**COURSE SYLLABUS**

***E-Commerce Security***

**1. Program identification details**

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| 1.1 Higher education institution | „Ovidius” University of Constanta |
| 1.2 Faculty | Faculty Mathematics and Computer Science |
| 1.3 Department | Mathematics and Computer Science |
| 1.4 Field of studies | Computer Science |
| 1.5 Cycle of studies (degree) | Master |
| 1.6 Degree program/qualification | Cyber Security and Machine Learning |
| 1.7 Academic year | 2022-2023 |

**2. Course identification details**

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| 2.1 Course title | | | **E-Commerce Security** | | | | |
| 2.2 Course code | | | **FMI.CSML.I.2.13** | | | | |
| 2.3 Instructor | | | Lect. PhD. Ciucă Marian-George | | | | |
| 2.4 Teaching assistant | | | Lect. PhD. Ciucă Marian-George | | | | |
| 2.5 Year | 1 | 2.6 Semester | 2 | 2.7. Evaluation type | C | 2.8 Course type \*/\*\* | DAP/DO |

*\* DF – fundamental course, DD – field course, DS – specialty course, DC – complementary course, DAP – advanced study course, DSI – synthesis course, DCA – advanced knowledge course.*

*\*\* DI – mandatory course; DO – optional course.*

**3. Estimated workload (hours per semester)**

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| --- | --- | --- | --- | --- | --- | --- |
| 3.1 Number of teaching hours/week | | 2 | of which:  3.2 course | 1 | 3.3 applications*\*\*\** | 1 |
| 3.4 Total of teaching hours within the program/semester | | 28 | of which:  3.5 lecture | 14 | 3.6 laboratory | 14 |
| **3.7 Student workload for individual study** | | | | | | 72 |
| ***Distribution of workload*** | | | | | | [hours] |
| Individual study of texbooks, handbooks/reader, bibliography and notes | | | | | | 16 |
| Additional research (library, electronic resources, fieldwork) | | | | | | 28 |
| Homework (preparing seminar presentations, portfolios, critical essays, research papers, etc.) | | | | | | 14 |
| Individual consultations (optional) | | | | | | 6 |
| Evaluations / exams | | | | | | 4 |
| Other activities | | | | | | 4 |
| **3.8 Total hours per semester** | *100* | |  |  |  |  |
| **3.9 Number of credits** | 4 | |  |  |  |  |

*\*\*\* S - seminar; L - laboratory; P - project*

**4. Prerequisites (if any)**

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| 4.1 Curriculum-related | Web technologies, Web application development, Databases, Networking, Operating systems |
| 4.2 Skills-related | Web developer, Network administrator, Database administrator |

**5. Requirements (if any)**

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| 5.1. For running the course | Classroom |
| 5.2. For running the seminar / laboratory /project  *\*The type is to be chosen according to the discipline* | Laboratory with interconnected computers (better with Internet) |

**6. Acquired specific skills**

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| --- | --- |
| Professional skills | **Web developer of secure web applications** |
| Cross-cutting skills | **Pentesting web applications** |

**7. Course goal and objectives**

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| 7.1 The general objective of the course | The main goal is to provide security assessments and secure deployment of e-commerce web applications |
| 7.2 Specific objectives | Describe web-based applications and associated threats and differentiate from mainframe, clientserver, applications  Evaluate web application security vulnerabilities  Identify web application security controls and risk mitigation techniques  Develop a security strategy and solution for securing web-based applications  Assess web application security compliance requirements and objectives  Design a web – application Vulnerability and Security Assessment Test Plan |

**8. Contents**

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| --- | --- | --- |
| **8.1 Lecture** | **Teaching methods** | **Number of hours** |
| Introduction to e-commerce: definitions, infrastructure, implementation | Slides | 2 |
| Technologies involved in implementation of E-commerce web applications | Slides | 2 |
| Web e-commerce platforms | Slides | 2 |
| Payment gateways | Slides | 2 |
| Extensions of e-commerce platforms | Slides | 2 |
| Cloud e-commerce applications | Slides | 2 |
| E-commerce securities: threats, control measures, electronic payment | Slides | 2 |
| **Bibliography:**   1. Christian Horsdal Gammelgaard - Microservices in .NET, Manning 2. Christian Wenz - ASP.NET Core Security, Manning 3. <https://business.adobe.com/ro/products/magento/open-source.html> 4. <https://owasp.org/www-project-top-ten/> 5. <https://www.prestashop.com/> 6. <https://www.shopify.com/> 7. <https://wordpress.com/> 8. <https://woocommerce.com/> | | |

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| --- | --- | --- |
| **8.2 Applications\* (seminar / laboratory / project)**  *\*The type is to be chosen according to the discipline* | **Teaching methods** | **Number of hours** |
| Introduction to e-commerce: definitions, infrastructure, implementation | Step by step instructions | 2 |
| Technologies involved in implementation of E-commerce web applications | Step by step instructions | 2 |
| Web e-commerce platforms | Step by step instructions | 2 |
| Payment gateways | Step by step instructions | 2 |
| Extensions of e-commerce platforms | Step by step instructions | 2 |
| Cloud e-commerce applications | Step by step instructions | 2 |
| E-commerce securities: threats, control measures, electronic payment | Step by step instructions | 2 |
| **Bibliography:**   1. Christian Horsdal Gammelgaard - Microservices in .NET, Manning 2. Christian Wenz - ASP.NET Core Security, Manning 3. <https://business.adobe.com/ro/products/magento/open-source.html> 4. <https://owasp.org/www-project-top-ten/> 5. <https://www.prestashop.com/> 6. <https://www.shopify.com/> 7. <https://wordpress.com/> 8. <https://woocommerce.com/> | | |

**9. Correlation between the content of the course and the needs/expectations of the epistemic community, professional associations and/or significant employers relevant for the program**

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| --- |
| Students will gain familiarity and facility with modern tools for creating and managing security of e-commerce applications. Students will learn and be able to apply fundamental security concepts so that they can evaluate the security of e-commerce web applications designs in the face of potential future attacks. |

**10. Evaluation**

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| --- | --- | --- | --- |
| Type of activity | 10.1 Evaluation criteria | 10.2 Evaluation methods | 10.3 Percentage of final grade |
| 10.4 Colloquium | oral | Written test | 20% |
| 10.5 Applications\*  (Seminar/Laboratory / Project)  *\*The type is to be chosen according to the discipline* | oral | Project | 80% |
|  | | | |
| 10.6 Minimum standard of achievement for the acquisition of the ECTS credits | | | |
| Students must know to describe few security flaws, threats and countermeasures regarding e-commerce applications. | | | |

Date of completion Course Instructor, Teaching Assistant,

Lect. Dr. Ciucă Marian-George Lect. Dr. Ciucă Marian-George

20.09.2022

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Date of approval in the Department Head of Department

Conf. Dr. Puchianu Crenguța-Mădălina

27.09.2022

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Dean,

Conf. Dr. Nicola Aurelian

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