
| **Form of assessment** | **Written and oral examination** |
| **Number of ECTS** | **2** |
| **Class hours per week** | **1 hours of lectures + 1 hours of seminars** |
| **Minimum number of students** | **-** |
| **Period of realization** | **winter semester** |
| **Lecturer** | **Branimir K. Hackenberger, Ph.D., Full Professor** |