



Credit Hours: 3

Contact Hours: This is a 3-credit course, offered in accelerated format. This means that 16 weeks of material is covered in 8 weeks. The exact number of hours per week that you can expect to spend on each course will vary based upon the weekly coursework, as well as your study style and preferences. You should plan to spend 14-20 hours per week in each course reading material, interacting on the discussion boards, writing papers, completing projects, and doing research.

Faculty Information: Faculty contact information and office hours can be found on the faculty profile page.

COURSE DESCRIPTION AND OUTCOMES

Course Description:

This capstone course provides students with the opportunity to demonstrate competency on the key domains of business analytics. Students will integrate knowledge gained throughout the program—including leadership and management principles, business policy and strategy, information systems analysis and design, database concepts, big data and cloud computing, data mining, and statistics—to complete capstone assignments in this course.

Course Overview:

The capstone course allows students to create one usable project that will demonstrate the skills gained in the program and showcase the project to potential employers. The Capstone projects covers all elements learned throughout the program and includes many different concepts such as: business intelligence, information system analysis and design, data visualization, and oral presentation of the project to showcase the project.

Course Learning Outcomes:

2. Analyze a business problem for information systems applications.
3. Apply systems analysis to a complex project.
4. Design business intelligence solutions.
5. Analyze complex data to recommend strategic decision-making.

COURSE MATERIALS

Required:

Dennis, A., Wixon, B., & Roth, R. (2015). *Systems analysis & design*. (6th ed.). Hoboken, NJ: Wiley. ISBN: 978-1-118-89784-3.

Loshin, D. (2012). *Business intelligence the savvy manager's guide* (2nd ed., Elsevier Science Direct E-books). Waltham, MA: Morgan Kaufmann. ISBN: 978-0-12-385889-4

VoiceVibes – Oral communication improvement tool. The code for this tool is sold in the college bookstore. Your instructor will provide a link in the announcements before open house for the course in VoiceVibes. You will purchase the code from the bookstore and then click on the link in the announcements. You will use the code to pay for the VoiceVibes and enroll in the course.

NOTE: All non-textbook required readings and materials necessary to complete assignments, discussions, and/or supplemental or required exercises are provided within the course itself. Please read through each course module carefully.

WEEKLY READING AND ASSIGNMENT DETAILS

Module 1

Readings

- Chapters 1-2 in *Business Intelligence*
- Crepeau, N. (2014). What is business intelligence. [Video file]. Retrieved from <https://www.lynda.com/SharePoint-tutorials/What-business-intelligence/169111/361041-4.html>

- Simon, A. (2015). Exploring traditional business intelligence. [Video file]. Retrieved from <https://www.lynda.com/Tableau-tutorials/Exploring-traditional-business-intelligence/371327/387167-4.html>

Opening Exercise (0 points)

Discussion (25 points)

Critical Thinking (60 points)

Choose one of the following two assignments to complete this week. Do not do both assignments. Identify your assignment choice in the title of your submission.

Option #1: Assessment Review

Visit the Career Center website and review the [assessment area](#). Provide a review of the assessment that includes:

- The name of the assessment
- The advantages of completing assessments
- The limitation of completing assessments
- How business intelligence can be applied to assessment data to form decisions.

Option #2: Non-Assessment Review

Visit the Career Center website and choose an area other than assessment to review. Provide a review of the area that was chosen that includes:

- The name of the item reviewed
- Why you chose the item to review
- The purpose of having the item on the Career Center
- How business intelligence can be applied to this item to form decisions.

PORTFOLIO PROJECT REMINDER

Be sure to review the Portfolio Project Description and Portfolio Project Rubric in the Module 8 folder for details.

Portfolio Milestone (50 points)

Option 1: US Organization Capstone Project Speech

This course has a Capstone Project, due in Week 8. There are two options for the Capstone Project from which to choose. You will complete only one. This week, review the two options in the Module 8 folder and decide which you will complete. Note that both options require three Portfolio Milestones—preliminary Portfolio Project deliverables—in Module 1, Module 4, and Module 5. Therefore, it is

important that this week, Week 1, you decide which option you wish to complete so that you can carefully plan for your milestones due this week and in Weeks 4 and 5.

