Univerza v Mariboru

UČNI NAČRT PREDMETA / COURSE SYLLABUS	
Predmet:	**Eksperimentalna kirurgija**
Course title:	**Experimental Surgery**

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Biomedicinska tehnologija/Biomedical Technology 3. stopnja/3rd Degree		2	3 ali 4

Vrsta predmeta / Course type	Izbirni/Elective
Univerzitetna koda predmeta / University course code:	

Predavanja Lectures	Seminar Seminar	Vaje Tutorial	Klinične vaje work	Druge oblike študija	Samost. Delo Individ. Work	ECTS
15	30				105	5

Nosilec predmeta / Lecturer:	Prof. dr. Vojko Flis

Jeziki / Languages:	**Predavanja / Lectures:**	Slovenščina / Slovene
	Vaje / Tutorial:	-

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:	**Prerequisites:**
Kandidat mora doseči 300 ECTS na predhodnem študiju.	Graduate degree 300 ECTS

Vsebina:	**Content (Syllabus outline):**
• Temeljni koncepti • Etični vidiki • Deontološki koncepti in protokoli • Regulacijska in državna telesa • Skrb za živali/protokoli • Zgodovinski pregled uporabe živali v biomedicinskih raziskavah • Preprečevanje bolečine in stresa v biomedicinskih raziskavah na živalih • Alternative biomedicinskim raziskavam na živalih • In vivo biološki modeli v kirurškem raziskovanju • Primerjalna biologija živali in človeka v kirurškem raziskovanju • Anestezija in analgezija v veterini • Celjenje ran • Izvorne celice in in vivo biološki modeli • Eksperimentalna gastroenterologija • Eksperimentalna žilna kirurgija • Eksperimentalni modeli kancerogeneze • Eksperimentalna endokrinologija • Kirurške tehnike v biologiji presajanja • In vivo model prekrvljenih možganov	• BASIC CONCEPTS • ETHICS AND HUMANE CONSIDERATIONS • POLICIES/PROCEDURES • REGULATIONS AND GOVERNING BODIES • ANIMAL CARE SERVICES/POLICIES • HISTORICAL PERSPECTIVES ON ANIMALS AND THEIR USE IN RESEARCH • MINIMIZING PAIN AND DISTRESS IN ANIMAL RESEARCH • ALTERNATIVES TO ANIMAL EXPERIMENTATION • ANIMAL MODELLING IN SURGICAL RESEARCH • COMPARTIVE BIOLOGY OF ANIMAL AND MAN IN SURGICAL RESEARCH • ANESTHESIA, PAIN CONTROL AND ANALGESIA IN SURGICAL RESEARCH • WOUND HEALING • STEM CELLS AND ANIMAL MODELLING • EXPERIMENTAL GASTROENTEROLOGY • EXPERIMENTAL VASCULAR SURGERY • EXPERIMENTAL CANCER RESEARCH • EXPERIMENTAL ENDOCRINOLOGY • SURGICAL TECHNIQUES IN TRANSPLANTATION BIOLOGY • VASCULARLY ISOLATED BRAIN IN ANIMALS

Temeljni literatura in viri / Readings:

Obvezni:

- Handbook of Physiology
- by American Physiological Society Lippincott, Williams & Wilkins ,1965.
- Krinke GJ, Bullock GR, Bunton T. The Laboratory Rat (Handbook of Experimental Animals). Academic Press; 1st edition, 2000.
- Jeppson B eds. Animal Modelling in Surgical Research. Taylor & Francis, 1 edition,1997.
- Kaliste E. The Welfare of Laboratory Animals (Animal Welfare). Springer; 1 edition, 2004.
- Haves WA. Principles and Methods of Toxicology. CRC; 4 edition, 2001.

Dodatni:

- Ettinger JS, Feldman CE Textbook of Veterinary Internal Medicine, Vol.,Saunders (W.B.) Co Ltd; 3rd ed edition,1989.
- Tumbleson M. Swine in Biomedical Research. Springer; 1 edition,1986.
- Swindle M. Surgery, Anesthesia and Experimental Techniques in Swine. Iowa State Press; 1st edition, 1998.
- Schook LB, Tumleson ME eds. Advances in Swine in Biomedical Research,Springer; 1st edition,1997.
- Waynforth HB, Flecknell PA. Experimental and Surgical Techniques in the Rat. Academic Press; 2nd edition, 1992.
- Walker FW, Hombergen DG. Anatomy and Dissection of the Rat (Freeman Laboratory Separates in Biology) . W. H. Freeman; 3 edition, 1997.
- Park JB, Bronzino JD. Biomaterials. Principles and applications. CRC Press. Boca Raton 2003.
- Cook JM. Anatomy of the Laboratory Mouse, Academic Press Inc.,U.S. 1965.

Cilji in kompetence:	**Objectives and competences:**
• Osvojitev temeljnih metodoloških in teoretičnih konceptov na področju eksperimentalne kirurgije • Poznavanje in razumevanje temeljnih konceptov modeliranja in vivo bioloških sistemov • Seznanitev z metodami, uporabljanimi v sodobni eksperimentalni kirurgiji	• Mastering the basic methodological and theoretical concepts in the field of experimental surgery • Gaining and understanding the basic concepts animal modelling in medicine • Familiarity with methods used in modern experimental surgery
Predvideni študijski rezultati:	**Intended learning outcomes:**
Znanje in razumevanje: Praktično in teoretično znanje za samostojno raziskovalno delo. **Prenesljive/ključne spretnosti in drugi atributi:** Praktično znanje za vodenje raziskav.	**Knowledge and understanding:** Practical knowledge needed for independent research work. **Transferable/Key Skills and other attributes:** Practical knowledge needed to organize research projects
Metode poučevanja in učenja:	**Learning and teaching methods:**
Delo v majhnih skupinah, samostojno raziskovalno delo	Small group work and independent research

Načini ocenjevanja:	**Delež (v %) / Weight (in %)**	**Assessment:**
– projektno delo	50	– project work
– seminarska naloga	50	– report