



Univerza v Mariboru
University of Maribor

Fakulteta za naravoslovje in
matematiko
Faculty of Natural Sciences
and Mathematics



OPIS PREDMETA / SUBJECT SPECIFICATION

Predmet:	Entomologija
Subject Title:	Entomology

Študijski program Study programme	Študijska smer Study field	Letnik Year	Semester Semester
Biologija / Biology	Biologija / Biology	2	zimski ali letni

Univerzitetna koda predmeta / University subject code:

Predavanja Lectures	Seminar Seminar	Sem. vaje Tutorial	Lab. vaje Lab. work	Teren. vaje Field work	Samost. delo Individ. work	ECTS
30			15		135	6

Nosilec predmeta / Lecturer:

Jeziki / Languages: **Predavanja / Lecture:**
Vaje / Tutorial:

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

Vsebina:	Contents (Syllabus outline):
<p>Izbrana poglavja iz naslednjih vsebin: Koža: epidermis, kutikula, barve (strukturne barve, pigmenti), kožne žleze. Členjenost telesa: glava, thorax, abdomen. Prehrana in prebava. Vsebnost vode, osmoregulacija, ionska regulacija in ekskrecija. Trahealni sistem in dihanje. Hemolimfa in transport z njeno pomočjo. Živčevje. Učenje in spomin. Senzorični receptorji. Premikanje in senzomotorična integracija. Endokrini sistem. Razmnoževanje in razvoj (ontogeneza).</p>	<p>Selected topics: Skin: epidermis, cuticle, pigmentation (coloration based on the structure; pigments), skin glands. Segmentation: the head, thorax, abdomen. Feeding and digestion. Water content, osmoregulation, excretion. Tracheal system and respiration. Hemolymph and transport. Nervous system. Learning and memory. Sensory receptors. Movement and sensomotory integration. Endocrine system. Reproduction and development. Social</p>

Socialne žuželke. Žuželke in rastline. Entomofagne žuželke. Bioluminescenca. Žuželke in mikroorganizmi. Medicinska entomologija. Pregled redov žuželk.

insects. Insects and plants. Entomophagous insects. Bioluminescence. Insects and microbes. Medical entomology. A review of insect orders.

Temeljni študijski viri / Textbooks:

- Borror D.J., Triplehorn C.A., Johnson N.F. (2005): An Introduction to the study of insects. Saunders, Philadelphia.
- Brauns A. (1991): Taschenbuch der Waldinsekten. 4. Aufl., Gustav Fischer Verlag, Stuttgart.
- Chapman R.F. (1998): The insects. Structure and function. 4th Edition. Cambridge University Press, London.
- Davies R.G. (2003): Outlines of entomology. 7th ed. Chapman and Hall, London, New York.
- Dettner K., Peters W. (2003): Lehrbuch der Entomologie. Gustav Fischer, Stuttgart, Jena.
- Huffaker C.B., Rabb R.L. (1984): Ecological entomology. John Wiley & Sons, New York.
- Lehrer, M. (1997): Orientation and Communication in Arthropods. Birkhäuser, Basel.
- Wichard W., Arens W., Eisenbeis G. (2003): Atlas zur Biologie der Wasserinsekten. Gustav Fischer Verlag, Stuttgart.

Cilji:

- Predstaviti temelje telesne organizacije žuželk
- Spoznati pomen žuželk v gospodarstvu in naravnih habitatih
- Predstaviti in razumeti biodiverzitetu žuželk
- Znati uporabljati ključne (determinacija)

Objectives:

- Present foundation of insect body organization
- Present the role of insects in economy and natural habitats
- Present and understand insect biodiversity
- Practical skills in insect determination

Predvideni študijski rezultati:

Znanje in razumevanje:

- Razumevanje kompleksnosti zgradbe telesa žuželk
- Vloga žuželk v naravnih ekosistemih in agroekosistemih
- Razumevanje pomena žuželk v medicinski entomologiji (vektorji bolezni)
- Interakcije rastline – škodljivci – predatorji
- Diverzitetu žuželk

Prenesljive/ključne spretnosti in drugi atributi:

- Sposobnost načrtovati in izvesti preproste eksperimente z žuželkami
- Determinacija – delo s ključni

Intended learning outcomes:

Knowledge and Understanding:

- Understanding of complexity of insect body organization
- The role of insects in natural ecosystems and agroecosystems
- Understanding the role of insects as vectors of diseases (medical entomology)
- Interactions in the chain plants – pest insects – predators
- Insect diversity

Transferable/Key Skills and other attributes:

- Ability to arrange simple experiments on insects
- Determination – usage keys for

- Disekcija telesa žuželk

- determination
- Dissection of insect body

Metode poučevanja in učenja:

Learning and teaching methods:

- Predavanja
- Seminar
- Laboratorijske vaje – individualno eksperimentalno delo
- Terensko delo

- Lectures
- Seminar
- Laboratory excersises – individual experimental practice
- Field work

Načini ocenjevanja:

Delež (v %) / **Assessment:**
Weight (in %)

- Kolokvij iz vaj
- Seminarska naloga in predstavitev
- Pisni izpit

30
30
40

- Partial exam of experimental practice
- Seminar essay and presentation
- Written exam

Materialni pogoji za izvedbo predmeta :

Material conditions for subject realization

- Multimedijaska predavalnica
- Laboratorij

- Lecture hall for multimedia presentation
- Laboratory

Obveznosti študentov:

Students' commitments:

(pisni, ustni izpit, naloge, projekti)

(written, oral examination, coursework, projects):

- Kolokvij iz vaj
- Seminarska naloga in predstavitev
- Pisni izpit

- Partial exam of experimental practice
- Seminar essay and presentation
- Written exam