

GREENVILLE TECHNICAL COLLEGE

Business and Technology Division Computer Technology Course Syllabus Systems and Procedures CPT 264

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Credit/Contact Hours:

3.0

Prerequisite:

CPT 186 or CPT 187 or CPT 230 or IST272. Computer Technology students must obtain a minimum grade of "C" in all CPT and IST courses.

Co-requisite:

None

Course Description:

This course covers the techniques of systems analysis, design, development, and implementation.

Purpose of Course:

To train the student in the techniques and the methodology employed by a Systems Analyst during the study, design, and implementation of a business information system.

Required Texts:

1. ***Systems Analysis and Design***, Rosenblatt, 11th edition, Course Technology, ISBN: 9781305494602

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2. NOTE: Students in traditional classes must access Blackboard for course-related information. Students in hybrid and online classes will access their online content through Blackboard.

Additional Materials:

There are no specific course requirements other than attachment 1.

Course Outcomes:

Students who successfully complete this course will have demonstrated the skills required to accomplish the following objectives with a minimum competence level of 70 percent.

1. Students will be able to describe the phases and objectives of the development life cycle and what takes place in each phase.
2. Students will be able to analyze and describe the different development methodologies such as agile, Waterfall, iterative, and the implication of using no methodology.
3. Students will be able to explain how and why systems projects are initiated and evaluated.
4. Students will be able to describe documentation methods used by different development methodologies.
5. Students will be able to describe development strategies using tools such as joint application development (JAD), rapid application development (RAD), and prototyping in building business projects.
6. Students will be able to describe object-oriented systems development and discuss how this approach differs from non-object-oriented systems development.
7. Students will be able to design and develop a set of data flow diagrams for a Management Information System for a business process.
8. Students will be able to demonstrate the use of common techniques such as system flowcharts, entity relationship diagrams (ERD), UML diagrams, cost-benefit and payback analysis for the design of a management information system.
9. Students will be able to describe the difference between a top-down design and modular design as it relates to application development.
10. Students will be able to analyze, design, and document a proposed solution to a business process by completing a team project.

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The objectives of the CPT 264 course are intended to meet the CPT level student learning outcomes.

Program Student Learning Outcomes:

Upon successful completion of the Computer Technology Degree students will be able to:

1. Install computer and network hardware.
2. Install computer operating systems and application software.
3. Design, create and test computer programming solutions.
4. Demonstrate the ability to take initiative, assume responsibility, and work under pressure with minimum supervision by successfully completing "hands-on" computer assignments.
5. Analyze, troubleshoot, and correct computer related technical problems.

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Greenville Technical College Core Competencies:

Communication Core Competency: Students will demonstrate effective written and oral communication skills to convey information, ideas, or opinions.

- Written Communication: Students will demonstrate effective written communication skills to convey information, ideas, or opinions.
- Oral Communication: Students will demonstrate effective oral communication skills to convey information, ideas, or opinions.

Critical Thinking Core Competency: Students will demonstrate effective reasoning, problem solving, or quantitative skills to develop an opinion or conclusion.

- Critical Reasoning: Students will employ inquiry, analysis, and synthesis of information to formulate and/or evaluate an opinion or conclusion.
- Problem Reasoning: Students will design and formulate a strategy to answer a question or achieve a desired goal.
- Quantitative Reasoning: Students will be able to analyze numerical information or observable facts resulting in informed conclusions.

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Information Literacy Core Competency: Students will be able to locate, evaluate, and use information effectively from diverse sources.

Professionalism Core Competency: Students will demonstrate conduct and etiquette appropriate to the community and chosen career.

- Professionalism: Students will display professional conduct and work habits.
- Teamwork: Students will collaborate with others to accomplish a shared goal.

Instructional Agreement:

This syllabus is an agreement between the student and instructor concerning course objectives, course content, grading and other policies and procedures particular to the course as well as any posted program, departmental, and divisional policies. It is also the student's responsibility to become familiar with the Student Handbook/College Catalog found in the Student Resource area of Blackboard.

Grading Scale:

GRADING POLICY

Emphasis will be placed on tests, assignments, and the group projects with the following weights:

Twenty (20) percent of the final grade will be based on successful completion of assignments related to the role of a Systems Analyst and techniques and methodology employed by a Systems Analyst during the implementation of a business information system.

Thirty (30) percent of the final grade will be based on one group project.

Fifty (50) percent of the final grade will be based on test grade averages.

All assignments (i.e., labs, projects, research papers, etc.) for this course must be completed and submitted to the instructor by the due date established in order to receive credit for the assignment.

