UNIVERSITY of DEBRECEN

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Name of the course:	**Applied biomechanics**
Course type:	Optional
Responsible lecturer:	Dr. Sándor Manó
Content:	The focus of the course is on interdisciplinary biomechanics, the formation of a biomechanical approach, which is the result of the specific intersection of engineering and medicine. The course aims to introduce the basic concepts involved, the classification and history of biomechanics, the concept of biomedical engineering, the application of engineering mechanics to the musculoskeletal system, and the laws of biomechanics. In addition, the process of dynamical and kinematic analysis of human movements, the treatment of the problem of the variable centre of gravity, and the design and implementation of biomechanical investigations, including the application of finite element modelling specific to biomechanics, will be introduced.
Literature:	• Cees O. Biomechanics – Concepts and computation. Cambridge: Cambridge University Press; 2018. • Jorin JB, Samozino P. Biomechanics of training and testing. Berlin: Springer; 2019. • Peterson DR. Biomechanics: Principles and Practices. London: Crc Pr Inc; 2017. • Kerr A. Human movement & biomechanics Paris: Elsevier; 2019. • Knudson DV. Fundamentals of Biomechanics. Zurich: Springer Nature Switzerland AG; 2021.