

**Course Syllabus of ISM4323 Spring 2020**  
**Professor Patricia Angle, PhD**

<b>General Information</b>																
<b>Course Number/CRN</b>	ISM 4323/CRN 11064															
<b>Course Title</b>	<b>Network Security</b>															
<b>Semester/Year</b>	Spring 2020															
<b>Offering College/Department</b>	Lutgert College of Business (LCOB) Information Systems and Operations Management (ISOM)															
<b>Credit Hours</b>	3															
<b>Meeting Times/Location</b>	<p><b>Room : LH 2209</b></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;"></th> <th style="width: 20%; text-align: center;"><u>Start Date</u></th> <th style="width: 20%; text-align: center;"><u>End Date</u></th> <th style="width: 10%; text-align: center;"><u>Days</u></th> <th style="width: 30%; text-align: center;"><u>Time</u></th> </tr> </thead> <tbody> <tr> <td style="padding-left: 20px;">Class</td> <td style="text-align: center;">1/6/20</td> <td style="text-align: center;">4/27/20</td> <td style="text-align: center;">M</td> <td style="text-align: center;">1:30pm-4:15pm</td> </tr> <tr> <td style="padding-left: 20px;">Exam</td> <td></td> <td style="text-align: center;">5/1/20</td> <td style="text-align: center;">F</td> <td style="text-align: center;">12:30pm-2:45pm</td> </tr> </tbody> </table>		<u>Start Date</u>	<u>End Date</u>	<u>Days</u>	<u>Time</u>	Class	1/6/20	4/27/20	M	1:30pm-4:15pm	Exam		5/1/20	F	12:30pm-2:45pm
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<b>Is this a DL Course?</b>	No, it is an on-campus course.															
<b>Method of Delivery</b>	Class meetings.															
<b>Course URL</b>	<a href="http://fgcu.instructure/login">http://fgcu.instructure/login</a> (select "ISM 4323" course and click "Modules")															
<b>Prerequisites</b>	ISM3011, Know how to install and run Windows, Internet Explorer and Web applications															
<b>Instructor Information</b>																
<b>Instructor</b>	Patricia Angle, PhD															
<b>Office Location</b>	Lutgert Hall 3300															
<b>Phone Number</b>	239-590-7362															
<b>E-Mail Address</b>	pangle@fgcu.edu															
<b>Office Hours</b>	M 4:20-5:20 and Tu 11:00-3:00															
<b>Mandatory Confirmation</b>																
<p>Important Note: All faculty members are required to use Canvas to confirm a student's attendance for each course by the end of the first week of classes. Failure to do so will result in a delay in the disbursement of your financial aid. The confirmation of attendance is required for all students, not only those receiving financial aid. Every student must complete a mandatory activity in Canvas during the first week. Please complete the <b>mandatory</b> class survey in Canvas the first week of class.</p>																
<b>Course Information</b>																
<b>Description</b>	<p>This course is focused on the fundamental concepts, architectures and protocols related to network security. Topics include overview of network security; basics of cryptography; threat models; authentication and authorization mechanisms and standards; electronic mail security; network layer security; web security; packet filtering, firewalls; intrusion detection, and virtual private networks.</p> <p>The course includes a series of lectures, hands on projects, quizzes to reinforce learning, and assignments/cases to achieve the learning outcomes for the class. Current issues/topics relating to information security are addressed. Students will be asked to assess current security issues and to identify strategies for mitigating risks. Students are expected to actively participate in weekly case discussions.</p> <p>For hands-on projects and assignments, students will document results and be prepared to share with the class.</p>															

