**Name of the Course : KRM201-**Forensic Ballistics Examination

**Medium of the Course :** Turkish

**Aim of the Objective :** The purpose of the forensic ballistics course is to teach students the concept of ballistics and the sub-branches of ballistics, to provide information about the concept of forensic ballistics, what ballistic findings are, the approach to these findings encountered at the scene of the crime, and the collection and packaging of the findings, to provide information about the types of weapons as well as the types of cartridges and bullet cores, and to teach forensic ballistic examination methods in the light of all this information.

**Level of the Course :** Master Degree

**Type/ Content of the Course :** Sellective / In the forensic ballistics examination course, students will be informed about the development of firearms, the classification of small arms and used ammunition, the collection and packaging of ballistic findings found at the scene, forensic ballistic examination methods and techniques, types of ballistic science, ballistic findings examination techniques, and analysis of ballistic findings comparison samples.

**Credit of the Course :** 3

**Term / Weekly Hour :** Spring / 3

**Name(s)/Surname(s) of Instructors :** Prof.Dr. Gökhan İbrahim ÖĞÜNÇ

**Contect Number of Insts. :** 05055430191/ 7500

**Program Coordinator :** Prof.Dr. Gökhan İbrahim ÖĞÜNÇ

**Prerequisites : -**

**Teaching Methods :** Seminar, discussion, presentation, article

**Resources :**

1. Kneubuehl, B. P. (2024). Ballistics Theory and Practice. Thun, Springer

2. Öğünç, G.İ. (Editör) (2024). Bilimsel Soruşturma Tekniği: Kriminalistik, Bölüm 6: Adli Balistik, Ankara, Jandarma ve Sahil Güvenlik Akademisi Yayınevi

3. Heard, B. J. (2008). Handbook of Firearms and Ballistics (2 b.). West Sussex: John Wiley & Sons, Ltd.

4. Heard, B. J. (2013). Forensic Ballistics in Court: Interpretation and Presentation of Firearms Evidence. West Sussex: John Wiley & Sons, Ltd

5. Öğünç, G. İ. (2013). Balistik İncelemeler. Ankara: Emniyet Genel Müdürlüğü Kriminal Dairesi Başkanlığı.

6. Warlow, T. (2005). Firearms, The Law, and Forensic Ballistics. Boca Raton: CRC Press.

7. Rinker A. Robert A. (2009), Understanding Firearm Ballistics, Clarksville, Mulberry House Publishing

8. Akçay, Mehmet (2009), Balistik, Kara Harp Okulu, Ankara

9. Kling, Andrew A. (2009), Ballistics, Gale Cengage Learning,

10. Hueske, Edward E. (2016), Practical Analysis and Reconstruction of Shooting Incidents, CRC Press, Boca Raton

**WEEKLY TOPICS**

|  |  |
| --- | --- |
| **Weeks** | **Units** |
| **1** | Development of Firearms |
| **2** | Weapon Definition and Classifications |
| **3** | Small Arms Operating Systems |
| **4** | Air Guns |
| **5** | Edge Weapons and Tools |
| **6** | Small Arms Ammunition |
| **7** | Midterm Exam |
| **8** | Internal and Intermediate Ballistics-1 |
| **9** | Internal and Intermediate Ballistics-2 |
| **10** | External Ballistics |
| **11** | Target Ballistics |
| **12** | Wound Ballistics |
| **13** | Forensic Ballistics Examinations-1 |
| **14** | Forensic Ballistics Examinations-2 |
|  | Final Exam |

**EVALUATION SYSTEM**

|  |  |  |
| --- | --- | --- |
| **Semester Studies** | **Number** | **Contribution Margin %** |
| **Attandence** | 1 | 10 |
| **Quiz** | - | - |
| **Midterm** | 1 | 20 |
| **Practice** | - | - |
| **Project** | - | - |
| **Assignment / Presentation** | 1 | 20 |
| **Final** | 1 | 50 |
| **Total** | 4 | 100 |