A component of your US Organization Capstone Project due in Week 8 is to record your video presentation in a recording tool that allows you to share your screen (Google hangouts is offered as an option). You will also need to appear in the assignment using a webcam. For this assignment we ask you to practice recording a video speech by doing a self-introduction.

Prepare a three- to five-minute speech of self-introduction. You might include different aspects of your life, such as where you have lived, hobbies and interests, what your college experience has been like, career ambitions, and what you feel like you have learned in the BSMIS program. It is suggested you practice a minimum of two times (with four to six being ideal). Be sure to use VoiceVibes for one of your later practice sessions and keep track of your VoiceVibes report as it will help you with the Capstone Project in Week 8.

Practice delivering your speech in VoiceVibes prior to creating your final video version. In order to submit your speech video recording, you may need to upload your speech to Google drive, One Drive, or you can try the Canvas direct submission. Depending on the size Canvas may limit you on that upload. Uploading it to your Youtube Channel in an Unlisted posting is offered as an option. Make sure if you upload outside of Canvas that you share the link to your recording with your faculty member for reviewing.

The VoiceVibes Instruction sheet and Google hangout and the YouTube Channel Setup and Upload Instruction sheet are in the Module 1 section.

Complete and attach the self-evaluation form detailing your experience and thoughts for improving your presentation for the next speech and submit. Include in the form the link to your YouTube video.

Option 2: International Organization Capstone Project Speech

This course has a Capstone Project, due in Week 8. There are two options for the Capstone Project from which to choose. You will complete only one. This week, review the two options in the Module 8 folder and decide which you will complete. Note that both options require three Portfolio Milestones—preliminary Portfolio Project deliverables—in Module 1, Module 4, and Module 5. Therefore, it is important that this week, Week 1, you decide which option you wish to complete so that you can carefully plan for your milestones due this week and in Weeks 4 and 5.

A component of your International Organization Capstone Project due in Week 8 is to record your video presentation in a recording tool that allows you to share your screen (Google hangouts is offered as an option). You will also need to appear in the assignment using a webcam. For this assignment we ask you to practice recording a video speech by doing a self-introduction.

Prepare a three- to five-minute speech of self-introduction. You might include different aspects of your life, such as where you have lived, hobbies and interests, what your college experience has been like, career ambitions, and what you feel like you have learned in the BSMIS program. It is suggested you practice a minimum of two times (with four to six being ideal). Be sure to use VoiceVibes for one of your later practice sessions and keep track of your VoiceVibes report as it will help you with the Capstone

Project in Week 8.

Practice delivering your speech in VoiceVibes prior to creating your final video version. In order to submit your speech video recording, you may need to upload your speech to Google drive, One Drive, or you can try the Canvas direct submission. Depending on the size Canvas may limit you on that upload. Uploading it to your Youtube Channel in an Unlisted posting is offered as an option. Make sure if you upload outside of Canvas that you share the link to your recording with your faculty member for reviewing.

The VoiceVibes Instruction sheet and Google hangout and the YouTube Channel Setup and Upload Instruction sheet are in the Module 1 section.

Complete and attach the self-evaluation form detailing your experience and thoughts for improving your presentation for the next speech and submit. Include in the form the link to your YouTube video.

The self-evaluation form is in the Module 1 section.

Module 2

Readings

- Chapter 1-2 in *Systems Analysis and Design*
- Biafore, B. (2016). An overview of project planning. [Video file]. Retrieved from <https://www.lynda.com/Project-tutorials/overview-project-planning/424947/486853-4.html>
- Mitchell, S. (2018). The importance of project management. [Video file]. Retrieved from <https://www.lynda.com/Project-Management-tutorials/importance-project-management/659716/721013-4.html>

Opening Exercise (0 points)

Discussion (25 points)

Critical Thinking (60 points)

Choose one of the following two assignments to complete this week. Do not do both assignments. Identify your assignment choice in the title of your submission.

Option #1: Business Intelligence Project Plan

You have been assigned to lead a large business intelligence implementation project involving big data. The purpose of the project is to use BI tools to help make strategic decisions involving big data. Before the implementation can start, you must present a write-up about the project plans to the project stakeholder. The write-up must include:

- The definition of project plans
- The purpose of project plans
- The benefits of project plans
- The challenges with project plans
- A screenshot of your sample project plan (if applicable)
- A discussion of the project plan's screenshot components including methodology, time frame, resources, and tasks.