Note: ALL TESTS AND EXAMS ARE RETAINED BY THE INSTRUCTOR.

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Final letter grades will be issued as follows:

A	=	90 - 100
B	=	80 - 89
C	=	70 - 79
D	=	60 - 69
F	=	0 - 59

Course Policies:

Disabilities Information

Students with disabilities, including those who were served in Special Education (resource or tutorial), should contact Student Disability Services (SDS) to discuss their need for services and accommodations. The main SDS office is located on the Barton Campus in the Student Center Building 105, office 113. Staff can be reached by phone at 864 250-8202 or via email to DisabilityServices@gvltec.edu. Appointments are available at all satellite campus locations. Please check the GTC website for more information concerning Student Disability Services: <http://gvltec.edu/disability-services/>

Efforts have been made to ensure all materials presented in an electronic format are accessible for students with disabilities and the college is committed to this obligation. However, if you experience any difficulty accessing these materials please notify your instructor immediately so a solution can be provided. You may also contact Student Disability Services directly at 864-250-8202 or by email at DisabilityServices@gvltec.edu.

Students who need a PDF reader for accessibility of course documents presented in PDF format may download a free reader at <https://acrobat.adobe.com/us/en/products/pdf-reader.htm>

Starfish

We care about your success! Greenville Technical College is proud to offer Starfish, a software tool designed to promote student success through coordination and communication between students, instructors and support staff.

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When you set up your profile in Starfish, you can connect with services, faculty and staff at Greenville Technical College. The link to Starfish is located in Blackboard. Throughout the term, you may receive emails regarding your attendance, course grades or academic performance.

To benefit from this software, it is important that you check your Greenville Technical College Gmail regularly and read the Starfish alerts. If your academic performance begins to drop, you may also be contacted directly by a Success Coach or the Student Success Center.

Start, Stay, Succeed!

CPT 264 – MAIN TOPICS

PLAN OF INSTRUCTION:

TEXT

CHAPTER MAJOR TOPICS

Chapter 1	Introduction to Systems Analysis and Design
	The Impact of Information Technology
	Information System Components
	Understanding the Business
	Impact of the Internet
	How Business Uses Information System
	Information System Users and Their Needs
	System Development Tools and Techniques
	Systems Development Methods
	Planning and Modeling a Systems Development Project
	Systems Development Guidelines

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Information Technology Department and the Systems Analyst
Position

Toolkit Part A - Communications Tools

Successful Communications Strategies

Written Communications

Oral Communications

Chapter 2 Analyzing the Business Case

The Strategic Planning Process

Information Systems Projects

Evaluation of Systems Requests

Overview of Feasibility

Evaluating Feasibility

Preliminary Investigation Overview

ToolKit Part B- Case Tools

Overview of CASE Tools

CASE Terms and Concepts

Integrated Development Environments

CASE Tool Examples

Future Trends

Chapter 3 Managing Systems Projects

Gantt Charts

Pert/CPM

Risk Management

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Chapter 4 Requirements Modeling

JAD

RAD

Agile

Chapter 5 Data and Process Modeling

DFD

Data Dictionary

Process Description Tools

Logical Versus Physical Models

Ethics

Chapter 6 Object Modeling

Terms

Concepts

Relationships

ToolKit Part C Financial Analysis Tools

Describing Costs and Benefits

Cost-Benefit Analysis

ToolKit Part D Internet Resources

Search Engines

Subject Directories

Communication

Chapter 7 Development Strategies

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Internet Impact

Outsourcing

In-house options

Systems Analyst Role

Prototyping

Chapter 8 User Interface Design

Types of output

User Interface Design

Input Design

Chapter 9 Data Design

Data Design Concepts

DBMS Components

Web-Based Database Design

Data Design Terminology

Entity-Relationship Diagrams

Normalization

Data modeling

Data storage and access

Data Control

Chapter 10 System Architecture

Planning the Architecture

Servers

Clients

Internet-Based Architecture

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Process Modeling
Network Models
Wireless Networks

Chapter 11 Managing System Implementation

Software Quality Assurance
Application Development
Structured Application Development
Object-Oriented Application Development
Agile Application Development
Coding
Testing the system
Documentation
Training
Data Conversion
System Change Over

Chapter 12 Managing Systems Support and Security

Maintenance
Performance
Security
Backup and Recovery
System Obsolescence

The instructor reserves the right to modify the Plan of Instruction by changing the sequence of text material or testing content.