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
Semesters/Terms:	20F
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.
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. 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, which is acceptable to the professor. Should the student fail to

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contact the professor, the student shall receive a grade of zero on the test.

Once the test has commenced, the student is considered absent and will not be given the privilege of writing the test.

Students caught cheating 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 80% of the classes.
b) provided the professor an acceptable explanation for his/her absence.
c) been granted permission by the professor.

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

Academic success is directly linked to attendance. Missing more than 1/3 of the course hours in a semester shall result in an `F` grade for the course.

Labs and Assignments are due on the due-date indicated by the Professor. Notice by the professor will be written on the lab or verbally announced in the class and / or both. No late labs will be accepted beyond the due date. Once labs / assignments have been marked by the professor and returned to the student, no new labs / assignments will be accepted. It is the responsibility of the student who has missed a class to contact the professor immediately to obtain the lab / assignment that is due at a future date. Students are responsible for doing their own work. Labs / assignments that are handed in and are deemed identical in content and personal wording to others may constitute academic dishonesty and result in a zero grade.

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.

Books and Required Resources:	Designing and Deploying 802.11n Wireless Networks by Jim Geier Publisher: Cisco Press ISBN: 978-1-58705-889-9

Course Outcomes and Learning Objectives:

Course Outcome 1	Learning Objectives for Course Outcome 1
Introduction to Wireless Networks	1) LANs & WANs & WiFi 2) Wireless Markets & Applications 3) Benefits of Wireless Networks 4) Wireless LAN Technologies 5) Wireless LANs: A Historical Perspective
Course Outcome 2	**Learning Objectives for Course Outcome 2**
Radio Wave Fundamentals	1) Radio Wave Attributes 2) RF System Components 3) RF Signal Propagation 4) RF Mathematics
Course Outcome 3	**Learning Objectives for Course Outcome 3**
Wireless LAN Types and Components	1) Types of Wireless LANs 2) Wireless LAN Components 3) Network Infrastructure Components

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Course Outcome 4	Learning Objectives for Course Outcome 4
Wireless LAN Implications	1) Security Vulnerabilities 2) Encryption Methods 3) Radio Signal Interference
Course Outcome 5	**Learning Objectives for Course Outcome 5**
Radio Frequency Considerations & Security Considerations☐	1) Frequency Band Selection 2) Transmission Channel Settings 3) Difficult-to-Cover Areas 4) Radio Signal Interference Reduction 5) What applications is the WLAN supporting 6) What kind of data is being transferred 7) Is the information sensitive/privacy based 8) Need is to proactively safeguard against data loss or breach 9) It is too late once a breach occurs and data is lost
Course Outcome 6	**Learning Objectives for Course Outcome 6**
Planning A Wireless LAN Deployment & Test Tools	1) Project Management Principles 2) Wireless LAN Deployment Planning Steps 3) Evaluating the Outcome of the Project 4) Signal Coverage Tester 5) Wireless Protocol Analyzer 6) Spectrum Analyzer
Course Outcome 7	**Learning Objectives for Course Outcome 7**
Installing and Configuring a WLAN	1) Planning for the Installation 2) Staging the Components 3) Installing Ethernet Switches and Cabling 4) Installing Access Points 5) Testing the Installation 6) Documenting the Installation

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight
Assignments	40%
Tests (Quizzes/Exams)	60%

Date: September 11, 2020

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

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