

IT 415 Final Project Guidelines and Rubric

Overview

The final project for this course is the creation of a proposal, project plan, and system design document. The project is divided into **two milestones**, which will be submitted at various points throughout the course to scaffold learning and ensure quality final submissions. These milestones will be submitted in **Modules Three and Five**. The final product will be submitted in **Module Seven**.

In this assignment, you will demonstrate your mastery of the following course outcomes:

- Analyze real-world problems critically for their potential to be solved with information technology systems
- Propose information technology systems solutions that address organizational problems and meet stakeholder needs
- Determine system requirements, constraints, and necessary resources through analysis of information technology problems
- Integrate appropriate tools, techniques, and technology into information technology solution designs and project plans
- Develop illustrative project plans that communicate project objectives, work breakdown structures, project schedules, and milestones for successful completion of information technology projects

Prompt

Businesses need practicing information technology professionals who can design and implement information systems solutions to address organizational information technology needs and gaps. The assessment for this course will allow you to demonstrate the critical skills required for professional practice, including skills necessary to discuss potential information technology solutions, organize projects, communicate status, mitigate risks, and facilitate adoption of newly developed information technology systems. Your project will demonstrate that you are able to extend your coursework to manage the design and planning of an information technology project, and in the next course, to successfully implement a solution demonstrating professional expertise. You will need to demonstrate self-directed work, but also a willingness to receive and utilize feedback.

You will select a case from those provided below, or you may find another case or use your current workplace (with instructor approval), and analyze the organizational challenges or problems within. The problem scenario should represent a real-world situation that presents an opportunity for you to put your best effort forward to demonstrate your highest level of competence and professionalism as an information technology practitioner. You are encouraged to select a project that aligns with your target industry goals and is within the area of information technology that most interests you: web design and development, software development, database management, data analytics, network planning and maintenance, cybersecurity, information assurance, software development, and so on. You are encouraged to be creative, imaginative, and innovative when selecting your project and think about potential implementation in IT 420.



If you need ideas for a project, here are some areas that may be of interest:

- Software application
- Database that stores information about disease epidemics and treatment options
- Interactive website for a nonprofit organization
- Network infrastructure that expands a current business's network to support remote employees
- An in-depth analysis of all network system components of a network infrastructure and recommended solutions to secure network

For your project, you may choose one of the following case studies, or identify a real-world IT problem or opportunity for improvement at an actual organization (with instructor approval), and discuss the proposed solution.

- Harvard Business Review Articles: Coursepack

<http://cb.hbsp.harvard.edu/cbmp/access/74616846>

The UK National Identity Card

F-Secure Corporation: Software as a Service (SaaS) in the Security Solutions Market

Once you have selected your case, you will determine what problems or challenges within the organization (or subject of the topic you chose) can be solved with an information systems or technology solution, and you will create a proposal that outlines your recommended solution, design your solution, and create a project plan. You will use the design and project plan to guide your implementation process during IT 420, when you will implement your information system solution.

You will now submit your finalized proposal, project plan, and system design. These deliverables will be used to direct the implementation effort in your next course, IT 420. If the scope of your planned project is not fully implementable due to constraints on time and resources, you will need to prepare to deliver at the end of the next course a prototype, simulation of the information system vision, or a detailed projection of what a fully implemented system would look like. This projection of a fully implemented system is expected to be much more detailed than a system design.

Prompt I: Proposal

Your **proposal** will be submitted in Module Seven, separately from the other two deliverables. Your **project plan** and **system design** will be submitted together in Module Seven, and should communicate a problem to be solved by your proposed information technology solution.