	<p>Although there is no requirement to take a certification test for this class, the content in the Ciampa text, and our classwork addresses many of the requirements for the CompTIA Security+ certification.</p>
<p><b>Student Learning Outcomes</b></p>	<p>After successfully completing this course, students will be able to:</p> <ol style="list-style-type: none"> <li>1. Explain the concepts of information systems security as applied to an IT infrastructure.</li> <li>2. Describe how malicious attacks, threats, and vulnerabilities impact an IT infrastructure.</li> <li>3. Explain the role of access controls in implementing a security policy.</li> <li>4. Explain the role of operations and administration in security policy.</li> <li>5. Describe common response techniques, and issues related to recovery of IT systems.</li> <li>6. Explain how businesses apply cryptography in maintaining information security.</li> <li>7. Explain the means attackers use to compromise systems and networks and defenses used by organizations.</li> <li>8. Apply basic security rules to commonly available desktop security software.</li> </ol>
<p><b>Required Materials</b></p>	<p><b>Required textbook/resources:</b></p> <ul style="list-style-type: none"> <li>• Mark Ciampa, <i>Security+ Guide to Network Security Fundamentals, Sixth Edition</i>. Course Technology, Cengage Learning, 2018 (ISBN 978-1-337-28878-1)</li> </ul> <p><b>Other Resources:</b></p> <ul style="list-style-type: none"> <li>• See Canvas for References (List of Associations, Books, and other Links)</li> </ul> <p><b>Optional-Information Resources:</b></p> <ul style="list-style-type: none"> <li>• For students interested in obtaining certification, there are additional resources available from Testout (testout.com), an organization offering virtual video and lab content to help students prepare for various certification exams. Their offering “Security Pro” is focused on the content that will be covered in this class. If you have an interest in certification and in licensing this software, contact the professor for purchasing information.</li> </ul>
<p><b>Course Topics</b></p>	<p>The course provides an introduction to the fundamentals of network security, including compliance and operational security; threats and vulnerabilities; application, data, and host security; access control and identity management; and cryptography. The course covers new topics in network security as well, including psychological approaches to social engineering attacks, Web application attacks, penetration testing, data loss prevention, cloud computing security, and application programming development security.</p>

Specific topic coverage includes:

- Introduction to Security
- Malware and Social Engineering Attacks
- Basic Cryptography
- Advanced Cryptography and PKI
- Networking and Server Attacks
- Network Security Devices, Design, and Technology
- Administering a Secure Network
- Wireless Network Security
- Host, Application, and Data Security
- Mobile and Embedded Device Security
- Authentication and Account Management
- Access Management
- Vulnerability Assessment and Data Security
- Business Continuity/ Risk Mitigation

Capabilities and functions of Cyber Florida (<https://cyberflorida.org>) hosted at USF will be discussed along with recent cybersecurity frameworks adopted by the federal government. Students will also be provided access to FGCU's cybersecurity lab and the Cyber Hub in Tampa to conduct lab exercises.

**Grading Policy**

Grading categories include exams, short weekly quizzes, assignments, and participation and attendance as indicated in the table below.

Graded Activities and Assignments	Points	Total % Grade
<b>Exams</b>		
Midterm Exam (Exam 1)	100	40%
Final Exam (Exam 2)	100	
<b>Quizzes (from textbook and other reading)</b>		
12 out of 13 Quiz Scores (Lowest 1 Score Dropped)	10 each	25%
<b>Assignments</b>		
Assignments - Hands on (6)	10 each	30%
Assignment - Strategy (1)		
<b>Participation</b>		
Participation (class activities)	20	5%
<b>Total</b>		<b>100%</b>

**Notes:**

1. **Our focus is on learning, not testing. Therefore, if you have mastered the material by the end of the semester and earn a higher grade on the cumulative final than on the midterm, the midterm grade will be dropped.**
2. **The quizzes emphasize textbook and Security+ material; the exams cover everything. Assignments are intended to understand tools for network attack and defense.**
3. **Exam scores will be normalized to 100 points before averaging is applied.**

Grading Policy: Grading Policy below will be applied.

Letter Grade	Score Range
A	100 - 90%
B	< 90 - 80%
C	< 80 - 70%
D	< 70 - 60%
F	< 60%

**Individual assignment rubrics policy:**

The instructor reserves the right to fine-tune the grading of individual assignments as appropriate, giving scores not specified in the attached rubrics on Canvas.

**No extra credit or additional assignments:**

Please be aware that FINAL GRADES FOR THIS COURSE ARE FINAL. No extra credit or additional assignments are available at the end of the course.

**Turnitin.com:**

Students who take this class must prepare electronic copies of some or all assignments to submit them to Turnitin.com for the detection of plagiarism. The University expects that all students will be evaluated and graded on their own work. If you use language, data or ideas from other sources, published or unpublished, you must take care to acknowledge and properly cite those sources. Failure to do so constitutes plagiarism. Papers that are submitted to Turnitin.com become part of the Turnitin.com student paper database solely for the purpose of detecting plagiarism.

