

NORTHWESTERN CONNECTICUT COMMUNITY COLLEGE

COURSE SYLLABUS

Course Title: Systems Analysis and Design

Course #: CSC* 250

Course Description: 3 Credits. Introduction to analysis and design of business management systems, through the three stages of business systems design: analysis of information flow, systems specification and equipment, and selection and implementation of the system.

Pre-requisite/Co-requisite: CSC* 104. CSC* 233 is recommended.

Goals: Students are expected to

- be able to demonstrate knowledge and understanding of topics in the computing discipline and industry, both academically and within the needs of the workplace, as defined by the listed outcomes below.
- be able to articulate both verbally and written their scope of expertise in completing the study of course topics as they relate to the listed outcomes.
- increase their communication and presentation skills as they integrate computer knowledge into business systems using hardware and software components as required by the objectives in this course.

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

- (1) Describe the building blocks of an information system including
 - (a) People
 - (b) Data
 - (c) activities
 - (d) networks
 - (e) technology
- (2) Define systems planning, systems analysis, systems design, systems implementation, and systems support.
- (3) Compare and contrast the systems development life cycle and system development techniques, including structured programming, modern structured analysis, structured design, information engineering, and prototyping.
- (4) Describe the Software Development Life Cycle (SDLC), and explain how it serves as a framework for systems development and business modeling.
 - (a) to study the life cycle phases leading to the development of system requirements.
 - (b) to examine methods, techniques, and models that can be used to determine and document the requirements for an information system.
 - (c) to examine that initial stages in the transition from analysis to design.
 - (d) to study various diagrams that are used to construct models of an information system including use case diagrams, interaction diagrams, object diagrams,

- state-transition diagrams, attribute dictionaries, decision tables and trees, and structured English.
 - (e) to perform process analysis and design to distribute data and activities into design units.
 - (f) to understand and explain the phases of the classic systems development life cycle (ex deployment and maintenance) and apply its early phases to a small, real-world, externally sponsored case study.
- (5) Describe the steps in a preliminary investigation and the end product of an investigation
- (a) Understand the reasons and main characteristics of continued business process (re)design.
 - (b) Understand and participate in task-centered needs/use-case analysis.
 - (c) Document, read and understand the results of task-centered use-case analysis.
 - (d) Refine business process models based on newly collected information.
 - (e) Ask business-relevant questions associated with information system design choices and proposals.
 - (f) Specify conceptual architectures for a variety of business information system solutions.
 - (g) Communicate design decisions and design motivations within and across teams of designers and to the sponsoring agency.
- (6) Analyze and create a system design for business cases
- (a) Explain data and processing analysis
 - (b) Explain, analyze, and design system implementation requirements, interface and configuration requirements, systems operations, support services, and security methods and systems.
- (7) Develop effective documentation methods to use during systems development
- (a) to describe, understand, and draw data and process modeling concepts and tools, including data flow diagrams, a data dictionary, and process descriptions; and object models including objects, attributes, methods, messages, classes, and instances
 - (b) to describe and explain the advantages and disadvantages of software outsourcing options, including offshore outsourcing and the role of service providers
- (8) Explain the concept of user interface design and human-computer interaction, including the basic principles of user-centered design
- (9) Define the systems analyst's role and responsibilities in a typical organization.
- (10) Explain the importance of software quality assurance and software engineering
- (11) Develop an overall training plan with specific objectives for each group of participants, compare in-house and outside training providers, and describe effective training techniques
- (12) Assess future challenges for IT professionals as technology reshapes the workplace

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 Orloski	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.