SYLLABUS
(Sp22)
CIT 484: Systems Security II
Faculty: Cheryl Purdy, PhD

Course Catalog Description

A continuation of CIT 482. Provides additional study and experience with managerial/operational issues affecting the security of enterprise computer and networks; examines available tools and opportunities in the field.

Topics and Objectives

Upon completion of this course, the student shall be able to:	How the student will develop outcomes	How the student will be assessed their learning on these learning outcomes
Perform penetration testing and implement security controls.	Readings, videos, research.	Lab exercises, quizzes, and exams.
Implement physical security and countermeasures. Identify social engineering techniques.	Readings, videos, research.	Lab exercises, quizzes, and exams.
Perform reconnaissance and implement countermeasures. Perform network scanning with Nmap, Zenmap, etc.	Readings, videos, research.	Lab exercises, quizzes, and exams.
Perform enumeration with Nmap and Metasploit.	Readings, videos, research.	Lab exercises, quizzes, and exams.
Conduct vulnerability assessments.	Readings, videos, research.	Lab exercises, quizzes, and exams.
Implement privilege escalation, manage threats, and certificates.	Readings, videos, research.	Lab exercises, quizzes, and exams.
Combat malware, perform sniffing and implement countermeasures.	Readings, videos, research.	Quizzes / exams.
Implement Intrusion Detection and Prevention Systems, firewalls, honeypots, and DNS sinkholes. Exploit Cross-Site scripting vulnerabilities.	Readings, videos, research.	Quizzes / exams.

Secure mobile devices. Investigate cloud security. Scan for vulnerabilities and secure IoT devices.	Readings, videos, research.	Quizzes / exams.
Perform a forensic examination on a computer.	Readings, videos, research.	Quizzes / exams.

Welcome!

Welcome to Western Kentucky University and CIT 484, System Security II. My name is Cheryl Purdy, and I am optimistic that you will each have a rewarding and enjoyable experience in this class. We will be covering many aspects of security in this class.

If all goes according to plan we will do a number of "hands-on" exercises. We will cover perimeter defense and internal network design for best security in this class, and I also hope to show you something about computer forensics.

Keep in mind this is a "400-level" class. You will soon be graduating. I expect you to be capable of functioning at a high level by now, including being able to research topics and learn on your own as well as finding ways to working through problems as they arise. I will be encouraging you to do this. Nothing makes me happier than to receive an email from a student saying "I had a lot of trouble with this, but I kept working until I figured it out". That's exactly what will be expected of you next year out in the workplace – keep working until you figure it out.

If you need to discuss anything with me, either personal or course related, please send an email to the address listed in my contact information.

When emailing me I would prefer you use your wku.edu email. If you use another account I may miss the email, thinking it junk.

Class Location/Times

This class is delivered in an online format. Because it contains a significant number of online assignments, it will be necessary for students to have access to reliable Internet connections. The class is available at the following website: https://blackboard.wku.edu .

Required Material(s)

TestOut

TestOut® CyberDefense Pro

We will be using the TestOut CyberDefense Pro curriculum in this course. It covers the objectives of the CompTIA CySA+ certification exam. **You will need to purchase a TestOut access code.** This can be either purchased from the WKU Bookstore or you may purchase it directly from TestOut online. If you opt to

purchase directly from TestOut, go to http://www.testout.com/home/student-resources/student-purchasing and click the drop-down menu titled Courses, and select Course Catalog. Locate the course and click purchase. You will need a "Promotion Code" to receive discounted pricing. The code you need to use is **14-232TA**.   Once you have purchased your TestOut access code, you will need to create your account and enroll in our course.

Instructor Information

Name: Cheryl Purdy, PhD, MBA, A+, CCNA, CDFE, 3CE, 3CI
Email: cheryl.purdy@wku.edu
Phone: (270) 929-4375
Office Hours: I am glad to meet with you (virtually). I do not have set office hours but you may contact me at the above number to setup an appointment.

Email is the best method of contact. Generally, I will respond to emails within 24 hours. However, if you have not received a response from me after 48 hours, please send me a follow-up marked with high-priority! Also, when e-mailing, please put the course name in the subject line.

