|  |  |
| --- | --- |
| ***Items*** | ***Requirements*** |
| **Lecture title** | Essential nanomedicine |
| **Objectives** | 1. Assimilation of the nanomedical concepts.  2. Learning different types of nanoparticles and potential applications.  3. Understanding the risks and benefits of nanomedicine. |
| **Aim group** | 4th year |
| **Participants** | Minimum number: 30 participants, maximum accepted: 70 |
| **Topics** | 1. Introduction to Nanoscience - 2 hours  2. From Nanobiotechnology to Nanomedicine - 2 hours  3. Risks and Benefits of Nanomedicine - 2 hours  4. Nanoparticles for Drug Delivery - 2 hours  5. Nanosensors - 2 hours  6. Nano-Imaging - 2 hours  7. Other Applications of Nanoparticles and Perspectives in Nanomedicine - 2 hours |
| **Bibliography** | 1. Jain KK, *The Handbook of Nanomedicine,* Third Edition, Springer, New York, 2017.  2. Ge Y, Li S, Wang S, Moore R, *Nanomedicine,* Springer, New York, 2014.  3. Ngô C, Van de Voorde M, *Nanotechnology in a Nutshell - From Simple to Complex Systems,* Atlantis Press, Amsterdam, 2014. |
| **Competences (abilities acquired)** | 1. Knowledge and ability to use nanomaterials with various applications.  2. Communication skills in nanomedical research.  3. The ability to analyze and manage the risks and benefits of nanoparticles. |
| **Teaching methods and lecture notes** | Information will be presented using video projections (posted on E-Learning Platform) and interactive dialogue with students.  Reference books will also be provided (hard copy or online links through the University E-Learning Platform). |
| **Responsable** | Associate Professor Raoul Vasile Lupuşoru, MD, PhD |
| **Associated lecturer** | Professor Liliana Mititelu Tarţău, MD, PhD |
| **Keywords** | Nanobiotechnology, Nanoparticles, Nanomedicine |

**OPTIONAL DISCIPLINES - OFFER**

**UNIVERSITY YEAR 2020-2021**