Option #2: Business Intelligence Project Management Plan

You have been assigned to lead a large business intelligence implementation project involving big data. The purpose of the project is to use BI tools to help make strategic decisions involving big data. The project has just kicked off and the project stakeholder wants to review your plan for managing the project from start to finish. Your BI project management plan must include:

- Defining project management tools
- The purpose of project management tools
- The benefits of project management tools
- The challenges with project management tools
- Explaining one or two project management tools that can help handle tasks, resources, and risks within a project.

Module 3

Readings

- Chapter 7 in *Business Intelligence*
- Chapter 3, 5, & 6 in *Systems Analysis and Design*
- Booth, D. (2016). Learning and predicting with data exploration and modeling. [Video file]. Retrieved from <https://www.lynda.com/B2B-Marketing-tutorials/Communicating-data-through-dashboarding-data-visualization/437279/493180-4.html>
- Wagner, T. (2015). Managing requirements challenges. [Video file]. Retrieved from <https://www.lynda.com/Business-Skills-tutorials/Managing-requirements-challenges/168241/368787-4.html>

Opening Exercise (0 points)

Discussion (25 points)

Critical Thinking (60 points)

Choose one of the following two assignments to complete this week. Do not do both assignments. Identify your assignment choice in the title of your submission.

Option #1: Business Intelligence Solutions Requirements and Analysis

You are a BI analyst tasked with assisting stakeholders with the acquisition of Tableau to analyze big data. You are asked to create requirements and identify ways to analyze this data within this tool to make decisions. Your requirements document should include:

- The purpose of the requirement and analysis phase of a SDLC.

- Your approach to gathering and structuring data requirements for the BI tool. Be sure to include what roles in the organization you will interact with and approach to collect, verify, and display requirements that were gathered.
- Your approach to analyzing big data within the BI tool.
- Discussing alternatives and possible challenges you may encounter when handling big data within Tableau. Describe how requirements can be written to address these challenges.

Option #2: Business Intelligence Solutions Modeling

For this assignment you are asked to differentiate between process models and data flow diagrams when gathering requirements for a business intelligence solution. Your document should include:

- The purpose of process models including elements
- The purpose of data flow diagrams including elements
- Explaining if data flow diagrams and process models are related or different during the requirements gathering phase.

Module 4

Readings

- Chapter 7 in *Systems Analysis and Design*
- Adams, A. (2017). Communication during design phase. [Video file]. Retrieved from <https://www.lynda.com/Graphic-Design-tutorials/Communication-during-design-phase/601779/655291-4.html>
- Elliott, R. (2018). Data science and design. [Video file]. Retrieved from <https://www.lynda.com/Graphic-Design-tutorials/Data-science-design/618718/719472-4.html>

Opening Exercise (0 points)

Discussion (25 points)

Critical Thinking (60 points)

Choose one of the following two assignments to complete this week. Do not do both assignments. Identify your assignment choice in the title of your submission.

Option #1: Business Intelligence Design Strategy

You are a project lead assigned to a BI project. You have worked with business users to gather requirements for the project. The BI development team is fairly new and not familiar with the BI tool implemented in the organization. You have been tasked with creating design strategies to present to the stakeholder to determine which option is best to configure the requirements. Your proposal should include:

- The purpose of system design strategies
- A list of system design strategies

- A list of organizational influences for each design strategy chosen
- The pros and cons of each design strategy to help the stakeholder make the best selection.

Option #2: Business Intelligence Design Mistakes

For this assignment, review Table 7-1 on page 221 in *Systems Design and Analysis* and choose one design mistake to discuss. In your write-up, include:

- The purpose of the design phase in a SDLC
- Identifying the design mistake that you will discuss
- Describing reasons why this mistake may occur. You may choose an example from personal work experience or research conducted.
- Describing possible solutions to prevent the mistake from occurring in the future during the design phase.

PORTFOLIO PROJECT REMINDER

Be sure to review the Portfolio Project Description and Portfolio Project Rubric in the Module 8 folder for details.