Specifically, the following **critical elements** must be addressed:

- I. **Project Proposal:** The project proposal should contain enough detail so that relevant stakeholders (who will vary, depending on your topic of interest) can determine if the proposed solution is feasible and will address the needs or gaps in the current operating environment.
 - A. **Problem Statement:** Craft a clear, accurate problem statement that highlights the information technology-related aspects of the challenges that you are facing.
 - B. **Significance:** Analyze the significance of this problem and what a solution could mean to you, the company or group, and the discipline or area of interest within information technology. In other words, describe the significance that this project has to your discipline or area of interest within information technology and your development as a practitioner. This will be your chance to sell this project idea, so that it is exciting for your imaginary stakeholder audience, and also for your real-world instructor, peers, and potential employers.
 - C. **Objectives:** Describe the scope, goals, and objectives of your project. If you are addressing only a part of the overarching problem, state this in this section. Make sure that your objectives are reasonable (i.e., could be accomplished without exorbitant resource usage, an irrational timeline, etc.).
 - D. **Deliverables:** Propose your overall solution, highlighting the key deliverables that you will create to solve the problem or challenge the statement.
 - E. **Methodology:** Establish the methodology and techniques that you intend to use throughout the design phase of your project, with support as to how each is appropriate for the situation.
 - F. **Risks:** Analyze the problem and your own solution proposal to highlight any risks that may prevent successful completion of your solution design. Include risks that result from the project not fulfilling the objective to solve the information technology problem. In other words, what risks are present and how would they impact the potential for a successful information technology solution?

Prompt II: Project Plan and System Design

Your **project plan** and **system design** will be submitted together in Module Seven, and should communicate a problem to be solved by your proposed information technology solution. These deliverables will be used to direct the implementation effort in your next course, IT 420.

Specifically, the following **critical elements** must be addressed:

- I. **Project Plan:** The project plan will be drafted early in the course but further refined as you develop the system design. This way, the work breakdown structure and tasks identified in the design in need of development are added to the project plan.
 - A. **Work Breakdown Structure:** Clearly communicate a logical work breakdown structure for stakeholders to ensure successful completion of the project. Identify all tasks and artifacts to be developed.
 - B. **Timeline:** Illustrate the overall project timeline, identifying start and finish dates, major milestones, and any other relevant data points during the design and implementation of the project/solution. (Implementation should happen in IT 420, the implementation course.)
 - C. **Dependencies:** Clearly communicate any dependencies between tasks or resources for ensuring successful communication of needs.

- D. **Use of Tools:** Professionally document project plan using Microsoft Project or Excel.
- II. **System Design Document:** Although you will individually develop your recommended information technology project, the project design should contain enough detail to support another skilled information technology practitioner in implementing the solution. Determine a reasonable scope for your project so that it can be implemented within the timeframe of the IT 420 course. The following sections should be included:
- A. **Introduction:** Articulate the overall purpose and scope of the system design in terms of addressing the problem or challenges identified in your proposal.
 - B. **Requirements:** Determine all relevant and necessary system requirements based on analysis of the problem faced. The requirements should be written as “system shall” statements that are testable and include functional, design, security, safety, and performance requirements.
 - C. **Constraints:** Determine the constraints of the system design and any assumptions made in terms of the problem being solved.
 - D. **Resources:** Identify necessary resources—hardware, software, servers, virtual desktop resources, and so on—that are required to complete the project, based on analysis of the problem being solved.
 - E. **System Overview:** Describe the overall design in terms of the integration of tools and technology for successfully constructing your solution. In this section, you should describe the high-level design and architecture, making sure that details are congruent with the type of project you are working on. For example, use of case and class diagrams would need to be included if your project focused on a software application, website wireframe, screen mock-ups for a web application, and so on.
 - F. **Documented Detailed Design:** Your detailed design should illustrate and annotate all important details to be developed of the system and its components, interfaces, subsystems, and more. It further breaks down the high-level design into small enough chunks to be properly implemented. The detailed design should align with the work breakdown structure in the product plan. The detailed design should inform the tasks identified and included in the project plan.

Milestones

Milestone One: Draft of Project Proposal

In **Module Three**, you will submit the draft of your project proposal. This proposal will include a problem statement, analyze the significance of the problem, describe the scope, goals, and objectives of the project, propose an overall solution, establish the methodology and techniques to be used in the design phase, and propose solutions for risks. **This milestone will be graded with the Milestone One Rubric.**

Milestone Two: Draft of Project Plan and System Design Document

In **Module Five**, you will submit the draft of your project plan and system design document. The project plan will include a work breakdown structure, timeline, dependencies, and tools to document the project plan. The system design document will include an introduction, system requirements, constraints of the system design, necessary resources, a system overview, and documentation of the design. **This milestone will be graded with the Milestone Two Rubric.**

