ITSY-1442/1042 – Info Tech Security/Cyber Security Analyst
SYLLABUS
Richland College School of Engineering and Technology
Fall 2019 Semester
Section 81001

COURSE

Course Title: Info Tech Security/Cyber Security Analyst
Course Location: Del Rio D276

INSTRUCTOR

Name: Munshi Shamsuzzaman
Office Hours: Tue & Thu 10am-12pm; Mon & Wed 5-5:30pm; before or after class or by appointment
Telephone: Office: 972-238-3784
Office Location: Bonham B154
E-mail: munshishams@dcccd.edu
Note: I usually will reply within 24 hours except on holidays and weekends.

COURSE DESCRIPTION

Prerequisite: Basic computer skills. Required tools include Microsoft Windows, the Internet, and an e-mail address/account. Much of the required work may be completed using a Mac, Linux or BSD computer. Students without a computer have access to Richland College’s Computer Lab (upstairs in Del Rio Hall).

Course Description: A continued information security including vocabulary and terminology, ethics, the legal environment, and risk management. Identification of exposures and vulnerabilities and appropriate countermeasures are addressed. The importance of appropriate planning, policies and controls is also discussed.

Course Objectives
This course offers a comprehensive guide for anyone wishing to take the CompTIA Cybersecurity Analyst (CySA+) Certification Exam.

ITSY 1442/1042 Covers:

- Defending Against Cybersecurity Threats
- Reconnaissance and Intelligence Gathering
- Designing a Vulnerability Management Program
- Analyzing Vulnerability Scans
- Building an Incident Response Program
- Analyzing Symptoms for Incident Response
- Performing Forensic Analysis
- Recovery and Post-Incident Response
- Policy and Compliance
- Defense-in-Depth Security Architectures
- Identity and Access Management Security
- Software Development Security
- Cybersecurity Toolkit

Course Format: The course will be presented in online. The student will complete assignments and tests that will be graded by the instructor on a weekly basis (see schedule below).
**WECM End-of-Course Outcomes:** Outline best practices for the information security goals of confidentiality, integrity and availability; explain ethical practices; define vocabulary/terminology related to information security; explain the importance of planning and administrative controls; identify security threats, vulnerabilities, and countermeasures; and identify procedures for security risk management.

**TEXTBOOK**

The Official CompTIA Cybersecurity Analyst (CySA+) Student Guide (Exam CS0-001)
Link: [https://academic-store.comptia.org/p/978-1-64274-079-0](https://academic-store.comptia.org/p/978-1-64274-079-0)

**STUDENT RESPONSIBILITIES**

If an experience of technical difficulties accessing or using eCampus or Cybint Labs, the student must immediately communicate the problem to the instructor in class or via email. Check eCampus every day for new announcements, lecture materials, assignments, tests, questions, discussions, and exams. Complete all assignments, tests, and exams during the time frames specified for each.

**ECAMPUS**

Each student must have access to ecampus.

**REPORTING PROBLEMS**

Prior to the closing deadline for an assignment, test, questions, exam, or forum discussion, communicate via email any technical difficulties experienced using eCampus. Use Technical Difficulties as the subject line of the message, provide a detailed description of the problem, and clearly identify which graded component was affected.

Failure to communicate a problem prior to the closing deadline will result in the student receiving the grade recorded by eCampus, which will most likely be a zero (0).

**CONTACTING THE INSTRUCTOR**

If you have a personal question for me, please email me at munshishams@dccc.edu. I will not reply to any other email. Students can set an appointment during my office hours by appointment.

If your question is about text material, tests or other course content, please post your questions or comments in the discussion board area. I will monitor the discussion board every day and post a reply as soon as possible. All other students are encouraged to participate in any discussion of interest to them.

If a student encounters a hardware or software failure that makes electronic communication impossible, this constitutes an emergency and he/she should find a working computer (a friend, work, library, Richland, etc.) There will be no assignments or email interaction on the following dates: Spring Break March 11 - 15.

**REQUIRED MATERIALS**

Students must have:
- A computer system that can access eCampus and perform the assignments/exams/tests required for this course.
- Access to the Internet and a DCCCD email account (Suggested, but not required).
- A word processor that generates .txt Text files, RTF or Microsoft Word compatible documents.
- A text editor such as MS Word, WordPad, or Notepad.
- A Flash Drive of 8gb+ size
Syllabus Change Disclaimer: The instructor reserves the right to amend a syllabus as necessary.

