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| المملكة العربية السعودية  وزارة التعليم العالي  **جامعة أم القرى**  الكلية الجامعية بالجموم – قسم الحاسب الآلي |  | Kingdom of Saudi Arabia  Ministry of Higher Education  **Umm Al-Qura University**  University College in Al-Jamoum  Computer Dept. |

Course Specification

1. **Course number and name:** (2316532-3) Computer Security
2. **Credits and contact hours:** 3Credits

(Lecture: 3/week – Practical Session: Non)

1. **Instructor’s or course coordinator’s name:** Dr. Kheir Eddine Bouazza
2. **Text books**
3. **Main Text book:** Dieter Gollmann, Computer Security, Wiley, 3rd Edition, 2011.
4. **Reference:** William Stallings, Network Security Essentials, Prentice Hall, 5th Edition, 2013.
5. **Specific course information**
6. **brief description of the content of the course (Catalog Description):**

The goal of this course is to give to students the skills needed to secure computer systems and insurance programs, as well as securing equipment. As well as the study of encryption operations and to study the exposure secure operating systems, secure data systems, and secure network systems.

1. **prerequisites or co-requisites:** Operating System (2316411-3)
2. **indicate whether a required, elective, or selected elective course in the program:** required
3. **Specific goals for the course**

The student will be able to:

1. Describe different computer security threats.
2. Understand the cryptography mechanisms and their usability in computer security.
3. Discuss different hardware and memory security tools.
4. Apply different security tools for network, computer and web systems.

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| *Course*  *Goals* | *Program Outcomes* | | | | | | | | | | |
| SOa | SOb | SOc | SOd | SOe | SOf | SOg | SOh | SOi | SOj | SOk |
| 1 | ✓ |  |  |  | ✓ |  | ✓ |  |  |  |  |
| 2 | ✓ |  |  |  | ✓ |  |  |  |  |  |  |
| 3 | ✓ |  |  |  | ✓ |  | ✓ |  | ✓ |  |  |
| 4 |  |  |  |  | ✓ |  | ✓ |  | ✓ |  |  |
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| **Relationship of Course Goals to the Program Student Outcomes** | |
| **SOa** | An ability to apply knowledge of computing and mathematics appropriate to the discipline   * *Students apply knowledge of computer security, design to a project, and use this topic for other subjects. Students will realize the importance of security and protection for data and information.* |
| **SOe** | An understanding of professional, ethical, legal, security, and social issues and responsibilities.   * *Students will appreciate the implications of leaving systems insecure.* |
| **SOg** | An ability to analyze the local and global impact of computing on individuals, organizations and society.   * *Students will be able to analyze the impact of security on organizations and individuals.* |
| **SOi** | An ability to use current techniques, skills, and tools necessary for computing practices.   * *Reports and projects use current computing and modeling/design tools.* |

1. **Brief list of topics to be covered**

* Introduction to Computer security
* Hardware security
* Memory security
* Cryptography
* Basic of TCP/IP Bugs
* Studies of some Attacks (Scan, DoS and DDoS)
* Malware attacks
* System security tools
* Network security tools
* Web security tools