Module 5

Readings

- Chapters 12-13 in *Systems Analysis and Design*
- Simon, A. (2015). Understanding the power of today's advanced analytics. [Video file]. Retrieved from <https://www.lynda.com/Tableau-tutorials/Understanding-power-todays-advanced-analytics/371327/387170-4.html>
- Wick, A. (2018). Implementation. [Video file]. Retrieved from <https://www.lynda.com/Project-Management-tutorials/Implementation/601772/693468-4.html>

Opening Exercise (0 points)

Discussion (25 points)

Critical Thinking (60 points)

Choose one of the following two assignments to complete this week. Do not do both assignments. Identify your assignment choice in the title of your submission.

Option #1: Business Intelligence Implementation Plan

You are a project manager leading a BI solution implementation to solve an issue with analyzing big data. The planning and analysis plan have been completed and implementation is about to start. You have been asked by the stakeholder to outline the plan for implementation. Your outline should include:

- The process to manage the implementation phase

- Testing plans and resources
- Technical and non-technical documentation for users and developers
- The process to mitigate risks, resources, and timelines if issues arise with moving configurations to different environments.

Option #2: Business Intelligence User Adoption Plan

You are a project manager leading a BI solution implementation. The planning, analysis, and implementation processes are complete and the BI solution is ready to use. You have been asked by the stakeholder to outline the plan for post implementation and user adoption of the BI solution. Your outline should include:

- The process to manage any risks and issues of the BI solutions identified
- The process to manage new enhancements or configuration changes for the BI solution
- The process to train new users and provide continual training on the BI solution.

PORTFOLIO PROJECT REMINDER

Be sure to review the Portfolio Project Description and Portfolio Project Rubric in the Module 8 folder for details.

Module 6

Readings

- Chapters 19 in *Business Intelligence*
- Balliett, A. (2018). Data visualization. [Video file]. Retrieved from <https://www.lynda.com/Graphic-Design-tutorials/Data-visualization/738879/765966-4.html>
- Booth, D. (2016). Communicating data through dashboarding and data visualization. [Video file]. Retrieved from <https://www.lynda.com/B2B-Marketing-tutorials/Communicating-data-through-dashboarding-data-visualization/437279/493180-4.html>

Opening Exercise (0 points)

Discussion (25 points)

Critical Thinking Assignment (50 points)

Choose one of the following two assignments to complete this week. Do not do both assignments. Identify your assignment choice in the title of your submission. This assignment requires you to upload a project into the GitHub website. For anyone who is new to GitHub, you may want to review the Lynda.com course, *GitHub for Web Designers*, to learn how to use the GitHub website. If you prefer not to review the full course on Lynda.com, the following lessons may be helpful:

- What is GitHub?
- Creating an Account
- Creating a New Repository
- Adding a README File
- Adding a Gitignore File
- Editing Files
- Cloning the Repo Locally

Option #1: Career Development Criteria—Self Marketing

GitHub Existing Project Demonstration

GitHub is a hosting service for projects that use Git. Git is a revision control system tool that manages source code history. You can store project codes in GitHub repositories.

For this week's assignment, upload a previous project that you have completed into the GitHub website (<https://github.com/>). Submit a report in a Word document that includes:

- A description of the project
- A rationale for why you chose the specific project to upload
- An explanation of the output of your project
- A description of how your project can be used by other programmers to solve a business problem
- The benefits and challenges of using GitHub to store projects.

Option #2: Career Development Criteria—Self Marketing

GitHub New Project Demonstration

GitHub is a hosting service for projects that use Git. Git is a revision control system tool that manages source code history. You can store project codes in GitHub repositories.

For this week's assignment, create a python project and upload to the GitHub website (<https://github.com/>). Submit a report in a Word document that includes:

- A description of the project
- A rationale for why you chose to create the project to upload
- An explanation of the output of your project
- A description of how your project can be used by other programmers to solve a business problem
- The benefits and challenges of using GitHub to store projects.

