

**DESCRIPTION OF COURSE UNIT FOR DOCTORAL STUDIES  
AT VILNIUS UNIVERSITY**

<b>Scientific Area/eas, Field/ds of Science</b>	Medical and Health Sciences (M 000): Medicine (M 001)			
<b>Faculty, Institute, Department/Clinic</b>	Faculty of Medicine Institute of Clinical Medicine Clinic of Rheumatology, Orthopaedics Traumatology and Reconstructive Surgery			
<b>Course unit title</b> (ECTS credits, hours)	<b>Basics of Reconstructive Surgery</b> 8 credits (216 hours)			
<b>Study method</b>	<b>Lectures</b>	<b>Seminars</b>	<b>Consultations</b>	<b>Self-study</b>
Number of ECTS credits	-	-	1	7
<b>Method of the assessment</b> (in 10 point system)	Exam. Oral examination. 3 questions.			
<b>PURPOSE OF THE COURSE UNIT</b>				
<p>To provide a more profound theoretical basis in reconstructive surgery: methods of reconstruction, how to choose the most proper method according to features of a defect, a need of restitution of functions; preoperative and postoperative care of the patient after reconstructive surgery. To provide a profound knowledge in reconstruction using skin grafts, various flaps, autotransplantation, allotransplantation. To enhance theoretical basis in reconstructive surgery of bones, tendons, muscles, skin and soft tissues, limbs.</p>				
<b>THE MAIN TOPICS OF COURSE UNIT</b>				
<p>Development and history of reconstructive surgery. Principles of reconstructive surgery. Reconstruction ladder: from the simplest to the most complex. Criteria, indications, contraindications choosing the most optimal method of the reconstruction. Most popular clasifications of flaps. Graft and flap: differencies, benfits and drawbacks. Purposes of reconstruction: coverage of a defect, restitution of the missing volume, restitution of functions, aesthetic aspects of the reconstruction. How to make an optimal desicion choosing the method of reconstruction, right flap reffering to the goals of the reconstruction. Specific aspects of the reconstruction in radical surgery of various sarcomas and other nonbenign tumors, gun shot and blast injuries, burns, cases of variouos aplasias; taking the right desicion choosing the method of reconstruction. Staging in reconstructive surgery, planning of particular stages. Multidisciplinary approach in reconstructive surgery. Microsurgery. Work-horse flaps: detailed anatomy, anatomical variations of flaps. Typical areas of vessel anastomoses in the upper and lower limb, head and neck, chest and trunk areas. Patterns of vessel anastomosis: end-to-end, end-to-side, benefits and drawbacks. Vessel grafts, potential donor areas. Pecularity of physiology and pathophysiology of vessel anastomotic site healing. Specific aspect in the postoperative care following microsurgical reconstructive surgery. Free flap postoperative monitoring: methods, evaluation, comparison, critical evaluation. Early and late complications. Diagnostics and strategy of treatment, urgent revision surgery. Treatment strategy in cases of partial flap necrosis. Management of the donor area. Functional, sensory flaps. Natural flap remodeling and changes during period of time. Perforator flaps: anatomy, technique of raising flap, free style flaps, pedicled and free perforator flaps; benefits and drawbacks. Skin grafts: main indications of application. Bone reconstruction: indications, contraindications, donor areas, grafts and vascurised</p>				

bone transplants. Tendon reconstruction: donor grafts, elongation, transposition, tendoplasty. Autotransplantation and allotransplantation: modern scope of applications. Nerve reconstructive surgery: indications, principles, donor grafts, results. Reconstruction of the limbs.

### **RECOMMENDED LITERATURE SOURCES**

1. Scott W. W., William C. P., Scott H. K., Mark S C. Green's Operative Hand Surgery. 7th ed. Philadelphia: Elsevier, 2016
2. Aston SJ, Beasley RW, Thorne ChHM. Grabs and Smith. Plastic Surgery. 7 th ed. Philadelphia; New York: Lippincott-Ra-ven, 2014
3. Mathes S.J., Hentz V. R. Plastic Surgery. 2 th ed. Saunders Elsevier, 2006
4. John B. Hijjawi, Samuel J. Lin. Plastic and Reconstructive Surgery Board Review: Pearls of Wisdom, Third Edition. McGraw-Hill Education, 2016
5. Baker S.R. Local Flaps in Facial Reconstruction 4th Edition. Elsevier/Saunders, 2014.
6. Zenn M., Jones G. Reconstructive Surgery: Anatomy, Technique, and Clinical Application. Thieme Medical Publishers, Incorporated, 2012
7. Starnoni M., Benanti E., Acciaro L. A., De Santis G. Upper limb traumatic injuries: A concise overview of reconstructive options. Annals of Medicine and Surgery, 2021, vol 66. <https://doi.org/10.1016/j.amsu.2021.102418>
8. Matsushima T., Sakai T., Matsushima K., Bertalanffy H., Rutka J.T. Evolution of microneurosurgical anatomy with special reference to the history of anatomy, surgical anatomy, and microsurgery: historical overview. Neurosurgical Review, 2021. <https://doi.org/10.1007/s10143-021-01597-z>
9. Wei FC, Mardini S. Flaps and Reconstructive Surgery. Saunders, 2009.
10. Kuokkanen H, Holmstrom H, Abyholm FE, Drzewiecki KT. Skandinavijos plastinė ir rekonstrukcinė chirurgija. Vilniaus universiteto leidykla, 2016.

### **CONSULTING LECTURERS**

1. Coordinating lecturer: Nerijus Jakutis (Assist. Prof. Dr.).

2. Vytautas Tutkus (Assoc. Prof. Dr.).

3. Giedrė Stundžaitė-Baršauskienė (Assist. Prof. Dr.).

#### **APPROVED:**

By Council of Doctoral School of Medicine and Health Sciences at Vilnius University:  
29<sup>th</sup> of September 2022

Chairperson of the Board: Prof. Janina Tutkuvienė