



Univerza v Mariboru
University of Maribor

Medicinska fakulteta
Faculty of medicine



OPIS PREDMETA / SUBJECT SPECIFICATION

Predmet:	Eksperimentalna kirurgija
Subject Title:	Experimental surgery

Študijski program Study programme	Študijska smer Study field	Letnik Year	Semester Semester
		2	3 ali 4

Univerzitetna koda predmeta / University subject code:

Predavanja Lectures	Seminar Seminar	Sem. vaje Tutorial	Lab. vaje Labor work	Teren. vaje Field work	Samost. delo Individ. work	ECTS
15	30				105	5

Nosilec predmeta / Lecturer: prof. dr. Vojko Flis

Jeziki / Predavanja / Lecture: Slovenščina / slovene
Languages: Vaje / Tutorial:

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

Prerequisites:

Vsebina:

- 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
- Izvirne 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

Content (Syllabus outline):

- 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
- COMPARATIVE 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 študijski viri / Textbooks:**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, Tumbleson 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:

- 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

Objectives:

- 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:**Znanje in razumevanje:**

Praktično in teoretično znanje za samostojno raziskovalno delo.

Prenesljive/ključne spretnosti in drugi atributi:
Praktično znanje za vodenje raziskav.

Intended learning outcomes:**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:

Delo v majhnih skupinah, samostojno raziskovalno delo

Learning and teaching methods:

Small group work and independent research

Načini ocenjevanja:

Delež (v %) /
Weight (in %)

Assessment:

Način (pisni izpit, ustno izpraševanje, naloge, projekt):
projektno delo
seminarska naloga

50
50

Type (examination, oral, coursework, project):
project work
report