Prompt I Final Submission: Project Proposal

In **Module Seven**, you will submit your final project proposal. It should be a complete, polished artifact containing **all** of the critical elements of the final product. It should reflect the incorporation of feedback gained throughout the course. **This submission will be graded with the Prompt I Final Project Rubric.**

Prompt II Final Submission: Project Plan and System Design Document

In **Module Seven**, you will submit your final project plan and system design document. It should be a complete, polished artifact containing **all** of the critical elements of the final product. It should reflect the incorporation of feedback gained throughout the course. **This submission will be graded with the Prompt II Final Project Rubric.**

Final Project Rubrics

Prompt I Rubric

Guidelines for Submission: Your executive proposal should be approximately two to three pages in length and written in professional language with APA formatting.

Critical Elements	Exemplary (100%)	Proficient (85%)	Needs Improvement (55%)	Not Evident (0%)	Value
Proposal: Problem Statement	Meets “Proficient” criteria and evidences keen ability to establish problem statements that can be understood by various stakeholders, describes the issues in a unique or innovative perspective, or sets the boundaries for effective solution design	Crafts a clear, accurate problem statement highlighting the information technology-related aspects of the challenges faced	Crafts a problem statement highlighting the information technology-related aspects of the challenges faced, but with gaps in accuracy, detail, or clarity	Does not craft a problem statement highlighting the information technology-related aspects of the challenges faced	10
Proposal: Significance	Meets “Proficient” criteria and evidences ability to articulate analysis in persuasive terms for gaining stakeholder support or tying the issue to greater contexts	Analyzes the significance of the problem and what a solution could mean to the company or group as well as the discipline or area of interest within information technology	Analyzes the problem and what a solution could mean to the company or group, but fails to connect the significance to the larger context of the discipline, or vice versa	Does not analyze the problem and solution	10
Proposal: Objectives	Meets “Proficient” criteria and evidences keen insight into planning or assessing appropriate scope and goals for successful design	Concisely and accurately describes the reasonable scope, goals, and objectives of the project	Describes the scope, goals, and objectives of the project, but with gaps in accuracy, superfluous detail, or unreasonable aspects	Does not describe the scope, goals, and objectives of the project	15

Proposal: Deliverables	Meets “Proficient” criteria and the scope, goals, and objectives are written using a highly professional tone and format; the connectedness between the scope, goals, and objectives is clearly articulated	Proposes the overall solution, accurately and comprehensively highlighting key deliverables needed to successfully solve the problem statement	Proposes the overall solution, but fails to accurately or comprehensively highlight the key deliverables needed to successfully solve the problem statement	Does not propose an overall solution	15
Proposal: Methodology	Meets “Proficient” criteria and evidences keen insight into best application of established methods or evidences integration of unique creative approaches	Establishes the methodology and techniques to be used throughout design with support regarding how each is appropriate for the situation	Establishes the methodology and techniques to be used throughout design with support, but lacks necessary detail or fails to discuss the appropriateness of each	Does not establish the methodology and techniques to be used throughout design	30
Proposal: Risks	Meets “Proficient” criteria and evidences keen insight into the nuances of risk mitigation in IT project proposals and planning	Analyzes the problem and solution proposed to highlight any risks that could prevent successful project completion and how they could impact the project	Analyzes the problem and solution proposed to highlight risks but with gaps in detail, logic, or connections to the impact of the project	Does not analyze the problem and solution proposed to highlight risks	10
Articulation of Response	Submission is free of errors related to citations, grammar, spelling, syntax, and organization and is presented in a professional and easy-to-read format	Submission has no major errors related to citations, grammar, spelling, syntax, or organization	Submission has major errors related to citations, grammar, spelling, syntax, or organization that negatively impact readability and articulation of main ideas	Submission has critical errors related to citations, grammar, spelling, syntax, or organization that prevent understanding of ideas	10
Earned Total					100%

Prompt II Rubric

Guidelines for Submission: Your project plan and system design should be approximately 10–15 pages in length. Use Visio (or a comparable design tool) for illustrative design documents, as well as Microsoft Project or Excel for the project planning aspects of your submission.