For Institution Policies: please refer to the Richland website www.richlandcollege.edu/syllabipolicies

Academic Honesty Policy: Scholastic dishonesty is a violation of the Code of Student Conduct. Scholastic dishonesty includes, but is not limited to, cheating on a test, plagiarism, and collusion. As a college student, you are considered a responsible adult. Your enrollment indicates acceptance of the DCCCD Code of Student Conduct published in the DCCCD Catalog

Disability Services/Special Services: Students with a disability and/or special needs who require ADA accommodations should contact the Richland College Disability Services Office, C120, (972) 238-6180.

Withdrawal (Drop) Policy: If you are unable to complete this course, it is your responsibility to withdraw formally.

Repeating This Course: Effective for Fall Semester 2005, the Dallas County Community Colleges will charge additional tuition to students registering the third or subsequent time for a course. All third and subsequent attempts of the majority of credit and Continuing Education/Workforce Training courses will result in additional tuition to be charged. Developmental Studies and some other courses will not be charged a higher tuition rate. Third attempts include courses taken at any of the Dallas County Community Colleges since the Fall 2002 Semester. See Third Attempt to Enroll in a Course at http://www.dcccd.edu/thirdcourseattempt/

STOP BEFORE YOU DROP: For students who enrolled in college level courses for the first time in the fall of 2007, Texas Education Code 51.907 limits the number of courses a student may drop. You may drop no more than 6 courses during your entire undergraduate career unless the drop qualifies as an exception. Your campus counseling/advising center will give you more information on the allowable exceptions. Remember that once you have accumulated 6 non-exempt drops, you cannot drop any other courses with a “W”. Therefore, please exercise caution when dropping courses in any Texas public institution of higher learning, including all seven of the Dallas County Community Colleges.

Financial Aid: If you are receiving any form of financial aid, you should check with the Financial Aid Office prior to withdrawing from classes. Withdrawals may affect your eligibility to receive further aid and could cause you to be in a position of repayment for the current semester. Students who fail to attend or participate after the drop date are also subject to this policy

Attendance Policy: Attendance is a component of this course. Students are expected to participate in class and/or respond back via email when requested. Include the Assignment or Lab Response # and date in the subject line of the email. Excluded dates are indicated above.

Computer/Internet Policy: Richland College students have access to the Del Rio Educational Computing Lab, D257, for educational and instructional purposes. It is the instructor's expectation that each student will have their own computer with the software installed. Students using the Del Rio computer lab are required to show their Richland Student ID when requested by lab personnel. Students can obtain their IDs in Thunderduck Hall. Students are expected to follow lab policies as well as the Student Code of Conduct specified in the catalog.

Email Accounts: Each student needs to have a working email address on file with the instructor. You can receive a Richland email account if you are registered for credit classes. Visit the Del Rio Educational Computing Lab (D257) for instructions on obtaining a Richland email account if you do not have one or you would like an additional one. You must have a student ID for admission.

PLEASE LOOK AT YOUR EMAIL DAILY. If you have any questions about the course or need assistance, please contact me in person or by e-mail at any time.

Grades: Student can receive their grades through eConnect at www.econnect.dcccd.edu.
Labs

Students must complete labs (Note assignments below). Make sure and pace yourself and allow time to perform the labs. Each lab must be completed in order before you can move on to the next section.

Student Evaluation

At the end of this course, each student taking this course for credit will receive a letter grade. A student’s letter grade will be based on the numeric course grade that he/she earns. The numeric course grade is computed using a weighted average formula. Table 1 below indicates the graded elements of this course and the corresponding weights. Table 2 below indicates the possible numeric grades and the corresponding letter grades.

Students taking this course for continuing education credits will receive either a certificate based on a numeric grade of 70 or higher or no certificate. Letter grades will not be available for C.E. students through eConnect.

<table>
<thead>
<tr>
<th>Graded Element</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Labs</td>
<td>25%</td>
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<tr>
<td>End of Chapter Questions</td>
<td>25%</td>
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<tr>
<td>Mid-Term</td>
<td>25%</td>
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<tr>
<td>Final Exam</td>
<td>25%</td>
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Table 2: Letter Grades

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<thead>
<tr>
<th>Numeric Course Grade</th>
<th>Letter Grade</th>
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<tbody>
<tr>
<td>90 to 100</td>
<td>A</td>
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<tr>
<td>80 to 89</td>
<td>B</td>
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<tr>
<td>70 to 79</td>
<td>C</td>
</tr>
<tr>
<td>60 to 69</td>
<td>D</td>
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<tr>
<td>Below 60</td>
<td>F</td>
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Tests:
During the semester, there will be a mid-term exam and a final exam comprehensive final exam.

The mid-term exam will be 40 multiple choices, true/false, and fill in the blank questions. Students will have 60 minutes to complete the test after you begin. The exam will be given online.

No makeup tests will be permitted unless prior arrangements have been made with the instructor.

