This course supports the assessment for MS, Information Technology Management Capstone Written Project. The course covers 5 competencies and represents 3 competency units.

Introduction

Overview
The Capstone culminates your master's degree program at Western Governors University. This course is your guide to successfully completing the Capstone Project. It explains what the Capstone is and outlines its essential parts.

When you are ready to begin working on it, you will be assigned to a Capstone facilitator/mentor. This will be a faculty member with the expertise necessary to guide and advise you as you complete each step of the process. Before beginning work, please meet with your facilitator/mentor to review this course and to make sure you understand the expectations and requirements associated with the Capstone Project in your degree program.

All WGU master's degree programs include a very substantial culminating Capstone Project, consisting of both a written project and an oral defense based on it. The purpose of such a project is to allow you to demonstrate the application of the academic and professional abilities you have developed as a graduate student. While Capstone requirements differ by program, the expectations for quality are the same across all programs. The Capstone challenges you to bring forth and display the best work of which you are capable.

The Capstone Project is your chance to set the bar. Whether you do something to satisfy your own curiosity or tackle something of interest to another, this is your work, and you must take ownership of it. You should experience pleasure and pride as you watch your abilities unfold, learning from your own endeavors and the advice of your facilitator. Set the bar high so that at the end of it all, you will know satisfaction, avoiding the feeling that you could have done better.

Competencies

This course provides guidance to help you demonstrate the following 5 competencies:

- **Competency 438.1.2: Audience Analysis**
  The graduate conducts an audience analysis to determine effective and persuasive communication strategies.

- **Competency 438.1.4: Document Design Principles**
  The graduate develops technical communications that accurately incorporate relevant document design principles.

- **Competency 438.1.5: Clarity**
  The graduate presents technical data according to appropriate principles of clarity and conciseness.
Competency 438.1.7: Logic
The graduate presents technical data using appropriate principles of logic.

Competency 438.1.8: Grammar and Usage
The graduate applies appropriate grammar and usage principles in technical communication documents.

Course Instructor Assistance

As you prepare to successfully demonstrate competency in this subject, remember that course instructors stand ready to help you reach your educational goals. As subject matter experts, mentors enjoy and take pride in helping students become reflective learners, problem solvers, and critical thinkers. Course instructors are excited to hear from you and eager to work with you.

Successful students report that working with a course instructor is the key to their success. Course instructors are able to share tips on approaches, tools, and skills that can help you apply the content you're studying. They also provide guidance in assessment preparation strategies and troubleshoot areas of deficiency. Even if things don’t work out on your first try, course instructors act as a support system to help you prepare for another attempt. You should expect to work with course instructors for the duration of your coursework, and you are encouraged to contact them as soon as you begin. Course instructors are fully committed to your success!

Preparing for Success

The information in this section is provided to detail the resources available for you to use as you complete this course.

Learning Resources

The learning resources listed in this section are required to complete the activities in this course. For many resources, WGU has provided automatic access through the course. However, you may need to manually enroll in or independently acquire other resources. Read the full instructions provided to ensure that you have access to all of your resources in a timely manner.

The WGU Library

As part of the Capstone, you must assemble relevant articles, documents, and books related to your project. The books and full-text articles housed at the WGU Library are a good place to obtain that information.

The WGU Library is available online to WGU students 24 hours a day.

For more information about using the WGU Library, view the following videos on The WGU Channel:

- WGU: Accessing the Library
- WGU Library: Finding Articles, Books, & E-Reserves
Pacing Guide
The pacing guide suggests a weekly structure to pace your completion of learning activities. It is provided as a suggestion and does not represent a mandatory schedule. Follow the pacing guide carefully to complete the course in the suggested timeframe.

- Pacing Guide: MS, Information Technology Management Capstone Written Project

Note: This pacing guide does not replace the course. Please continue to refer to the course for a comprehensive list of the resources and activities.

Your Capstone Journey

All of the assessments in your program, have lead up to the Capstone; throughout the program you have developed the competency required for a successful Capstone Project.

Depending upon your specific program requirements, you may even include some of your prior work in the composition of your project. Please keep in mind, however, that the rigorous standards for Capstone Projects may require you to revise and improve such work, perhaps even significantly. Schedule a conference with your Capstone facilitator to discuss the process.