Critical Elements	Exemplary (100%)	Proficient (85%)	Needs Improvement (55%)	Not Evident (0%)	Value
Project Plan: Work Breakdown Structure	Meets “Proficient” criteria and evidences sophisticated understanding of the nuanced communication needs of various stakeholders relevant to the scenario	Communicates a logical work breakdown structure that clearly identifies tasks and artifacts for stakeholders to ensure successful completion of the project	Communicates a work breakdown structure that identifies tasks and artifacts for stakeholders, but with gaps in logic, clarity, or detail that could prevent successful completion of the project	Does not communicate a work breakdown structure that identifies tasks and artifacts for stakeholders	6
Project Plan: Timeline	Meets “Proficient” criteria and evidences a high level of detail and is drawn in a professionally formatted manner	Comprehensively illustrates the overall project timeline for design and implementation of the project	Illustrates the overall project timeline for design and implementation of the project, but with gaps in detail	Does not illustrate the overall project timeline for design and implementation of the project	6
Project Plan: Dependencies	Meets “Proficient” criteria and evidences keen insight into the nuanced relationships between needs, requirements, tasks, and available resources	Clearly communicates any dependencies between tasks and resources for ensuring successful communication of needs	Communicates dependencies between tasks and resources , but with gaps in detail or clarity that prevent successful communication of needs	Does not communicate dependencies between tasks and resources	6
Project Plan: Use of Tools	Meets “Proficient” criteria and evidences exceptionally advanced or successful use of tools for project planning	Project plan is documented professionally using an appropriate tool	Project plan is documented, but with gaps in professional delivery or use of an inappropriate tool	Does not document project plan with a tool	6
System Design Document: Introduction	Meets “Proficient” criteria and evidences keen insight into the nuances of scoping system design projects	Articulates the overall purpose and scope of the system design in terms of addressing the needs and challenges identified in proposal	Articulates the overall purpose and scope of the system design but lacks detail or specificity regarding the needs and challenges identified in proposal	Does not articulate the overall purpose and scope of the system design	25
System Design Document: Requirements	Meets “Proficient” criteria and the description is communicated using a highly professional tone	Determines relevant, necessary, and testable system requirements based on problem analysis	Determines system requirements, but not based on problem analysis or lacks relevance, necessity, or testability	Does not determine system requirements	6

System Design Document: Constraints	Meets “Proficient” criteria and is exceptionally thorough and detailed in determining constraints	Accurately determines the constraints of the system design and any assumptions made in terms of the problem being solved	Determines the constraints of the system design and any assumptions made in terms of the problem being solved, but with gaps in accuracy	Does not determine the constraints of the system design and assumptions made	5
System Design Document: Resources	Meets “Proficient” criteria and evidences sophisticated understanding of required resources without indicating superfluous resources	Identifies necessary resources required to complete the project, based on analysis of the problem	Identifies necessary resources required to complete the project, but does not base conclusions on analysis of the problem or is not comprehensive in identifying resources	Does not identify necessary resources required to complete the project	5
System Design Document: System Overview	Meets “Proficient” criteria and descriptions is exceptionally thorough, comprehensive, and well-articulated	Accurately describes the overall design and architecture of solution in details congruent with the type of project being designed	Describes the overall design and architecture of solution, but with gaps in details or in a manner incongruent with the type of project being designed	Does not describe the overall design and architecture of solution	5
System Design Document: Documented Detailed Design	Meets “Proficient” criteria and evidences advanced, professional, or exceptionally creative illustration of design	Detailed design accurately and clearly illustrates and explains important aspects of the system, its components, interfaces, subsystems, and more to be developed	Detailed design illustrates and explains important aspects of the system, its components, interfaces, subsystems, and more to be developed, but with gaps in accuracy, detail, or coverage of necessary items	Does not detail and explain important aspects of the system, its components, interfaces, subsystems, and more to be developed	25
Articulation of Response	Submission is free of errors related to citations, grammar, spelling, syntax, and organization and is presented in a professional and easy to read format	Submission has no major errors related to citations, grammar, spelling, syntax, or organization	Submission has major errors related to citations, grammar, spelling, syntax, or organization that negatively impact readability and articulation of main ideas	Submission has critical errors related to citations, grammar, spelling, syntax, or organization that prevent understanding of ideas	5
Earned Total					100%