COURSE OUTLINE: NASA202 - WIRELESS NETWORKS

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Course Code: Title	NASA202: WIRELESS NETWORKS
Program Number: Name	2196: NETWRK ARCH & SEC AN
Department:	COMPUTER STUDIES
Academic Year:	2024-2025
Course Description:	This vendor-neutral course explores the physical and theoretical aspects of wireless network signals, wireless devices, protocols and security. Topics include wireless standards, spread spectrum technologies and wireless intrusion and site survey fundamentals. The course helps students interested in completing the CWNP (Certified Wireless Network Administrator) exam.
Total Credits:	3
Hours/Week:	3
Total Hours:	45
Prerequisites:	There are no pre-requisites for this course.
Corequisites:	There are no co-requisites for this course.
Vocational Learning Outcomes (VLO's) addressed in this course: **Please refer to program web page for a complete listing of program outcomes where applicable.**	**2196 - NETWRK ARCH & SEC AN** VLO 5 Design a centrally managed wireless network topology that can accommodate remote sites incorporating current security standards.
Essential Employability Skills (EES) addressed in this course:	EES 1 Communicate clearly, concisely and correctly in the written, spoken, and visual form that fulfills the purpose and meets the needs of the audience. EES 2 Respond to written, spoken, or visual messages in a manner that ensures effective communication. EES 3 Execute mathematical operations accurately. EES 4 Apply a systematic approach to solve problems. EES 5 Use a variety of thinking skills to anticipate and solve problems. EES 7 Analyze, evaluate, and apply relevant information from a variety of sources. EES 10 Manage the use of time and other resources to complete projects.
Course Evaluation:	Passing Grade: 50%, D A minimum program GPA of 2.0 or higher where program specific standards exist is required for graduation.
Other Course Evaluation & Assessment Requirements:	A+ = 90-100% A = 80-89%

B = 70-79%
C = 60-69%
D = 50-59%
F < 50%

Students are expected to be present to write all tests in class, unless otherwise specified. If a student is unable to write a test due to illness or a legitimate emergency, that student must contact the professor prior to class and provide reasoning. Should the student fail to contact the professor, the student shall receive a grade of zero on the test.

If a student is not present 10 minutes after the test begins, the student will be considered absent and will not be given the privilege of writing the test.
Students exhibiting academic dishonesty during a test will receive an automatic zero. Please refer to the College Academic Dishonesty Policy for further information.

In order to qualify to write a missed test, the student shall have:
a.) attended at least 75% of the classes to-date.
b.) provide the professor an acceptable explanation for his/her absence.
c.) be granted permission by the professor.

NOTE: The missed test that has met the above criteria will be an end-of-semester test.

Labs / assignments are due on the due date indicated by the professor. Notice by the professor will be written on the labs / assignments and verbally announced in advance, during class.

Labs and assignments that are deemed late will have a 10% reduction per academic day to a maximum of 5 academic days at 50% (excluding weekends and holidays). Example: 1 day late - 10% reduction, 2 days late, 20%, up to 50%. After 5 academic days, no late assignments and labs will be accepted. If you are going to miss a lab / assignment deadline due to circumstances beyond your control and seek an extension of time beyond the due date, you must contact your professor in advance of the deadline with a legitimate reason that is acceptable.

It is the responsibility of the student who has missed a class to contact the professor immediately to obtain the lab / assignment. Students are responsible for doing their own work. Labs / assignments that are handed in and are deemed identical or near identical in content may constitute academic dishonesty and result in a zero grade.

Students are expected to be present to write in-classroom quizzes. There are no make-up options for missed in-class quizzes.

Students have the right to learn in an environment that is distraction-free, therefore, everyone is expected to arrive on-time in class. Should lectures become distracted due to students walking in late, the professor may deny entry until the 1st break period, which can be up to 50 minutes after class starts or until that component of the lecture is complete.

The total overall average of test scores combined must be 50% or higher in order to qualify to pass this course. In addition, combined tests, Labs / Assignments total grade must be 50% or higher.

Course Outcomes and Learning Objectives:

Course Outcome 1	Learning Objectives for Course Outcome 1
1. Explore the Concepts of Wireless Networks	1.1 Explain the roles of LANs & WANs & WiFi 1.2 Describe wireless markets & applications 1.3 Identify the benefits of Wireless Networks

	1.4 Describe the role of Wireless LAN Technologies
Course Outcome 2	**Learning Objectives for Course Outcome 2**
2. Explore Radio Wave Fundamentals	2.1 Identify the Attributes of a Radio Wave 2.2 Identify RF System Components 2.3 Explain RF Signal Propagation 2.4 Review RF Mathematics
Course Outcome 3	**Learning Objectives for Course Outcome 3**
3. Explore Wireless LAN Types and Components	3.1 Identify the types of Wireless LANs 3.2 Identify Components of a Wireless Local Area Network 3.3 Identify Network Infrastructure Components
Course Outcome 4	**Learning Objectives for Course Outcome 4**
4. Explore The Wireless LAN Environment	4.1 Describe Security Vulnerabilities in Wireless Environment 4.2 Identify Encryption Methods 4.3 Simulate and Describe Radio Signal Interference
Course Outcome 5	**Learning Objectives for Course Outcome 5**
5. Explore Radio Frequency Considerations & Security Considerations	5.1 Classify Frequency Band Selection 5.2 Calculate Transmission Channel Settings 5.3 Identify Difficult-to-Cover Areas with Wireless 5.4 Calculate Radio Signal Interference Reduction 5.5 Identify what kind of data is being transferred
Course Outcome 6	**Learning Objectives for Course Outcome 6**
6. Planning A Wireless LAN Deployment & Test Tools	6.1 Identify Project Management Principles 6.2 Categorize Wireless LAN Deployment Planning Steps 6.3 Evaluate the Outcome of the Project 6.4 Demonstrate and Explain Signal Coverage Testing
Course Outcome 7	**Learning Objectives for Course Outcome 7**
7. Explore Installing and Configuring a WLAN	7.1 Identify Steps involved in Planning for the Installation 7.2 Take part in Staging the Components 7.3 Take part in Installing Ethernet Switches and Cabling 7.4 Take part in Installing Access Points 7.5 Take part in Testing the Installation 7.6 Reasearch Documenting the Installation

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight
Assignments and Labs	35%
Quizzes	15%
Test #1	25%
Test #2	25%

Date: June 16, 2024

Addendum: Please refer to the course outline addendum on the Learning Management System for further information.