1. **Title of the module**

PSCI3240 (PS324) - Introduction to Ballistics

1. **School or partner institution which will be responsible for management of the module**

Physical Sciences

1. **The level of the module (Level 4, Level 5, Level 6 or Level 7)**

Level 4

1. **The number of credits and the ECTS value which the module represents**

15 credits (7.5 ECTS)

1. **Which term(s) the module is to be taught in (or other teaching pattern)**

Autumn and Spring

1. **Prerequisite and co-requisite modules**

None

1. **The programmes of study to which the module contributes**

BSc (Hons) Forensic Science with/without a Year in Industry

MSci Forensic Science

This is not available as a wild module.

1. **The intended subject specific learning outcomes.  
   On successfully completing the module students will be able to:**

Have a knowledge and understanding of:

1. Newtonian mechanics relating to the flight of projectiles. (Forensics: A1, A5, A8, B9)
2. Energy considerations in ballistics. (Forensics: A5, A8, A9)
3. Weapon mechanisms. (Forensics: A8, C18)
4. Ammunition. (Forensics: A8, C18)
5. Overview of the main stages of ballistics (Internal, Intermediate, External and Terminal). (Forensics: A8, C18)
6. UK Firearms Law. (Forensics: A6, A8, B13, C18)
7. Applications of forensic science to ballistics. (Forensics: A6, A8, B9, B12, C16, C18)
8. **The intended generic learning outcomes.  
   On successfully completing the module students will be able to:**

Have:

1. Increasing of students’ general mathematical abilities. (Forensics: D22, D23)
2. The application of mechanics to different scenarios. (Forensics: D22, D23)
3. The application of law to ballistics. (Forensics: D22)
4. Develop practical skills in ballistics. (Forensics: D22, D26)
5. Writing of reports for different audiences. (Forensics: D21, D22, D24, D25, D26, D29)
6. Development of oral presentation skills. (Forensics: D21, D26, D29)
7. To develop the skills required for higher level ballistics modules. (Forensics: D22, D29, D30)
8. Development of research skills and the use of scientific literature. (Forensics: D24, D24)
9. **A synopsis of the curriculum**

This module provides an introduction to the mathematical, physical, social and legal concepts that underpin academic study in the field of ballistics.

1. **Reading list (Indicative list, current at time of publication. Reading lists will be published annually)**

* Understanding Firearm Ballistics, R.A. Rinker. Mullberry Hs, USAISBN 0-9645598-4-6
* Handbook of Firearms and Ballistics, Brian Heard, Wiley Blackwell. ISBN 0470694602
* Small Arms, Derek Allsop & M Toomey, Brassey's (UK) Ltd. ISBN 1857532503

1. **Learning and teaching methods**

Total contact hours: 30

Private study hours: 120

Total study hours: 150

1. **Assessment methods**
   1. Main assessment methods

Lab Report 1 (20%) – 800 words

Lab Report 2 (20%) – 800 words

Essay (40%) – 1100 words

Presentation (20%) – 10 minutes

13.2 Reassessment methods

Like-for-like

1. **Map of module learning outcomes (sections 8 & 9) to learning and teaching methods (section12) and methods of assessment (section 13)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Module learning outcome** | *8.1* | *8.2* | *8.3* | *8.4* | *8.5* | *8.6* | *8.7* | *9.1* | *9.2* | *9.3* | *9.4* | *9.5* | *9.6* | *9.7* | *9.8* |
| **Learning/ teaching method** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Private Study | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** |  | **x** | **x** | **x** | **x** |
| Lecture | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** |  | **x** | **x** | **x** | **x** |
| Lab Class | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Assessment method** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lab Report 1 |  | **x** | **x** | **x** | **x** | **x** | **x** | **x** |  | **x** |  | **x** |  | **x** | **x** |
| Lab Report 2 | **x** | **x** |  | **x** | **x** |  | **x** | **x** | **x** |  | **x** | **x** |  | **x** | **X** |
| Essay |  |  | **x** | **x** | **x** | **x** | **x** |  |  | **x** |  | **x** |  | **x** | **X** |
| Presentation |  |  | **x** | **x** | **x** | **x** | **x** |  |  | **x** |  |  | **x** |  | **x** |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

1. **Inclusive module design**

The School recognises and has embedded the expectations of current equality legislation, by ensuring that the module is as accessible as possible by design. Additional alternative arrangements for students with Inclusive Learning Plans (ILPs)/declared disabilities will be made on an individual basis, in consultation with the relevant policies and support services.

The inclusive practices in the guidance (see Annex B Appendix A) have been considered in order to support all students in the following areas:

a) Accessible resources and curriculum

b) Learning, teaching and assessment methods

1. **Campus(es) or centre(s) where module will be delivered**

Canterbury

1. **Internationalisation**

In many respects, the Mathematics taught in this module is an international language. The intended learning outcomes within this module are applicable worldwide as part of the universal principles of Mathematics and the building blocks of science. Additionally, the varied international manufacture of weapon systems and social aspects of firearms are discussed in relation to their effects on many different countries and cultures around the world.

**FACULTIES SUPPORT OFFICE USE ONLY**

**Revision record – all revisions must be recorded in the grid and full details of the change retained in the appropriate committee records.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date approved | Major/minor revision | Start date of the delivery of revised version | Section revised | Impacts PLOs (Q6&7 cover sheet) |
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Revised FSO Jan 2018