**FORENSIC BIOLOGY CREDIT HOURS 2+1**

**LEARNING OUTCOMES:**

**Students will be able to:**

1. Understand and appreciate the scope of forensic biology.
2. Mainly focus on the fundamental procedures of molecular biology as it applies to forensic settings.

**COURSE CONTENTS:**

Introduction, history and principles of forensic biology and its sub-disciplines (molecular anthropology, forensic botany, forensic odontology, forensic serology, forensic DNA Typing); the role and functions of a forensic molecular biologist; organizational strategies of a forensic DNA laboratory; the nature, collection, documentation, examination and preservation of forensic DNA evidence; the use of alternative light sources and serological tests to detect biological stains on crime scene evidence; microscopy for the analysis of evidence; extraction and quantification of human DNA, compare, contrast and explain the genetic and technical differences between various DNA typing techniques (RFLP, STR, sequence-based, mtDNA, nDNA, Y-chromosome); various statistical analysis of DNA profiles.

**PRACTICLES:**

* + - 1. Methods of Sampling at Crime Scene
      2. Microscopy for the analysis of evidence
      3. Serological tests to detect biological strains on crime scene
      4. Forensic DNA Typing.

**RECOMMENDED BOOKS:**

1. Bertino, A. J., & Bertino, P. N. (2016). Forensic Science: Fundamentals & investigations. Boston, MA: Cengage Learning.
2. Brown, R. M., & Davenport, J. S. (2016). Forensic science: Advanced investigations. Boston, MA: Cengage Learning
3. Katz, E., & Halamek, J. (2016). Forensic Science: Chemistry, Physics, Biology and Engineering. Wiley.
4. Siegel, J. A. (2016). Forensic Science: A beginner's guide. Oxford : Oneworld Publications,

Taylor, D., Abarno, D., Rowe, E., Taylor, D., Abarno, D., Rowe, E., & Rask-Nielsen, L. (July 01, 2016). Observations of DNA transfer within an operational Forensic Biology Laboratory. Forensic Science International: Genetics, 23, 33-49.