Module 7

Readings

- Chapter 1 & 3 in *Business Intelligence*
- Andreatta, B. (2014). Making business decisions. [Video file]. Retrieved from <https://www.lynda.com/Business-Skills-tutorials/Making-business-decisions/142070/157302-4.html>
- Guidry, M. (2014). Introduction to business intelligence. [Video file]. Retrieved from <https://www.lynda.com/SQL-Server-tutorials/Introduction-business-intelligence/156150/167751-4.html>

Opening Exercise (0 points)

Discussion (25 points)

Module 8

Readings

- Chapter 4 & 20 in *Business Intelligence*
- Simon, A. (2015). Building prescriptive analytics roadmap. [Video file]. Retrieved from <https://www.lynda.com/Tableau-tutorials/Building-prescriptive-analytics-roadmap/371327/387198-4.html>
- Simon, A. (2016). Your future state. [Video file]. Retrieved from <https://www.lynda.com/Tableau-tutorials/Your-future-state/420017/471356-4.html>

Opening Exercise (0 points)

Discussion (25 points)

Mastery Exercise (10 points)

Portfolio Project (350 points)

Choose one of the following two assignments to complete this week. Do not do both assignments. Identify your assignment choice in the title of your submission. Be sure to review the Portfolio Project Rubric for requirements and details.

Option #1: Capstone Project—Business Intelligence Project for US Organization

You have been hired as a consultant to present a BI framework to an US organization. The US organization is interested in using business intelligence solutions to help with strategic decision making and has asked you to demonstrate how BI tools can analyze data selected from a public dataset. You will provide a written and oral presentation of your BI solution implementation to the stakeholders of the US organization.

Your BI solution should include:

- The organization's background and why you chose it
- Describing the planning phase of the project
- Identifying the benefits of using BI tools to make decisions
- Explaining what data set you selected and your rationale
- Identifying data storage methods (if any) to store the data
- Describing data models or process flow diagrams that may be used in the project
- Identifying the BI tool(s) and techniques you used to analyze the data
- Identifying data visualization tools (reports, dashboards, and query, for example) to communicate and display data
- Performing an analysis and visualization with the data you have chosen. You can use the analysis from Module 5 as a starting point.
- Discussing the outcomes of the data analysis you performed with a BI tool we have discussed in the course
- Programming code and screenshots of data analysis outcomes, including uploading the screenshots to GitHub.

Your Capstone Project Presentation should:

- Include a reference slide with at least 4-5 scholarly or peer-reviewed sources

- Be 15-20 slides.
- Include author's notes on each slide.

Your oral presentation should:

- Be rehearsed several times in VoiceVibes to improve your delivery and presentation. Once you have improved your speech, record a video using your presentation slides and other materials in Google Hangouts or another video recording tool. You will then upload your presentation to your Youtube Channel.
- Be at least 10 minutes long.
- Complete and attach the self-evaluation form detailing your experience and thoughts for improving your presentation for the next speech and submit it. Include in the form the link to your Youtube video.

The VoiceVibes and YouTube Channel instruction sheets are in the Module 8 folder with the assignment. The self-evaluation form and public datasets file are also in the Module 8 folder with the assignment.

Option #2: Capstone Project—Business Intelligence Project for International Organization

You have been hired as a consultant to present a BI framework to an international organization. The international organization is interested in using business intelligence solutions to help with strategic decision making and has asked you to demonstrate how BI tools can analyze data selected from a public dataset. You will provide a written and oral presentation of your BI solution implementation and orally present this solution to the stakeholders of the international organization.

Your BI solution presentation should include:

- The organization's background and why you chose it
- Describing the planning phase of the project
- Identifying benefits of using BI tools to make decisions
- Explaining what data set you selected and rationale
- Identifying data storage methods (if any) to store the data
- Describing data models or process flow diagrams that may be used in the project
- Identifying the BI tool(s) and techniques you used to analyze the data
- Identifying data visualization tools (reports, dashboards, and query, for example) to communicate and display data
- Performing an analysis and visualization with your data you have chosen. You can use the analysis from Module 5 as a starting point.
- Discussing outcomes of the data analysis you performed with a BI tool we have discussed in the course
- Programming code and screenshots of data analysis outcomes, including uploading the screenshots to GitHub.

Your oral presentation should:

- Be rehearsed several times in VoiceVibes to improve your delivery and presentation. Once you have improved your speech, record a video using your presentation slides and other materials in Google Hangouts or another video recording tool. You will then upload your presentation to your Youtube Channel.
- Be at least 10 minutes long.
- Complete and attach the self-evaluation form detailing your experience and thoughts for improving your presentation for the next speech and submit it. Include in the form the link to your Youtube video.

The VoiceVibes and YouTube Channel instruction sheets are in the Module 8 folder with the assignment. The self-evaluation form and public datasets file are also in the Module 8 folder with the assignment.