**“Credit hour” statement (developed by the LCOB):**

For each credit of a class, you should expect to spend one hour in class and an average of 2 hours preparing outside of class each week. Therefore, since this is a 3-credit class, you should plan to **devote an average of nine hours a week to this class.**

**Attendance Policy**

Students are expected to attend every class session. It is the student's responsibility to get course notes from fellow students should they have to miss a class. **Do not ask your instructor, “What did I miss?”**

**Policy regarding missed exams and assignment completion deadlines**

The policy regarding missed exams and assignment completion is as follows:

- No make-ups for missed exams are administered (except for authorized and excused absences specified in the university catalog). A student who seeks an authorized or excused absence must submit documentation (such as a physician’s note) to the instructor in a timely manner. See the university catalog for more information.
- No late assignments will be accepted for any reasons except the authorized and excused absences specified in the university catalog. A student who seeks an authorized or excused absence must submit documentation (such as a physician’s note) to the instructor in a timely manner. See the university catalog for more information.
- Unfortunately, "dropped by the University for not paying the full tuition" is not an authorized and excused absence as specified in the university catalog.
- An emergency situation such as unavailability of or inaccessibility to CANVAS due to network problems will be considered by the instructor on a case by case basis. Students must submit documentation (such as a screenshot of error messages) to the instructor in a timely manner.

<b>Policies regarding in-class use of cell phones, PDAs, laptops, and other personal electronic devices</b>	Cell phones must be turned off before coming to class. <b>Bringing food or drink to class or office hours is strictly prohibited.</b>
<b>Statement on e-mail usage in Eagle mail and/or Canvas email</b>	Canvas will be used to submit assignments, reference materials, and to post course notes. Eagle mail will be used for correspondence.
<b>Last Day to withdrawal</b>	Friday, March 27 is the last day to withdrawal without academic penalty.
<b>Disclaimer</b>	Assignments, schedules and due dates, instructions, and other course information presented in Canvas are integral components of the course material and are hereby incorporated as part of this syllabus.  The instructor reserves the right to change, modify, alter, or transform any part of this syllabus, provided only that notice thereof is given to or at any party or parties that are thereby affected, subject to the rules and regulations of Florida Gulf Coast University.

### University Statements

**Important Note:** *This course will identify and discuss software (tools) and practices relating to defending and identifying weaknesses in an IT infrastructure. These tools and practices **are only to be used** as directed by the instructor to fulfill the requirements of the course. Other usage of these tools directed at businesses, individuals, or other IT infrastructures will be considered a violation of the student code of conduct and will be grounds for immediate dismissal from the class with a grade of "F". In addition to the academic penalties, other civil and criminal penalties may apply.*

#### Academic Behavior Standards and Academic Dishonesty

All students are expected to demonstrate honesty in their academic pursuits. The university policies regarding issues of honesty can be found in the FGCU Student Guidebook under **the Student Code of Conduct and Policies and Procedures** sections. All students are expected to study this document which outlines their responsibilities and consequences for violations of the policy. The FGCU Student Guidebook is available online at <http://studentservices.fgcu.edu/judicialaffairs/new.html>

Sanctions for academic dishonesty may include receiving a "F" in this course – FGCU may impose additional penalties. Any incidents of academic dishonesty may be referred to the FGCU Office of Judicial Affairs. Please look up the definition of plagiarism – it includes copying something off the Internet & submitting it as your own work.

Some examples of what is **NOT** OK to do:

- Working with another student & turning in the same work (e.g. spreadsheet, database, etc.).
- Emailing or posting your work to let someone else "just see how you did it".
- Copying someone's assignment or copying something from a book or the Internet.
- Giving or receiving help from someone (in person, on line or on the phone) during an online test.
- Telling someone else what is on a test.

Examples of what is OK:

- Discussing how to approach an assignment with another student.
- Showing someone where they might have made a mistake on an assignment.
- Asking the professor for help.

#### University Nondiscrimination Statement

Florida Gulf Coast University is committed to ensuring equity and fairness for all University employees, students, visitors, vendors, contractors and other third parties. As such, the University prohibits discrimination on the bases of race, color, national origin, ethnicity, religion, age, disability, sex (including sexual harassment/assault), gender identity/expression, marital status, sexual orientation, veteran status or genetic predisposition with regard to admissions, employment, programs or other activities operated by the University. This prohibition extends to enforcement of **Title IX** of the Education Amendments of 1972. Questions or complaints should be directed to the Office

of Institutional Equity and Compliance (OIEC). The OIEC's phone number is (239)745-4366; the OIEC email address is [OIEC@fgcu.edu](mailto:OIEC@fgcu.edu).

### **Disability Accommodations Services**

Florida Gulf Coast University, in accordance with the Americans with Disabilities Act and the university's guiding principles, will provide classroom and academic accommodations to students with documented disabilities. If you need to request an accommodation in this class due to a disability, or you suspect that your academic performance is affected by a disability, please see me or contact the Office of Adaptive Services. The Office of Adaptive Services is located in the Wellness Building. The phone number is 239-590-7956 or Video Phone (VP) 239-243-9453. In addition to classroom and campus accommodations, individuals with disabilities are encouraged to create their personal emergency evacuation plan and FGCU is committed to providing information on emergency notification procedures. You can find information on the emergency exits and Areas of Rescue Assistance for each building, as well as other emergency preparedness materials on the Environmental Health and Safety and University Police Department websites. If you will need assistance in the event of an emergency due to a disability, please contact Adaptive Services for available services and information.