Good Writing and the Capstone
Capstone work is an iterative process that depends on technical writing skills and effective use of APA style and formatting.

Please bear in mind that your Capstone is the culminating project of your degree program. When archived, its artifacts will be published in the Comprehensive Capstone archive. This archive can be accessed by students, faculty, administrators, and accreditors; therefore, it should represent your best writing.

To help you meet a high standard of quality work, WGU has prepared templates for you to build your Proposal and Project.

- Capstone Proposal Template
- Capstone Project Template

You may also want to have a competent writer proofread your work prior to submitting it in Taskstream, and you should allow for the possibility that one or more revisions will be required.

In this regard, as noted above, please keep in mind that, because your facilitator will require adequate time to review each submission (the standard turn-around time is three business days for each submission), the completion of your project may take longer than you anticipate at the outset. If your project shows evidence of poor general writing skills, your facilitator may refer you to the WGU Center for Writing Excellence (see above in the Additional Resources section of this course).

Note: The 6th edition of the APA Publication Manual should be your ultimate reference. An excellent resource for the most up-to-date APA formatting requirements is the Purdue Online
The Capstone Archives

Western Governors University (WGU) has developed Capstone Archives to display final Capstone written work and presentations. When WGU archives your final Capstone documents, these documents will be made available to current students, mentors, and evaluators after you have graduated. You will be able to determine whether you wish to participate in the Capstone Archive by completing a copy of the Capstone Waiver and Release Form at the conclusion of your Capstone Oral Defense Task. By participating, your scholarship and effort at WGU will be recognized, and you will have the satisfaction of contributing to the advancement of WGU and its students.

Since your final Capstone Project will be shared with the WGU academic community, you should make sure it represents your best work—rigorous scholarship, research, and pedagogy. WGU has taken great care to ensure that safeguards are in place to guard the academic authenticity and the exposure of sensitive information.

When you submit the Capstone release statement, you agree to voluntarily remove confidential information. This includes not only your own personal details and contact information, but also information identifying co-workers, organizations, etc. and their contact information. Read the Capstone Security and Anonymity document for more information about how your final Capstone documents are protected in the Archive.

You will want to go to the Model Capstone Archive to see examples of competent student work in your own program that represent some variety in the way students approach project requirements. Some of the materials are artifacts produced along the way to the final Capstone materials so you can see what is involved during the process you are about to undertake.

You can also search the Comprehensive Capstone Archive to examine the final artifacts from capstones across the University that may be relevant to topics in which you are interested. Please beware that many of these did not follow the model outlined in this course.

The IRB Process

All research proposed that would involve collecting data from WGU students, WGU graduates, employers of WGU graduates or WGU employees, or which seeks to use extant university data about these populations must be approved by the Vice President of Institutional Research (or designee) prior to submission to the IRB. The use of WGU related data for research requires that the applicant file appropriate documentation and support with the Vice President of Institutional Research (or designee). WGU staff members who are also WGU graduate students need to follow these procedures as well.

The IRB policy can be found within the Student Handbook. For all questions regarding the policy and for researchers that fall within the policy guidelines or requesting special consideration to the policy, please contact the Capstone Course Instructors at mscapstoneit@wgu.edu for support.

Capstone Project Waiver or Release Statement/Authorization to Use Restricted Information
It is the policy of Western Governors University (“WGU”) that student Capstone projects should not be based upon, and should not include, any proprietary or classified information or material belonging to your employer or any other organization (“Restricted Information”) without appropriate authorization.

Students are required to complete the IT Capstone Waiver-Release Form when submitting any Capstone work and declare one of the following:

A. The Capstone is not based upon and does not include Restricted Information.

Or

B. Capstone project is based upon and/or includes Restricted Information
   
   • IT Capstone Waiver-Release Form

If the Capstone project is based upon and/or includes Restricted Information, students are required to obtain authorization to use restricted information and must have the IT Capstone Employer Release Template completed when submitting any Capstone work.

   • IT Capstone Employer Release Template

Failure to submit the appropriate documentation along with your Capstone work will result in a returned submission.

The Proposal

The proposal must sell your research; often a sound, much needed project can fail to happen if the proposal is not right. Remember to write with a professional demeanor, ask yourself relevant questions to fully comprehend the potential scope of your project, and make sure it is grammatically sound.

