Western Technical College

10154178 IT Project Analysis

Course Outcome Summary

Course Information

Description	Students will examine typical tasks of many personal and office computer installations. The student will learn about site preparation as well as the tools and steps necessary for project management and installation of operating systems and application software. Students will be required to complete and present a final project in which they will select, install, setup, test, and demo software.
Career Cluster	Information Technology
Instructional Level	Associate Degree Courses
Total Credits	3
Total Hours	72

Textbooks

No textbook required.

Success Abilities

1. Cultivate Passion: Enhance Personal Connections
2. Cultivate Passion: Expand a Growth-Mindset
3. Cultivate Passion: Increase Self-Awareness
4. Live Responsibly: Develop Resilience
5. Live Responsibly: Embrace Sustainability
6. Live Responsibly: Foster Accountability
7. Refine Professionalism: Act Ethically
8. Refine Professionalism: Improve Critical Thinking

9. Refine Professionalism: Participate Collaboratively

10. Refine Professionalism: Practice Effective Communication

High Impact Practices

1. Community Based Learning Project: a key learning outcome of this course is to connect academic learning and civic development while simultaneously addressing a community partner's needs, interests, or problems.

Course Competencies

1. Analyze the major phases and objectives of the systems development life cycle (SDLC).

Assessment Strategies

1.1. Written Product

Criteria

You will know you are successful when

1.1. you describe the five phases of the System Development Life Cycle (SDLC) and list the objectives of each phase.
1.2. you explain how different levels of a business organization use and handle information.
1.3. you explain the use of software tools in the development of information systems.
1.4. you list the major functions performed by the information systems department.
1.5. you discuss a systems analyst's responsibilities, skills, and opportunities.

Learning Objectives

1.a. Describe an Information System and explain its characteristics.
1.b. Identify various types of business information systems and describe their primary features.
1.c. Explain how different levels of a business organization use and handle information.
1.d. Describe the phases and objectives of the systems development life cycle.
1.e. Explain the use of software tools in the development of Information Systems.
1.f. List the major functions performed by the information systems department.
1.g. Discuss a systems analyst's responsibilities, skills, and opportunities.

2. Apply the system planning phase of the SDLC.

Assessment Strategies

2.1. Written Product
2.2. Project

Criteria

You will know you are successful when

2.1. you discuss the strategic planning process, and why it is important to IT managers.
2.2. you explain the purpose of a mission statement.
2.3. you explain why and how systems projects are initiated.
2.4. learner explains the objectives of the preliminary investigation.
2.5. you describe what activities occur during the preliminary investigation.
2.6. you apply fact-finding procedures to evaluate the systems request.
2.7. you describe what takes place at the completion of the preliminary investigation.

Learning Objectives

2.a. Describe the strategic planning process, and why it is important to IT managers.
2.b. Identify the purpose of a mission statement.
2.c. Explore why and how systems projects are initiated.
2.d. Research how systems projects are evaluated.
2.e. Identify typical activities that occur during the lifecycle of the preliminary investigation.
2.f. Carry out fact-finding procedures to evaluate the systems request.

3. Apply the system analysis phase of the SDLC.

Assessment Strategies

3.1. Written Product
3.2. Project

Criteria

You will know you are successful when

3.1. you explain how systems analysis relates to business needs, problems, and opportunities.
3.2. you describe the types of systems requirements that must be identified during systems analysis.
3.3. you explain how to conduct a successful interview.
3.4. you explain when and how to use fact-finding techniques, including interviews, documentation review, observation, questionnaires, sampling, and research.
3.5. you formulate effective documentation methods to use during systems development.
3.6. you explain the advantages and disadvantages of in-house development versus purchasing a software package.
3.7. you identify steps for purchasing and evaluating software.
3.8. you explain the differences between a request for proposal (RFP) and a request for quotation (RFQ).
3.9. you describe the contents of the systems requirements document and explain its purpose.
3.10. you define total cost of ownership (TCO) and explain the concept.