### **Student Observance of Religious Holidays**

All students at Florida Gulf Coast University have a right to expect that the University will reasonably accommodate their religious observances, practices, and beliefs. Students, upon prior notification to their instructors, shall be excused from class or other scheduled academic activity to observe a religious holy day of their faith. Students shall be permitted a reasonable amount of time to make up the material or activities covered in their absence. Students shall not be penalized due to absence from class or other scheduled academic activity because of religious observances. Where practicable, major examinations, major assignments, and University ceremonies will not be scheduled on a major religious holy day. A student who is to be excused from class for a religious observance is not required to provide a second party certification of the reason for the absence.

### **Other Student Services**

Counseling and Psychological Services (CAPS) provides free counseling and therapy services (including psychiatry) to all FGCU students. Please walk in to the second floor Howard Hall office any week day between 8:30 and 4:30 to schedule an initial contact appointment. Visit the CAPS website at [www.fgcu.edu/caps](http://www.fgcu.edu/caps) for more information. CAPS offers a 24/7 Helpline at (239) 745-3277 (EARS).

### **Lecture Capture Technology/FGCU Capture – Classroom Recording**

This course may employ technology that will allow for audio and/or video recording of live classroom sessions. This lecture capture technology is utilized for the sole purpose of enhancing student learning. It may provide for supplemental student instruction via secure links to recorded session(s,) the live stream of courses, presentations of off-site guest speakers and/or the delivery of course instruction utilizing "flipped classroom" methodologies. Student questions and/or comments may be included as a part of any session being recorded. See FGCU-CAPTURE for additional details and training <http://aets.fgcu.edu/fgcucapture.asp>

### **How To Log Into the Course in Canvas**

- Activate your FGCU EagleMail Account (if you have not done this yet). Your FGCU EagleMail account MUST be activated to log in to Canvas. If you are a first time student, you will need your PIN and Eagle ID, both of which are assigned at registration.
  - If you don't know your PIN, you will need to go to the Registrar's office to retrieve it.
  - To activate your account, visit <http://admin.fgcu.edu/IS/applications/studentaccts/activate.asp>.
- Log in to Canvas at <https://fgcu.instructure.com/login> . You need to use FGCU EagleMail account and password to log in.
  - Click ISM4323 Network Security CRN 11064

**Tentative Class Schedule- Spring 2020**  
**(Hands-on projects and quiz dates TBD)**

<b>Weeks/Dates</b>	<b>Topics and Reading Assignments</b>	<b>Reading Assignments (+Canvas)</b>	<b>Exams</b>
Wk1 (1/6)	Course Overview, Introduction to Security Cybersecurity trends and resources	Chapter 1	
Wk2 (1/13)	Malware and Social Engineering Attacks	Chapters 2	
Wk3 (1/20)	MLK Day – no class		
Wk4 (1/27)	Basic Cryptography	Chapter 3	
Wk5 (2/3)	Advanced Cryptography	Chapter 4	
Wk6 (2/10)	Network and Server Attacks	Chapter 5	
Wk7 (2/17)	Network Security Devices, Design and Technology	Chapter 6	
Wk8 (2/24)	Administering a Secure Network	Chapter 7	
Wk9 (3/2)	Spring Break – no class		
Wk10 (3/9)	Exam		<b>Mid-term Exam</b>
Wk11 (3/16)	Wireless network security	Chapter 8	
Wk12 (3/23)	Host, Application and Data Security	Chapter 9	
Wk13 (3/30)	Mobile and Embedded Device Security	Chapter 10	
Wk14 (4/6)	Authentication and Account Management	Chapter 11	
Wk15 (4/13)	Access Management	Chapter 12	
Wk16 (4/20)	Vulnerability Assessment and Data Security	Chapter 13	
Wk17 (4/27)	Risk Mitigation/Business Continuity	Chapter 14/15	
<b>Final Exam – 5/1</b>	<b>Time: 12:30pm-2:45pm Friday</b>		<b>Final Exam</b>

Note: In addition to chapter reading assignments, additional reading materials will be provided in Canvas. Quizzes and tests will address the content in each of the chapters, other reading materials, hands-on projects and cases.