Coming up With an Idea

One of the most difficult parts of putting together your Capstone is coming up with your initial idea. If you have experience in IT management, it is likely that you have already completed some substantial projects at work.

When brainstorming, think in terms of what types of projects you might be asked to complete as an IT management professional, or, what emerging trends are being investigated that have to do with IT management.

What is your area of interest? Is it policy, security, wireless networks, disaster recovery, technological globalization? Think about your area of interest in conjunction with what type of project might be worthy of a Capstone. This will help you devise what you want to accomplish with your Capstone.

Formatting and Organizational Style

Remember that your prospectus is a proposal (i.e., the project has not yet taken place); thus,
make sure your writing is in future tense. APA is the standard format of the American Psychological Association.

APA is used by most college and university departments, including the WGU College of Information Technology, to guide students and faculty in consistently formatted work. An APA Template is available from the Course Instructor. The template provides the format, headings, and content aspects of both the Proposal and the Written Capstone. Consult the APA Style manual or the Purdue Online Writing Lab for additional assistance with correct citation and articulation.

As you review your proposal, be sure to check the following items:

- overall structure is well organized and logical
- grammar is correct, including tense
- sentence structure is clear
- punctuation and spelling are correct

**Determine Task Requirements**

Read over the Task 1 instructions carefully, structure your writing accordingly, and address its elements in your proposal. The activities that follow offer some guidance to help you craft each section.

**The Abstract**

Start with an outline of what you have in mind for a project; your abstract should be a summary describing the most important aspects of the document. It should be about 200–250 words long and should stand alone.

The abstract is not the introduction: it should give the reader a summary of the entire prospectus. Make sure that the abstract includes the following items:

- problem under investigation
- architecture/plan/blueprint
- stakeholders
- implementation of proposal
- proposed outcomes

Also, ensure that it is

- accurate,
- self-contained,
- concise,
- non-evaluative,
- coherent, and
- in a readable style.

Float the abstract by your Capstone facilitator. The facilitator can provide you with some insight into whether or not you are headed in the right direction.
The Title Page and Table of Contents

Following the APA template, make sure your Title Page includes your

- name,
- student ID, and
- the name of the degree you are seeking.

Most word processing programs have a built-in tool to help create a Table of Contents. Each program will do this a bit differently, so check your program for how to use it.

Often, the table of contents feature will update your paper so that as you make changes to your proposal, the table of contents will automatically reflect those changes, as well as any relevant heading changes. Not only does this save time, it significantly reduces error.

**Introduction**

The Introduction section summarizes the Capstone’s highlights; it introduces

- the problem,
- the background of the problem, and
- the rationale for the current project.

Your Introduction section will also need to include a “literature review,” though it will not be labeled this way. You will want to include a review of pertinent literature that sets the context of your Capstone.

- What do articles, websites, media, books, and white papers say about the problem you are seeking to solve by your project?

Make sure to summarize the following parts in your Introduction:

- scope of the project
- rationale for why you chose the project
- problem (and a brief background to the problem)
- need for your solution with reasons for the chosen approach

**Problem Statement**

Provide a concise statement of the problem. Summarize the components of the problem in a problem statement.

Summarize the following parts:

- background information of the problem
- causes and impacts of the problem
- analysis of the problem (e.g., cost analysis, risk analysis)
- assumptions about the problem

**Proposed Solution**
This section summarizes the proposed solution to the problem. Include

- why your solution is the best approach,
- possible consequences and how to address these consequences, and
- other possible solutions.

In your summary you will also

- justify why your solution is the best approach,
- explain any consequences from implementing your solution,
- explain the measures you would take to alleviate the consequences, and
- discuss any alternative solutions.

**Implementation Plan**

This section discusses implementing a plan that will address the Problem Statement.

Include a discussion of the following components:

- milestones
- timelines
- personnel
- resources
- budget
- risk assessment
- post-implementation support

**Evaluation Plan**

This section discusses how you propose to approach formative evaluation (quality assurance), proposed revisions on the formative evaluation results, summative evaluation, and dissemination of results.