Learning Objectives

3.a. Connect systems analysis to the business needs, problems, and opportunities.
3.b. Describe the types of systems requirements that must be identified during systems analysis.
3.c. Identify when and how to use fact-finding techniques.
3.d. Formulate effective documentation methods to use during systems development.
3.e. Explore the advantages and disadvantages of in-house development versus purchasing a software package.
3.f. Identify the steps in purchasing and evaluating a software package.
3.g. Explain the differences between a request for proposal (RFP) and a request for quotation (RFQ).
3.h. Explore the contents of the systems requirements document.
3.i. Define total cost of ownership (TCO).

4. Apply the system design phase of the SDLC.

Assessment Strategies

4.1. Written Product
4.2. Project

Criteria

You will know you are successful when

4.1. you list and describe the major activities of the systems design phase.
4.2. you identify types of output, including new technology-based methods of information delivery.
4.3. you explain the differences in types of output
4.4. you explain output control concepts and methods as it relates to end users.
4.5. you discuss the objective of system input design as it relates to end users.
4.6. you explain the difference among data capture, data entry, and data input.
4.7. you explain the differences between batch and online input.
4.8. you identify the different types of data validation checks.
4.9. you describe data entry screens, process control screens, graphical user interfaces, and Help screens.
4.10. you explain input control techniques.

Learning Objectives

4.a. Identify the major activities of the systems design phase.
4.b. Describe classifications of output reports.
4.c. Explain output control concepts and methods of software applications as it relates to end users.
4.d. Discuss the objective of systems input design in software applications as it relates to end users.
4.e. Explain the differences among data capture, data entry, and data input.
4.f. Explain the advantages and disadvantages between batch and online input.
4.g. List and describe the different types of data validation checks.
4.h. Describe data entry screens, process controls screens, graphical user interfaces, and Help screens.
4.i. Explain input control techniques available in software applications.

5. Apply the system implementation phase of the SDLC.

Assessment Strategies

5.1. Written Product
5.2. Project

Criteria

You will know you are successful when

5.1. you describe the major tasks and activities that are completed during the systems implementation phase.
5.2. you discuss the role of the systems analyst during the purchase of software application and application development.
5.3. you explain the importance of quality assurance and the role of software engineering in software development.
5.4. you describe the different types of documentation the system analyst must prepare.
5.5. you explain and give an example of each different phase of testing including unit testing, link testing, and system testing.
5.6. you discuss the main tasks in the installation and evaluation process.
5.7. you explain why it is important to maintain separate operational and test environments.
5.8. you develop an overall training plan with specific objectives for each group of participants.
5.9. you describe online tutorials and other user training techniques.
5.10. you create an outline for a training manual and describe the content of each section.
5.11. you describe the file conversion process.
5.12. you explain the purpose of a post-implementation evaluation and list the specific topics covered during the evaluation.
5.13. you specify the contents of the final report to management.

Learning Objectives

5.a. Discuss the role of the systems analyst.
5.b. Explain the importance of quality assurance and the role of software engineering in software development.
5.c. Identify different types of documentation.
5.d. Identify different phases of testing.
5.e. Explain why it is important to maintain separate operational and test environments.
5.f. Describe online tutorials and other user training techniques.
5.g. Describe the file conversion process.
5.h. Explain the purpose of a post-implementation evaluation and list the specific topics covered during the evaluation.
5.i. Specify the contents of the final report to management.

6. Apply the system operation and support phase of the SDLC.

Assessment Strategies

6.1. Written Product

Criteria

You will know you are successful when

6.1. you explain how the systems operation and support phase relates to the rest of the SDLC.
6.2. you describe the information center and how it supports user needs.
6.3. you identify the three main categories of systems maintenance.
6.4. you describe standard maintenance procedures.
6.5. you discuss the role of configuration management in system operations.
6.6. you describe the process of capacity planning, including workload and performance measurements.

