



Univerza v Mariboru  
University of Maribor

Fakulteta za naravoslovje in  
matematiko

Faculty of natural sciences and  
mathematics



**UČNI NAČRT PREDMETA / SUBJECT SPECIFICATION**

|                       |   |
|-----------------------|---|
| <b>Predmet:</b>       | Vedenjske strategije in igre v fiziki       |
| <b>Subject Title:</b> | Behavioural strategies and games in physics |

| Študijski program<br>Study programme | Študijska smer<br>Study field | Letnik<br>Year | Semester<br>Semester |
|--------------------------------------|-------------------------------|----------------|----------------------|
| FIZIKA<br>PHYSICS                    | /                             | 1 ali 2        | 1 ali 2              |

Univerzitetna koda predmeta / University subject code:

| Predavanja<br>Lectures | Seminar<br>Seminar | Sem. vaje<br>Tutorial | Lab. vaje<br>Labor work | Teren. vaje<br>Field work | Samost.<br>delo<br>Individ.<br>work | ECTS |
|------------------------|--------------------|-----------------------|-------------------------|---------------------------|-------------------------------------|------|
| 15                     | 10                 |                       |                         |                           | 125                                 | 5    |

Nosilec predmeta / Lecturer:

|                   |                              |                     |
|-------------------|------------------------------|---------------------|
| <b>Jeziki /</b>   | <b>Predavanja / Lecture:</b> | Slovenski / Slovene |
| <b>Languages:</b> | <b>Vaje / Tutorial:</b>      | Slovenski / Slovene |

**Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:**

Osnovno razumevanje načel evolucije in poznavanje osnov modeliranja.

**Prerequisites:**

Basic understanding of principles of evolution and familiarity with basics of modelling.

**Vsebina:**

Osnove teorije iger, fizikalna interpretacija Darwinovega zakona evolucije, uspešnost različnih vedenjskih vzorcev v luči fizike.

**Content (Syllabus outline):**

Basics of game theory, physical interpretation of the Darwinian law of evolution, successfulness of different behavioural patterns in terms of physics.

**Temeljni literatura in viri / Textbooks:**

K. Sigmund, *Games of life* (Oxford University Press, Oxford, 1993).  
R. Axelrod, *The evolution of cooperation* (Basic Books, New York, 1984).

**Cilji:**

Poglobiti znanje o vedenjskih strategijah in razumeti njihov uspeh (ali neuspeh) na podlagi fizike.

**Objectives:**

Deepen the knowledge about behavioural patterns and understand their success (or failure), in view of the underlying mechanisms of physics.

**Predvideni študijski rezultati:**

Znanje in razumevanje:  
  
Poglobljeno razumevanje učinkov in potencialov različnih vedenjskih vzorcev v družbi.

**Intended learning outcomes:**

Knowledge and Understanding:  
  
A deeper understanding of effect and potentials of different behavioural patterns in society.

Prenosljive/ključne spretnosti in drugi atributi:

Sposobnost prepoznati in analizirati različne vedenjske vzorce in strategije ter predvideti njihov vpliv na družbo (ali skupino ljudi), ki jim je podvržena.

Transferable/Key Skills and other attributes:

The ability to recognize and analyse different behavioural patterns and strategies, and foretell their impact on the affected society (or group of people).

**Metode poučevanja in učenja:**

Predavanja in individualno raziskovalno delo.

**Learning and teaching methods:**

Lectures individual research work.

**Načini ocenjevanja:**

Delež (v %) /  
Weight (in %)

**Assessment:**

| Načini ocenjevanja: | Delež (v %) /<br>Weight (in %) | Assessment:          |
|---------------------|--------------------------------|----------------------|
| Ustni izpit         | 80                             | Oral exam            |
| Seminarska naloga   | 20                             | Written seminar work |