Include a discussion of the following components:

- formative plan
- revisions
- summative plan
- dissemination (if applicable)

**Submit the Capstone Proposal in Taskstream**

Submit the Capstone proposal for the following task in Taskstream:

- MDT2: MS Management Capstone Written Project

For details about this performance assessment, see the "Assessment" tab in this course.

**The Capstone Report**

The Capstone report itself is a challenge, but it is also fun and rewarding. It will demonstrate the
competencies you have acquired in your journey toward earning a master's degree in information technology management.

Upon completing your Capstone Report, you will have created a high-level project to help secure your role as an IT manager in your current organization or to share with prospective employers. This report will demonstrate your skills in many areas, including leadership and professionalism, and multiple areas within information technology management science.

Put together the preliminary sections developed in the proposal.

**Determine Task Requirements**
Read over the Task 2 instructions carefully, structure your writing accordingly, and address its elements in your proposal.

**Reworking Your Proposal**
Now that you have completed your project, you can rework many of the elements from the proposal, now casting them in the past or present tense (depending upon if they are completed or on-going).

**Remaining Important Pieces**
The proposal centered on initial activities, but the Capstone Written Report elaborates on

- what you have accomplished,
- how you determined your success, and
- reflections about how you might do things differently the next time.

The next part of this course delves into the latter sections of the project report.

Each of these sections will take time to complete. It is strongly encouraged that you read all the activities prior to beginning work on any individual section. By doing so, you will have a clearer understanding of what it will take to complete each activity and what materials and resources you will need to complete the activities. You will also have a clearer understanding of approximately how long you think it will take to complete each activity.

This will provide you a better road map toward completion. If at any time you feel stuck or confused, immediately contact your Capstone chair for guidance!

**Analysis of the Problem**
In this section, you will document the needs-analysis that has occurred prior to the project design and development phase.

In this section, ensure you

- state the problem clearly,
- identify possible causes of the problem,
- discuss the impact and significance of the problem for stakeholders, and
- document the analysis of the problem (e.g., cost analysis, risk analysis).

**Solution**
Document your approach to solving the problem. Provide details on the risk factors associated with the solution, and how you plan to mitigate the risks. Focus on the factors that might impede the progress of your project. Complete a risk analysis, and provide a cost benefit analysis of going forward with the project.

In this section you should

- justify your approach,
- discuss quantitative and qualitative risks associated with your solution,
- develop a cost/benefit analysis for each risk, and
- explain how you would mitigate these risks.

**Project Requirements and Design**

Document the requirements for your project. What are the requirements to design, develop, and implement the project? Ensure you have identified gaps, and have a thorough understanding of what the solution needs to be.

In this section you should

- document what was required to execute the project, and
- document the existing gaps that a successful project filled.

Provide a high-level project plan on designing, developing, testing, and implementing a solution that will address the problem statement. Make sure you list at a high level the different phases of the project, (e.g., systems audit, requirements-gathering, design, development, quality assurance, implementation, and post-implementation support).

In this section you should

- clearly state scope and assumptions,
- list different phases of the project,
- provide timelines,
- identify dependencies,
- provide resource requirements,
- identify risk factors,
- describe key milestones, and
- outline project deliverables.

**Project Development and Implementation**

The first section provides a high-level project plan on designing, developing, testing, and implementing a solution that will address the problem statement.

In this section you should

- clearly state scope and assumptions,
- list different phases of the project,
- provide timelines,
• identify dependencies,
• provide resource requirements,
• identify risk factors,
• describe key milestones, and
• outline project deliverables.

The next section should contain the details on building out your project. Discuss the process for developing your project and its deliverables. Be sure to

• discuss development details,
• describe the resources used, and
• discuss the final output.

This final section should contain the details of an implementation plan. Provide details about how you would execute the project, what kind of resources would be necessary, and the different phases (if applicable). This should also contain details on end-user training and documentation.

Double check to ensure you have

• discussed implementation strategy,
• provided the phases of the roll out,
• included details regarding the project launch,
• listed dependencies (if any),
• listed deliverables, and
• provided a training plan for end users.

**Evaluation (Quality Assurance)**

Describe the quality assurance methods and how the project/product will be tested. This is an important aspect of developing and implementing a project/product. Details how you are managing quality control.