I highly discourage students from emailing me at the last minute before an assignment deadline for the purpose of requesting an extension. For more information regarding late assignments, please refer to the section titled *Late Assignments.*

Assignments & Point Values

Your grade for this course will be determined based on the following activities:

Activities	Points Possible
TestOut® Lab Exercises	140
Chapter Quizzes	240
Hands-On Lab Projects	220
Class Discussions	100
Certification Review	50
Final Exam (Proctored)	250

The grading scale that will be used is:
- A = 900 – 1,000 points
- B = 800 – 899 points
- C = 700 – 799 points
- D = 600 – 699 points
- F = 0 – 599 points (or cheating)

Please see the Course Master Schedule in the [**Start Here**] section of Blackboard for more details.   Please be sure to review your grades right away; corrections will not be made more than seven days after the initial grade is posted.

Contingency Points

Sometimes uncontrollable problems occur during the course that can negatively affect a student's grade. Examples include personal issues, family issues, forgetting an assignment, encountering test questions that are worded poorly, course errors, etc.

Because I want to be fair to all students, I am giving you 25 contingency points (2.5%). This means that for whatever reason, you can lose 25 points and still have a 100% average.

Please do not ask for additional contingency points; under no circumstances will more be provided.

Academic Dates

To determine important academic dates such as the last day to drop with a W, or the final exam schedule, please see http://www.wku.edu/registrar/academic_calendars/

Activities

There are five major activities in this course. A brief explanation of each activity is as follows:

- **TestOut® Lab exercises** – You will complete various lab exercises within *TestOut®*. Instructions on how to complete these lab exercises will be provided during the course.
- **TestOut® Quizzes** – You will complete the chapter quizzes that are based upon TestOut chapter reading.
- **Hands-On Lab Assignments** – Periodically you will have a hands-on project to complete
- **Class Discussions** – The primary method of faculty-student and student-student interaction in this class will be via the class discussions.
- **Comprehensive Final Exam** – The proctored final exam will be comprehensive and administered as scheduled by the University.

Final Exams

All CIT exams must be proctored. While you may be able to use the proctor of your choice at the location of your choice, you must register with the WKU testing center in order to have your proctor approved (see http://www.wku.edu/testing/ for more details). Note that you must pre-register with the testing center before taking the exam, which is usually no less than 10-days prior. I highly suggest that you register early. Final exams must be taken during final exam week. **You may choose Monday through Wednesday during finals week to take the exam.**

As the final exam is an assessment and not a learning activity, correct answers are not provided. However, if you wish to review your exam, it will made available to you. However, as with other on campus final exams, you must know that student review can only be accomplished on-campus (Bowling Green), in a proctored environment, during a full term (fall and spring) following that of the exam's administration. This step is necessary to protect the integrity of the exam.

Also, since the final exam is an assessment, your score will likely be lower than you have previously experienced with the learning activities. Therefore, after completing the exam, your overall average will likely go down, not up. This means you need to be sure and complete all of the learning activities as assigned in order to have a very high average before taking the final.

Attendance Policy

Because this is an online course there is no classroom attendance requirement. However, I strongly encourage you to remain actively involved in this course. Some suggestions for doing this are: 1) check your WKU email and Blackboard regularly for course announcements and information; 2) stay abreast of all due dates as they are added to the course schedule on Blackboard; 3) contribute regularly and effectively to the online discussions; 4) complete all work on time and to the very best of your ability.

For all discussion responses, you will be graded on four characteristics:

- **Timeliness** - For full points, you must contribute to the discussion two out of seven days
- **Style/Mechanics** - For full points, postings must be free of grammar issues, and follow APA Style
- **Comprehension** - For full points, postings must reflect comprehension of the topic(s)
- **References** - For full points, postings must be supported with the text or other scholarly sources

Instructor Feedback

In general, I will post weekly grades no later than the Friday following the end of the class week. I tend to comment little if you are doing well (>80%) and comment more if you are not (< 80%). However, at any time if you have questions about any comments and/or grades, please contact me within three or four days at most while the issues are still fresh in both our minds. This will help to iron any issues out as soon as possible.

In the event a Blackboard grading rubric is used, that is your feedback. Again, if you have additional questions, contact me as soon as possible.

Also, if I mistakenly note you as missing any assignments and you did submit them, please immediately let me know the time and date you posted. I will be very, very happy to download the post and correct my records. I will not make changes to grades after one week of posting.

Non-Graded Assignments

Some activities that you will complete during the course are ungraded or carry no point value (like reading assignments). However, it is very important that you complete these activities. Noncompletion of these activities may negatively impact your graded work.