Learning Objectives

6.a. Explain how the systems operation and support phase relates to the rest of the SDLC.
6.b. Describe the information center concept and how it supports user needs.
6.c. Identify categories of systems maintenance.
6.d. Describe standard maintenance procedures.
6.e. Discuss the role of configuration managements in system operation.
6.f. Describe the process of capacity planning.

6.g. Recognize the signs of a system becoming obsolete.

7. Evaluate software and hardware alternatives for businesses.

Assessment Strategies

7.1. Written Product
7.2. Project

Criteria

You will know you are successful when

7.1. you identify at least three sources to obtain business system software.
7.2. you evaluate existing business systems.
7.3. you identify essential software features required by different business systems.
7.4. you select software appropriate to business needs and objectives.
7.5. you identify hardware requirements for various software systems.
7.6. you analyze the product and vendor liability.
7.7. you locate and explain product reviews.

Learning Objectives

7.a. Identify sources of business system software.
7.b. Evaluate existing business systems.
7.c. Identify essential software features required by different business systems.
7.d. Select software appropriate to need.
7.e. Identify hardware requirements for various software systems.
7.f. Analyze the product and vendor liability.
7.g. Find and explain product reviews.

8. Analyze software license agreements and the need for software registration.

Assessment Strategies

8.1. Written Product

Criteria

You will know you are successful when

8.1. you examine license alternatives.
8.2. you identify penalties given for a business which is not legally licensed.
8.3. you recommend license alternatives for specific business scenarios.
8.4. you describe the importance of registering software packages.

Learning Objectives

8.a. Examine license alternatives available for business software packages.
8.b. List penalties given for businesses not being legally "licensed".
8.c. Recommend best license alternative for specific business scenarios.
8.d. Describe the importance of registering software packages.

9. Examine the role of project management.

Assessment Strategies

9.1. Written Product
9.2. Project

Criteria

You will know you are successful when

9.1. you describe what project management is.
9.2. you provide examples of information technology projects.
9.3. you discuss key elements of the project management framework
9.4. you apply systems view of project management to information technology projects.
9.5. you exhibit skills and attributes of a good project manager.
9.6. you communicate the progress of the project plan and create charts and graphs using Microsoft Project software.

Learning Objectives

9.a. Examine the role of project management.

9.b. Develop project activities related to an information technology project.
9.c. Chart and analyze an information technology project.
9.d. Explore the key elements of project management framework: identify a need, develop a proposed solution, perform the project, terminate the project

10. Explore application of Microsoft Project software.

Assessment Strategies

10.1. Project

Criteria

You will know you are successful when

10.1. you use Microsoft Project software to outline complete project plan.
10.2. you complete Gantt and PERT charts.
10.3. you identify capabilities of Microsoft Project software.
10.4. you create and sequence a work breakdown structure in MS Project

Learning Objectives

10.a. Incorporate Microsoft Project software into the project management process.
10.b. Explain the use of Gantt and PERT charts.
10.c. Calculate and interpret project critical path.

11. Construct the sequence of project activities for an IT project.

Assessment Strategies

11.1. Written Product
11.2. Project

Criteria

You will know you are successful when

11.1. you complete a diagram model.
11.2. you submit a resource requirements list.
11.3. you calculate and explain project slack time.
11.4. you manage the project activities with MS Project.

Learning Objectives

11.a. Determine the items required in the project plan.
11.b. Estimate the duration for each activity.
11.c. Determine the resources required.
11.d. Differentiate between activities, tasks, and milestones.
11.e. Sequence the project activities.
11.f. Calculate the amount of slack time for each activity in a project.

12. Summarize project plan and conclusions.

Assessment Strategies

12.1. Presentation

Criteria

You will know you are successful when

12.1. you present completed project plan to other course participants.
12.2. you evaluate and comment on participants projects.
12.3. you assemble the project work into a portfolio
12.4. you demonstrate the project

Learning Objectives

12.a. Complete project plan in a format for communicating to other course participants.
12.b. Evaluate and comment on participants projects.
12.c. Respond to feedback received on participant's project presentation.
12.d. Dialogue with other course participants on aspects of project management.