The following are key elements to include in this section:

• list of criteria for QA
• description and justification of test cases/scenarios
• description of acceptance criteria

**Post-Implementation Support and Issues**

Discuss post-implementation support for the solution. Provide a plan for support of the solution after rollout (if applicable). This should include both fixes for issues and for ongoing maintenance.

Verify you have

• discussed strategy for post implementation support,
• identified necessary resources, and
Conclusion: Outcomes and Reflection

Summarize the project, deliverables, and outcomes. Outline a summary of the project and the solution provided. Discuss the shortcomings (if any) and pitfalls with the design, development, and implementation.

As you complete the conclusion, be sure to focus on the lessons learned.

- Summarize the project.
- Discuss the outcomes.
- Detail the challenges in implementing the solution.
- Discuss lessons learned.

Congratulations

You are just about done with this assessment! This is where you get into the details regarding how to submit your final Capstone Project. Details of the process follow.

Submit: MS Management Capstone Written Project Performance Task

Submit the following task in Taskstream:

- MDT2: MS Management Capstone Written Project

For details about this performance assessment, see the "Assessment" tab in this course.

Oral Defense

Congratulations on completing your written Capstone Project!

It is now time to work with your Capstone facilitator/evaluator to prepare for and schedule your oral defense.

Your defense will consist of a

- formal presentation and
- a question and answer period regarding your Capstone.

The oral defense is typically conducted via a teleconference webinar with the Capstone evaluator. In preparation, you are required to prepare a multimedia presentation (e.g., PowerPoint, Keynote, Google Doc, Open Office, etc.) outlining your project. In the presentation, you will describe the instructional unit you created and its inclusion of practice, feedback, and assessment components.

You should tie it to the development of your project, describe the methodologies or strategies you used, describe the results of your project, summarize your conclusions, and describe strengths and weaknesses of your project. The actual task prompts can be seen in the subsequent section (First Steps). Consult your assigned Capstone evaluator if you have any questions or concerns.
The Capstone requires that you write academically at the graduate level, adhering to APA and articulation standards. Your Capstone is the culminating project of your degree program. Once your project is archived, its artifacts will become viewable to other students, faculty, administrators, and accreditors; thus, you should make sure it represents your best work.

Even though APA won’t be central to developing a multimedia presentation and its oral defense, you should still remember to use APA citations and formatting as much as possible as you prepare these items.

**First Steps**

Once you complete you Capstone Written Report, your Capstone facilitator/evaluator will contact you to set up a time to discuss the requirements of the Capstone Oral Defense. At that time, you can ask about the presentation length, date, and time.

Prior to that phone call, read through this section so you have an idea of what to expect. You may also seek guidance from the Capstone community facilitator.

Before you work with your Capstone evaluator to schedule times for a dry run and then to present your oral defense, you are required to have a web camera. Such cameras are usually included in laptop computers, or you may have already purchased one that will suffice. The dry run will determine if there are technical problems. If you do not own a web camera, you can request that a loaner camera be shipped to you by submitting the Capstone Oral Defense Webcam Loan form. For additional support ordering a loaner camera, please contact the Assessment Delivery Department at assessmentdel@wgu.edu or 1-888-287-0310.

Contact your Capstone evaluator with available times for your dry run. This should take about 20 minutes. During the dry run, your evaluator will make sure your equipment is working, conduct a recording of the Introduction, and share with you basic operations of the webinar platform necessary for your actual defense to run smoothly.

During the dry run (or shortly thereafter), you will schedule the full Capstone Oral Defense. You should plan that the session will take from 45 minutes to one hour. It will be conducted as a webinar, using Adobe Connect, so you may consider if there are others who would like to observe the session. For example, your mentor may want to attend; colleagues, or fellow students, may also wish to attend. These individuals will be spectators and are not expected to participate in the defense. Coordinate with your Capstone evaluator in sending out invitations and setting up the Adobe Connect session. The Capstone evaluator may want to receive your multimedia presentation in advance to upload it into Adobe, or she or he may simply give you presentation rights to run it from your own computer.