Incompletes

All incomplete requests must follow school guidelines. See the University catalog.

Extra Credit

There is no extra credit or make-up work as the class assignments reflect what is required for successful completion of this course.

Academic Standards

I expect all students to support the same respect for individuals, commitment to issue and problem resolution, and open communication and feedback as in any learning environment.

Specifically, all students are expected to:

- Accept responsibility and accountability for all use actions and content posted to any online classroom, public meeting or personal inbox (email).
- Maintain the same ethical standards expected in a collaborative, academic environment.
- Demonstrate respect for all faculty, students, and staff regardless of age, race, gender, religion, national origin, veteran's status, disability, or sexual orientation.

In the online environment, the following will not be tolerated:

- Harmful, threatening, libelous, or abusive content
- Profanity of any kind
- Copyright infringement or violation of patent, trademark, proprietary information, or confidentiality agreements
- Misrepresentation of identity through alteration of inbox (email) names
- Posting unsolicited advertisements to public meetings or private inboxes (no spamming)
- Transferring computer viruses, intentionally or unintentionally, or other code that disrupts or interferes with other users' use of the online environment or personal computers, systems, or networks.

Honesty

I highly value academic honesty. A student must always submit work that represents his or her original words or ideas. If any words or ideas are used that do not represent the student's original words or ideas, then the student must cite all relevant sources. The student should also make it clear the extent to which such sources are used.

Words or ideas that require citation include, but are not limited to, all hardcopy or electronic publications, whether copyrighted or not, and all verbal or visual communication when the content of such communication clearly originates from an identifiable source.

All submissions to any public meeting or private mailbox fall within the scope of words and ideas that require citations if used by someone other than the original author.

Academic dishonesty in an Online learning environment could involve the following:

- Having a tutor or friend complete a portion of your assignments
- Having a reviewer make extensive revisions to an assignment
- Copying work submitted by another student to a public class meeting
- Using information from on-line information services without proper citation

Any of these practices could result in charges of academic dishonesty. Sanctions range from failing assignment or class grades to expulsion.

I consider academic honesty a very serious issue. I have, and will fail students that I discover are not adhering to the above guidelines.

Class Navigation

Go to http://blackboard.wku.edu and follow the login instructions (usually available by the first day of class). This site will be the primary means for quizzes, grades, announcements, exam and homework scores, reading materials, discussions, and other supplemental course information that you will need. Please be sure and check this site regularly.

Computer Access

This class requires each student to make use of several software packages, various other software tools and the Internet. All required resources are available either in the general Student Computer Labs across campus, on WKU Extended campuses, and typically, at public libraries. Lack of hardware, software and Internet connectivity at home to complete any assignment is not an acceptable reason for not completing work. You may work from any location you prefer (home, work, etc…), but you will need access to MS Office software.

Technology Issues

School servers are unavailable from time-to-time. Accordingly, I will accept e-mailed assignments to my personal mailbox for time-stamping purposes only. However, once Blackboard is available to you, in order to receive a grade, the assignment must be posted to the appropriate submission area.

Also, from time to time the Blackboard system will lock-up during a quiz or exam. If this happens, please contact me as soon as possible. I can only reset the exam, which means you will have to take it over (this includes final exams). If you wait until the last minute to take an exam, you may not be able to reset due to time limitations.

For comments/complaints about technology issues (for example, Blackboard exam problems), please contact the Office of the Chief Information Technology Officer (270-745-2243).

Late Assignments

Due to the nature of this course and based upon my teaching experience, it is critical that you are timely in submitting the assignments. Since all assignments are made available before they are due, no late work will be accepted for any reason. Again, no late work will be accepted for any reason. Please do not wait until the last minute to do your assignments; no late work will be accepted for any reason.

Cancellations

If you are dropped for any reason (lack of payment, etc.), your access to Blackboard may be terminated. In this event you will **NOT** be permitted to make up on-line course assignments/activities during the time you lost access to Blackboard.

Student Disability Services

In compliance with university policy, students with disabilities who require accommodations (academic adjustments and/or auxiliary aids or services) for this course must contact the Office for Student Disability Services in Downing University Center A-200. The OFSDS telephone number is (270)7455004; TTY is (270)745-3030. Per university policy, please DO NOT request accommodations directly from the professor or instructor without a letter of accommodation from the Office for Student Disability Services.

