## Course Syllabus Form

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|---|---|---|---|---|---|---|---|
| **1. College: College of Applied Studies** | | | | | | | |
| **2. Department: Administrative and Technical Programs** | | | | | | | |
| **3. Program: Associate Diploma in Software Development** | | | | | | | |
| **4. Course code: CSA 223** | | | | | | | |
| **5. Course title: Network and Web Security** | | | | | | | |
| **6. Course credits: 2-3-3** | | | | | | | |
| **7. Pre-requisites: CSA 214** | | | | | | | |
| **8. Course web-page:** | | | | | | | |
| **9. Course coordinator: Mr. Khuzaima Jallad** | | | | | | | |
| **10. Academic year: 2013/2014** | | | | | | | |
| **11. Semester:** | **X** | **First** | | **Second** | | **Summer** | |
| **12. Textbook(s):**<br>• David Mackey: Web Security for Network and System Administrators, Course Technology,Incorporated,2003,ISBN0-619-06495-1 | | | | | | | |
| **13. References:**<br>• Eric Maiwald, Fundamentals of Network Security, Publisher Brandon A.Nordin 2004. ISBN 0072230932 / 9780072230932 | | | | | | | |
| **14. Other resources used (e.g. e-Learning, field visits, periodicals, software, etc.):**<br>• Lab Manual. | | | | | | | |
| **15. Course description (from the catalog):**<br>Historical perspective of cryptography including some classical encryption techniques, cryptanalysis, and steganography. Symmetric key encryption methods. Public-key encryption methods. Access control, firewalls, and web security. Viruses and intruders. | | | | | | | |

**Course Intended Learning Outcomes (CILOs):**

| | *Mapping to PILOs* | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| ***CILOs*** | a | b | c | d | e | f | g | h |
| 1. Assess the threats, vulnerabilities, and risks to a network. | | **X** | | **X** | | | | |
| 2. Defend against access, modification, Denial-of-service and repudiation attacks. | | **X** | | **X** | | | | |
| 3. Identify a verity of hacking methods, including sniffing, spoofing viruses, Trojan and worms. | | **X** | | **X** | | | | |

| Course Intended Learning Outcomes (CILOs): | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 4. Configure wireless security technologies. | | X | | X | | | | |
| 5. Apply security technologies such as firewalls, VPNs, encryption methods and detection system. | | X | | X | X | | | |
| 6. Implement security measures for web. | | X | | X | X | | | |

| 7. Course assessment: | | |
|---|---|---|
| *Assessment Type* | *Number* | *Weight* |
| Report and Presentation | 2 | 20 % |
| Midterms | 2 | 40 % |
| Lab | 9 | 10 % |
| Final | 1 | 40 % |
| **Total** | **16** | **100 %** |

**8. Course Weekly Breakdown:**

| ***Week*** | ***Topics covered*** | ***PILOs*** | ***Teaching Method*** | ***Assessment*** |
|---|---|---|---|---|
| ***15-19 Sept*** | Introduction to the Course | | *Lecture* | |
| *22 Sept – 3 Oct* | Information Security Basics<br>- Defining Security<br>- Security Goals | *b* | *Lecture* | *Lab Assignment 1* |
| *6 – 17 Oct* | Types of Attacks<br>- Threats and Attacks<br>- The ten security principles | *c,g* | *Lecture, Lab* | *Lab Assignment 2* |
| | Eid Al_Adha Holiday | | | |
| *20 – 24 Oct* | Access Control<br>- Encryption and Decryption<br>- Passwords | *b,c,g* | *Lecture, Lab* | *Lab Assignment 3* |
| *27 – 31 Oct* | Locks and Keys<br>- Physical Security<br>- Destructive and Non-destructive entry | *b,c,g* | *Lecture, Lab* | *MIDTERM EXAM 1* |
| *3 – 7 Nov* | RFID Security<br>- Operation Frequency<br>- Who and Why | *b,c,g* | *Lecture, Lab* | *Lab Assignment 5* |
| *10 – 14 Nov* | Mid Semester Break | | | |
| *17 – 21 Nov* | RFID Security<br>- Types of Tags | *b,c,g* | *Lecture, Lab* | *Lab Assignment 6* |

| 8. Course Weekly Breakdown: | | | | |
|---|---|---|---|---|
| | - What to Protect | | | |
| *24 – 28 Nov* | File System Security<br>- General Principles<br>- Closed and Open Policy | *b,c,g,h* | *Lecture, Lab* | *MIDTERM EXAM 2* |
| *1 – 5 Dec* | File System Security<br>- Access control for different OS | *b,c,g,h* | *Lecture, Lab* | *Lab Assignment 7* |
| *8 – 12 Dec* | Malware<br>- Viruses, Worms Trojans and Rootkits Attacks<br>- Computer Viruses and Defense | *b,c,g,h* | *Lecture, Lab* | *Lab Assignment 8* |
| *15 – 19 Dec* | Malware<br>- Worm Propagation<br>- Malware Zombies<br>- Economics of Malware<br>National Day Holiday and Celebrations 16 – 17 Dec | *b,c,g,h* | *Lecture, Lab* | *Lab Assignment 9* |
| *20 – 26 Dec* | Networks; IP and TCP<br>- ICPM Attacks<br>- Smurf Attack<br>- IP Vulnerability | *b,c,g,h* | *Lecture, Lab* | *Project Submission and Presentation* |
| *29 – 31 Dec* | Networks; IP and TCP<br>- Denial of Service Attacks<br>- IP Traceback<br>- SYN Flood | *b,c,g,h* | *Lecture* | *Presentations Completed* |
| *17* | ***Final Exam*** | | | |