Once you have the multimedia presentation ready, it can guide you in organizing your discussion of the capstone and its presentation. Rehearse the oral defense presentation, and time it to be less than 30 minutes long. This will allow time for a session introduction by the Capstone evaluator and for you to respond to questions afterward. Your Capstone Oral Defense will be recorded, if you agree, to be viewed in the Capstone Archive; therefore, anticipate that the Capstone evaluator will begin the session telling you not to mention specific individuals,
locations, or organizational names during the defense and to ask your permission for the recording. This Introduction needs to be recorded with you present on web camera for identity verification, whether or not you agree to have your Capstone archived.

Being prepared will make the presentation a positive and rewarding experience. You can confidently share all aspects of your project to an appreciative audience. Expect that the Capstone evaluator will ask questions, but mainly to probe into areas of interest and to help you demonstrate the competencies of your degree program.

**Preparing the Multimedia Presentation**

The oral defense multimedia presentation of your Capstone Project should be comprised of 15 to 25 slides. Align your slides as closely as possible to the evaluation rubric.

Initially, it would be appropriate to present an overview of your IT management project. Explain the process you went through to develop your project and its appropriateness in the IT management field. Discuss your methodologies or special strategies used that led to your results.

Other elements to include could be obstacles you encountered as part of the Capstone process and strategies that you used to overcome them. Include the ways you addressed validity and reliability. Format your slides consistently.

The less-is-more principle applies to the content of your slides. Content should be limited to significant bulleted items that will be expanded upon during your discussion. The use of images including charts, graphs, and tables can be effective tools during the discussion of your findings.

The entire oral defense should take less than an hour. The presentation of the slideshow is typically completed within 40 minutes. The remaining 20 minutes consists of Capstone evaluator observations and questions and your responses to those questions.

**Task Instructions**

Prepare a multimedia presentation (e.g., PowerPoint, Keynote) of talking points about your project (*suggested length of 15–20 slides and approximately 30–45 minutes*) by doing the following:

A. Present an overview of your Capstone Project.

B. Explain the process you went through to develop your project.
   1. Discuss why you chose your project.
   2. Explain how your project fits in to the existing body of knowledge for your field.

C. Discuss the methods and outcomes of your project by doing the following:
   1. Outline any special strategies or methodologies you used.
   2. Summarize your results and conclusions.

D. Discuss the challenges you faced in completing this project.
   1. Outline any issues or obstacles you encountered.
   2. Explain the strategies you used to address these challenges.
      a. Evaluate the effectiveness of these strategies in allowing you to complete
b. Predict how you could apply these strategies to other projects you develop.

E. Discuss the weaknesses of your project.
   1. Explain how you identified these weaknesses.
   2. Explain what revisions you could make to the project to address these weaknesses.

F. Discuss the strengths of your project.
   1. Explain how you identified these strengths.
   2. Predict how you could apply these strengths to other projects you develop.

G. Provide recommendations for future study in your field.

H. Discuss how you can apply what you learned from your Capstone Project in your professional work environment.
   1. Complete the Capstone release form and submit it through Taskstream.

**Oral Capstone Defense**

Work with your Capstone evaluator to schedule an hour to present your oral defense. It will be conducted as a webinar, using Adobe Connect, so you may consider if there are others who you would like to observe the session.

For example, your mentor may want to attend; colleagues or fellow students may also be invited to observe. These individuals will be spectators and do not typically participate in the defense. Coordinate with your evaluator in sending out invitations and setting up the Adobe Connect session.

The Capstone evaluator may want to receive your multimedia presentation in advance to upload it into Adobe, or may simply give you presentation rights to run it from your own computer.

Now that you have the multimedia presentation ready, it can guide you in organizing your discussion of the Capstone and its presentation. Rehearse the oral defense presentation, and time it to be less than 40 minutes long. This will allow time for a session introduction by the Capstone evaluator and for you to respond to questions.

Your Capstone Oral Defense will be recorded, if you agree, to be viewed in the Capstone Archive. So, anticipate that the Capstone evaluator will begin the session telling you not to mention specific individuals, locations, or organizational names during the defense and will ask your permission for the recording.

Being prepared will make the presentation a positive and rewarding experience. You can confidently share all aspects of your project to an appreciative audience. Expect that the Capstone facilitator/evaluator will ask questions that probe into areas of interest and help you demonstrate the competencies of your degree program.

**Final Steps**

Congratulations on completing the activities in this course! You are now prepared to complete the associated assessment. If you have not already been directed to complete it, schedule and
complete the assessment now.