**ECTS / WORKLOAD TABLE**

|  |  |  |  |
| --- | --- | --- | --- |
| **ACTIVITES** | **NUMBER** | **DURATION**  **(Hour)** | **Total workload (Hour)** |
| **Theoretical Course (+Practice)** | 14 | 3 | 42 |
| **Duration of Out-of-Class Study** | 14 | 3 | 42 |
| **Presentation/Seminar Preparation** | - | - | - |
| **Project** | - | - | - |
| **Assignments** | - | - | - |
| **Quiz** | 1 | 22 | 22 |
| **Midterm**   1. **Exam** 2. **Individual Study For The Exam** | 1 | 20 | 20 |
| **Final**   1. **Exam** 2. **Individual Study For The Exam** | 1 | 24 | 24 |
| **Total workload (hours)** | 31 | 72 | 150 |
| **ECTS Credit of The Course (Total workload (hours) / 25)** |  |  | **6** |

**COURSE OUTCOMES**

|  |  |
| --- | --- |
| **No.** | **Explanation** |
| **O1** | To learn about the development of firearms |
| **O2** | To learn the definition of a gun and the classification of guns |
| **O3** | To understand the working systems of small firearms |
| **O4** | To learn about air guns |
| **O5** | To learn about non-fire weapons and tools |
| **O6** | To learn about small firearm ammunition |
| **O7** | To learn about the concepts of internal ballistics, intermediate ballistics, external ballistics, target ballistics and wound ballistics |
| **O8** | To learn the scope of forensic ballistic examinations |

**PROGRAM QUALIFICATIONS**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | |
| **No.** | **Explanation** | **Contribution Level of the Course** | | | | | |
| **0** | **1** | **2** | **3** | **4** | **5** |
| **P1** | To be proficient in the ethical rules of forensic science and the protection of personal data |  |  |  | X |  |  |
| **P2** | To be proficient in the principles and techniques of scientific research. |  |  |  |  |  | X |
| **P3** | To reach proficiency in the effects of forensic sciences on the establishment of the rule of law. |  |  |  |  | X |  |
| **P4** | To have theoretical and practical knowledge in the fields of Forensic Science Investigation. |  |  |  |  |  | X |
| **P5** | To understand the importance of using forensic science methods in criminal investigations. |  |  |  |  |  | X |
| **P6** | To be proficient in crime scene investigation techniques and forensic photography principles. |  |  |  |  | X |  |
| **P7** | To understand the importance of the crime scene investigation process in criminal investigations |  |  |  |  | X |  |
| **P8** | To apply the developments in the fields of positive science to the fields of criminalistic investigation. |  |  |  |  | X |  |
| **P9** | To know and apply the hierarchy of evidence examination and the relationships between multidisciplinary and interdisciplinary forensic sciences. |  |  |  |  |  | X |
| **P10** | To have basic theoretical and practical knowledge in at least one of the fields of criminalistic investigation. |  |  |  |  |  | X |
| **P11** | To be able to reason about the results of the reports prepared by forensic science laboratories and establish their relationship with the criminal investigation. |  |  |  |  |  | X |
| **P12** | To know the legal responsibilities of the expert witness institution and to internalize its ethical rules. |  |  |  |  |  | X |

**CONTRIBUTION OF COURSE LEARNING OUTCOMES TO PROGRAM PROFICIENCY**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **All** | **P1** | **P2** | **P3** | **P4** | **P5** | **P6** | **P7** | **P8** | **P9** | **P10** | **P11** | **P12** |
| **O1** | **3** | **5** | **5** | **5** | **5** | **4** | **5** | **5** | **5** | **5** | **5** | **5** |
| **O2** | **3** | **5** | **4** | **5** | **4** | **5** | **5** | **5** | **4** | **5** | **4** | **5** |
| **O3** | **3** | **5** | **4** | **5** | **4** | **5** | **5** | **5** | **5** | **5** | **4** | **4** |
| **O4** | **3** | **5** | **4** | **4** | **5** | **5** | **5** | **5** | **5** | **4** | **5** | **4** |
| **O5** | **3** | **5** | **4** | **5** | **5** | **5** | **5** | **4** | **4** | **5** | **5** | **4** |
| **O6** | **3** | **5** | **4** | **5** | **5** | **5** | **5** | **4** | **4** | **5** | **4** | **5** |
| **O7** | **3** | **5** | **4** | **4** | **4** | **4** | **4** | **4** | **4** | **5** | **5** | **5** |
| **O8** | **3** | **5** | **4** | **5** | **4** | **4** | **4** | **5** | **5** | **5** | **5** | **5** |

**0- None 1- Very Low 2- Low 3- Moderate 4- High 5- Very High**

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**Prof.Dr. Gökhan İbrahim ÖĞÜNÇ**

**Head of the Department of Forensic Sciences**