Final Exam:
The final exam will be 50 multiple choices, true/false, and fill in the blank questions. Students will have 90 minutes to complete the test after you begin. The final exam will cover all chapters in the book. The final exam will be given online.

No makeup tests will be permitted unless prior arrangements have been made with the instructor.

Assignments and Labs
Labs are delivered via the Cybint Solutions virtual lab environment. A link to the lab environment is available from eCampus under Lessons and Assignments.
Assignments and Labs are due by the date posted in the syllabus timeline, on the Sunday evening after the chapters have been presented, by 11:59 PM. Submit your assignments via eCampus and submit your labs via Cybint Solutions. Students are responsible for completing all assignments and labs on time. A daily 10% reduction to the assignment/lab will be applied if the assignment/lab is not submitted by the due date. If you miss an assignment or lab a zero will be given unless prior arrangement has been made with the instructor, usually via email or in person.

Reviewing Your Grades:
Each student will be able to view their grades on assignments, tests, labs, etc. using eCampus. However, to access the student’s final course grade, each student will need to access his/her eConnect account. If you have a grade dispute, you have 7 days after the instructor posts the grade.

Academic Progress:
Students are encouraged to discuss academic goals and degree completion with their instructors. Specific advising is available throughout the semester. Check https://richlandcollege.edu/admissions/ for more details.

The following is a tentative schedule based on class needs. **The instructor reserves the right to make schedule and/or assignment changes.**

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Assignments</th>
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| 1    | Read Chapter 1: Defending Against Cybersecurity Threats  
Complete Review Questions 1 – 20: Chapter 1  
Cybint Solutions Virtual Machine Labs: Introduction to Cyber Security Analyst (CSA) Lab |
| 2    | Read Chapter 2: Reconnaissance and Intelligence Gathering  
Complete Review Questions 1 – 20: Chapter 2  
Cybint Solutions Live Virtual Machine Labs: LS#1 - Getting to know Virtual Machines and Operating Systems |
| 3    | Read Chapter 3: Designing a Vulnerability Management Program  
Complete Review Questions 1 – 20: Chapter 3  
Cybint Solutions Live Virtual Machine Labs: LS#2 - Data Tampering |
| 4    | Read Chapter 4: Analyzing Vulnerability Scans  
Complete Review Questions 1 – 20: Chapter 4  
Cybint Solutions Live Virtual Machine Labs: LS#3 - Holes in the Wall |
| 5    | Read Chapter 5: Building an Incident Response Program  
Complete Review Questions 1 – 20: Chapter 5  
Cybint Solutions Live Virtual Machine Labs: LS#4 - Anomalous Outbound Network Traffic |
| 6    | Read Chapter 6: Analyzing Symptoms for Incident Response  
Complete Review Questions 1 – 20: Chapter 6  
Cybint Solutions Live Virtual Machine Labs: LS#5 - Port Scanning |
| 7    | Read Chapter 7: Performing Forensic Analysis  
Complete Review Questions 1 – 20: Chapter 7  
Cybint Solutions Live Virtual Machine Labs: LS#6 - Getting to know the IDS and IPS |
| 8    | Mid-Term Exam – Chapters 1 – 7  
Read Chapter 8: Recovery and Post-Incident Response  
Complete Review Questions 1 – 20: Chapter 8  
Cybint Solutions Live Virtual Machine Labs: LS#7 - APT? Not on my Shift! |
| 9    | Read Chapter 9: Policy and Compliance  
Complete Review Questions 1 – 20: Chapter 9  
Cybint Solutions Live Virtual Machine Labs: LS#8 - Remote Access can be Bad |
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| 10 | Read Chapter 10: Defense-in-Depth Security Architectures  
  Complete Review Questions 1 – 20: Chapter 10  
  Cybint Solutions Live Virtual Machine Labs: LS#9 - Our Cloud Service is Under Attack |
| 11 | Read Chapter 11: Identity and Access Management Security  
  Complete Review Questions 1 – 20: Chapter 11  
  Cybint Solutions Live Virtual Machine Labs: LS#10 - Vulnerability Assessment Needed |
| 12 | Read Chapter 12: Software Development Security  
  Complete Review Questions 1 – 20: Chapter 12  
  Cybint Solutions Live Virtual Machine Labs: LS#11 - Integrated Scenario (The Job Interview) |
| 13 | Read Chapter 13: Cybersecurity Toolkit  
  Complete Review Questions 1 – 20: Chapter 13  
  Cybint Solutions Live Virtual Machine Labs |
| 14 | TBD: Cybint Solutions Live Virtual Machine Labs |
| 15 | TBD: Cybint Solutions Live Virtual Machine Labs |
| 16 | Final Exam: Chapters 1 – 13 |