Grievance Process

If you are unhappy with any aspect of the course, please contact me via email with a detailed explanation of the problem. I will do my best to help resolve the issue. If you are still unsatisfied, please contact the program coordinator, Dr. Mark Revels, at mark.revels@wku.edu.

Schedule Exceptions

I will not approve any schedule exceptions.

Title IX Misconduct/Assault Statement

Western Kentucky University (WKU) is committed to supporting faculty, staff and students by upholding WKU's Title IX Sexual Misconduct/Assault Policy (#0.2070) at https://wku.edu/eoo/documents/titleix/wkutitleixpolicyandgrievanceprocedure.pdf and Discrimination and Harassment Policy (#0.2040) at https://wku.edu/policies/hr_policies/2040_discrimination_harassment_policy.pdf.

Under these policies, discrimination, harassment and/or sexual misconduct based on sex/gender are prohibited. If you experience an incident of sex/gender-based discrimination, harassment and/or sexual misconduct, you are encouraged to report it to the Title IX Coordinator, Andrea Anderson, 270745-5398 or Title IX Investigators, Michael Crowe, 270-745-5429 or Joshua Hayes, 270-745-5121.

Please note that while you may report an incident of sex/gender based discrimination, harassment and/or sexual misconduct to a faculty member, WKU faculty are "Responsible Employees" of the University and **MUST** report what you share to WKU's Title IX Coordinator or Title IX Investigator. If you would like to speak with someone who may be able to afford you confidentiality, you may contact WKU's Counseling and Testing Center at 270-745-3159.

ADA Accommodation Statement

In compliance with University policy, students with disabilities who require academic and/or auxiliary accommodations for this course must contact the Student Accessibility Resource Center located in Downing Student Union, 1074. SARC can be reached by phone number at 270-745-5004 [270-745-3030 TTY] or via email at sarc.connect@wku.edu . Please do not request accommodations directly from the professor or instructor without a faculty notification letter (FNL) from The Student Accessibility Resource Center.

Covid Statement

Although this class is totally online, at the time of this writing, this is the University's policy:

All students are strongly encouraged to get the COVID-19 vaccine. Out of respect for the health and safety of the WKU community and in adherence with CDC guidelines and practices of all public universities and colleges in Kentucky, the University requires that a cloth face covering (reusable or disposable) that covers both the nose and mouth must be worn at all times when in public areas within all buildings. Students must properly wear face coverings while in class regardless of the room size or the nature of the classroom activities. Students who fail to wear a face covering as required will be in violation of the WKU Student Code of Conduct and will be asked to comply or will face disciplinary action, including possible dismissal from the University. Accommodations can be requested in special cases through the Student Accessibility and Resource Center (SARC): 270-745-5004 (voice), 270-745-3030 (TTY), or 270-288-0597 (video).

All students must immediately report a positive Covid-19 test result or close contact with a person who has tested positive to the Covid-19 Assistance Line at 270-745-2019. The assistance line is available to answer questions regarding any Covid-19 related issue. This guidance is subject to change based on requirements set forth by public health agencies or the office of the governor. Please refer to the Healthy on the Hill website for the most current information. www.wku.edu/healthyonthehill

Ogden Student Course Attendance Statement

The faculty and staff of Ogden College of Science and Engineering are committed to providing you with learning experiences and opportunities. You must assume ownership of your education and be an active participant in the classroom and laboratory to take advantage of these opportunities. Active participation requires you to attend. Scientific studies have shown that attendance during scheduled classroom and laboratory meetings is directly correlated to your performance on assignments and exams and the potential to earn higher grades. Additionally, if you do not regularly attend class, you are missing important information about course topics, due dates, and assignment details that are crucial to your success in the course. Therefore, as a student enrolled in an Ogden course, you are expected to attend every class meeting and to inform your instructor regarding the reasons for any absences as soon as practical. Your instructor may incorporate class attendance/participation as part of the grading criteria.

The Learning Center Peer Tutoring Services
The Learning Center (TLC) provides free tutoring services that empower students to achieve academic success. Trained peer tutors are available to review course content, answer questions, and demonstrate effective study strategies. TLC offers individual appointments and group sessions (PASS) for hundreds of undergraduate courses. For more information or to make an appointment, visit www.wku.edu/tlc.