NORTHWESTERN CONNECTICUT COMMUNITY COLLEGE

COURSE SYLLABUS

Course Title: Operating Systems   **Course #:** CST* 210

Course Description: 3 Credits.   The major operating systems of the microcomputer will be analyzed, including Linux, Android, Unix, and Microsoft Windows OS. Topics will include disk access, file transfer, hard disk management, peripheral devices, memory management, and data integrity.

Pre-requisite/Co-requisite: ENG*101 or equivalent with the consent of the instructor.

Goals: The goals of this course are

- Introduce students to the various operating system platforms
- Foster a team approach to problem solving
- Develop an understanding of the management of memory by an operating system
- Expand students understanding by providing hands on use of various platforms
- Provide students with activities that demonstrate the use of various operating systems
- Develop an understanding of the management of hardware by the operating system
- Develop an understanding of security at the operating system level
- Increase professional communication, analysis and presentation skills
- Develop skills in selecting the appropriate operating system for an environment

Outcomes: Upon successful completion of this course students will be able to:

- Describe innovations in operating system development
- Describe the basic role of an operating system
- Describe the major operating system software subsystem managers and their functions
- Describe the types of machine hardware on which operating systems run
- Describe multiprocessing and its impact on the evolution of operating system software
- Describe the virtualization and core architecture trends in new operating systems
- Describe the basic functionality of various memory allocation schemes
- Describe how memory keeps track of available space
- Describe the role of compaction
- Describe the functionality of memory allocation schemes
- Describe various page replacement policies
- Describe the mechanics of paging
- Describe the use of cache memory
- Describe the workings of virtual memory
- Describe the difference between job scheduling and process scheduling
- Describe various processing scheduling algorithms
- Describe the causes of deadlock and how to avoid it
- Describe the concept of process starvation
- Describe the basic concepts of multi-core processor technology
- Describe the differences between processes and threads
- Describe the processes of device management
- Describe the fundamentals of file management
- Describe network topologies and types of networks
- Describe the differences between network and distributed operating systems
- Describe the role of the operating system with regard to system security

- Describe the role of education and ethical practices in system security
- Describe the major features and components in UNIX
- Describe the major features and components in MS-DOS
- Describe the major features and components in WINDOWS
- Describe the major features and components in LINUX

College Policies

Plagiarism: Plagiarism and Academic Dishonesty are not tolerated at Northwestern Connecticut Community College. Violators of this policy will be subject to sanctions ranging from failure of the assignment (receiving a zero), failing the course, being removed/expelled from the program and/or the College. Please refer to your "Student Handbook" under "Policy on Student Rights," the Section entitled "Student Discipline," or the College catalog for additional information.

Americans with Disabilities Act (ADA): The College will make reasonable accommodations for persons with documented learning, physical, or psychiatric disabilities. Students should notify Dr. Christine Woodcock, the Counselor for Students with Disabilities. She is located at Green Woods Hall, in the Center for Student Development. Her phone number is 860-738-6318 and her email is cwoodcock@nwcc.edu.

School Cancellations: If snowy or icy driving conditions cause the postponement or cancellation of classes, announcements will be made on local radio and television stations and posted on the College's website at www.nwcc.edu. Students may also call the College directly at **(860) 738-6464** to hear a recorded message concerning any inclement weather closings. Students are urged to exercise their own judgment if road conditions in their localities are hazardous.

Use of Electronic Devices: Some course content as presented in Blackboard Learn is not fully supported on mobile devices at this time. While mobile devices provide convenient access to check in and read information about your courses, they should not be used to perform work such as taking tests, quizzes, completing assignments, or submitting substantive discussion posts.

Sexual Assault and Intimate Partner Violence Resource Team: NCCC is committed to creating a community that is safe and supportive of people of all gender and sexual identities. This pertains to the entire campus community, whether on ground or virtual, students, faculty, or staff.

Sexual assault and intimate partner violence is an affront to our national conscience, and one we cannot ignore. It is our hope that no one within our campus community will become a victim of these crimes. However, if it occurs, NCCC has created the SART Team - Sexual Assault and Intimate Partner Violence Resource Team - to meet the victim's needs.

SART is a campus and community based team that is fully trained to provide trauma-informed compassionate service and referrals for comprehensive care. The team works in partnership with The Susan B. Anthony Project to extend services 24 hours a day, 7 days a week throughout the year.

The NCCC team members are:

Ruth Gonzalez, Ph.D.	860-738-6315	Green Woods Hall Room 207
Susan Berg	860-738-6342	Green Woods Hall Room 223
Kathleen Chapman	860-738-6344	Green Woods Hall Room 110
Michael Emanuel	860-738-6389	Founders Hall Annex Room 308
Seth Kershner	860-738-6481	Library
Jane O'Grady	860-738-6393	Founders Hall Annex Room 212
Robin Orlomoski	860-738-6416	Business Office Room 201
Patricia Bouffard, Ex-Officio	860-738-6319	Founders Hall Room 103
Savannah Schmitt		Student Representative

At NCCC we care about our students, staff and faculty and their well-being. It is our intention to facilitate the resources needed to help achieve both physical and emotional health.