COURSE OUTLINE: NASA201 - WEB PROG + SECURITY

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Approved: Corey Meunier, Dean, Technology, Trades, and Apprenticeship

Course Code: Title	NASA201: WEB PROGRAMMING AND SECURITY
Program Number: Name	2196: NETWRK ARCH & SEC AN
Department:	COMPUTER STUDIES
Academic Year:	2023-2024
Course Description:	This course will delve into the current scripting and computer languages used by modern web clients and servers, with a focus on the programming methodologies used to prevent exploitation of web security vulnerabilities.
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 4 Apply a systematic approach to solve problems. EES 5 Use a variety of thinking skills to anticipate and solve problems. EES 6 Locate, select, organize, and document information using appropriate technology and information systems. EES 7 Analyze, evaluate, and apply relevant information from a variety of sources. EES 8 Show respect for the diverse opinions, values, belief systems, and contributions of others. EES 10 Manage the use of time and other resources to complete projects. EES 11 Take responsibility for ones own actions, decisions, and consequences.
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 the class. Labs and assignments that are deemed late will have the following penalty: 1 day late - 10% reduction, 2 days late, 20% reduction, 3 days late, 30% reduction. After 3 days, no late assignments and labs 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. 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 is 50 minutes into the class 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**
Introduction to the Web	• Understand packets • Understand https • Understand where data is stored and how it is accessed
Course Outcome 2	**Learning Objectives for Course Outcome 2**
Web Security and Responsibility	• Understand various attacks at a high level • Look at recent attacks and how they were done • Understand a high level view of what organizations can do to increase security
Course Outcome 3	**Learning Objectives for Course Outcome 3**
Cryptography and encryption	• Understand encryption and hashing • Learn about how cryptography is used in technology and outside technology

	• Understand public and private key encryption
Course Outcome 4	**Learning Objectives for Course Outcome 4**
Web attacks and secure programming	• Deep look at various web attacks • XSS attacks, SQL injection, as well as other OWASP threats • Understand various forms of testing to help limit security flaws in coding
Course Outcome 5	**Learning Objectives for Course Outcome 5**
Threats and Risk	• Understand risks, risk assessments, and risk analysis • Understand how to avoid or limit risk • Understand vulnerability assessment and penetration testing
Course Outcome 6	**Learning Objectives for Course Outcome 6**
Business Continuity and Disaster Recovery	• Understand how to prepare for a disaster • Understand what is needed at a hot site vs a cold site • Understand downtime, both planned and unplanned
Course Outcome 7	**Learning Objectives for Course Outcome 7**
Digital Signatures, Diffie Hellman, Man in the Middle	• Students will have a deep understanding of how HTTPS works including diffie hellman algorithm • Understand how a man in the middle attack works
Course Outcome 8	**Learning Objectives for Course Outcome 8**
Intrusion Prevention and Detection	• Understand how intrusion prevention works • Understand how intrusion detection works • Understand the steps in penetration testing
Course Outcome 9	**Learning Objectives for Course Outcome 9**
Privacy and Anonymity	• Understand the difference between staying private and staying anonymous • Understand VPNs • Understand TOR
Course Outcome 10	**Learning Objectives for Course Outcome 10**
Biometrics, Physical Security, and Access Control	• Understand what biometrics are and the risks • Understand how physical security plays a roll in data security • Understand access control
Course Outcome 11	**Learning Objectives for Course Outcome 11**
Forensics	• Understand computer forensics • Understand how information is stored on a computer

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight
Assignment 1	10%
Assignment 2	10%
Assignment 3	10%

	Assignment 4	10%
	Test 1	20%
	Test 2	20%
	Test 3	20%
Date:	August 21, 2023	
Addendum:	Please refer to the course outline addendum on the Learning Management System for further information.	