This course supports the assessments for LYT2. The course covers 7 competencies and represents 3 competency units.

Introduction

Overview
The Current and Emerging Technology course examines theories of technology diffusion and adoption, identifies the importance of conducting needs analyses prior to investigating technology solutions, evaluates the benefits of technology adoption, investigates the potential outcomes of implementing technological solutions, provides students the means to evaluate technologies, stresses the importance of fitting technology to the organization, analyzes barriers to technology adoption, and examines strategies for overcoming said barriers.

Competencies
This course provides guidance to help you demonstrate the following 7 competencies:

- **Competency 432.1.1: Diffusion of Technology**
  The graduate integrates theories surrounding the adoption and diffusion of technology into the evaluation of prospective technologies.

- **Competency 432.1.2: Needs Analysis**
  The graduate conducts a needs analysis of an organization that identifies issues and problems for which an innovative technology might represent a solution.

- **Competency 432.1.3: Benefits of Adoption**
  The graduate evaluates potential benefits of the adoption of various leading-edge technologies.

- **Competency 432.1.4: Implications of Adoption**
  The graduate evaluates potential implications of the adoption of various leading-edge technologies.

- **Competency 432.1.5: Innovative Solutions**
  The graduate recommends innovative technology solutions in alignment with a given organization's mission and goals.

- **Competency 432.1.6: Organizational Culture Barriers**
  The graduate analyzes potential organizational culture barriers to the adoption of new technology for a given organization.

- **Competency 432.1.7: Adoption Plans**
  The graduate develops adoption plans that address organizational culture and potential obstacles to the successful adoption of innovative technology.

Teaching Dispositions Statement
Please review the [Statement of Teaching Dispositions](#).

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 guide you through the revision process. 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.

**Automatically Enrolled Resources**

You can access the learning resources listed in this section by clicking on the links provided throughout the course. You may be prompted to log in to the WGU student portal to access the resources.

**VitalSource E-Texts**

The following textbooks are available to you as e-texts within this course. You will be directly linked to the specific readings required within the activities that follow.


Note: These e-texts are available to you as part of your program tuition and fees, but you may purchase a hard copy at your own expense through VitalSource or a retailer of your choice. If you choose to do so, please use the ISBN listed to ensure that you receive the correct edition. The following sites provide instruction on how to create a VitalSource account, use features such as downloading your e-texts for offline use, and purchase a print-on-demand option, if available.

[VitalSource Navigational Video](link)
Print-On-Demand Option

SkillSoft and Books 24x7
You will access SkillSoft items at the activity level within this course. For more information on accessing SkillSoft items, please see the “Accessing SkillSoft Learning Resources” page.

The following textbooks are available to you as e-texts within this course. You will be directly linked to the specific readings required within the activities that follow:


*Note: These e-texts are available to you as part of your program tuition and fees, but you may purchase hard copies at your own expense through a retailer of your choice. If you choose to do so, please use the ISBN listed to ensure that you receive the correct edition.*

Other Resources

You will use the following learning resources for this course.

**WGU Library E-Reserves**
This course utilizes resources located in the WGU Library E-Reserves, with articles available for you to download. For instructions on how to access WGU Library E-Reserves, see the “Accessing WGU Library E-Reserves” page.

The following e-reserve materials will be used in this course:


**InformationWeek and ComputerWorld**
Websites and periodicals such as InformationWeek and ComputerWorld are excellent resources for staying abreast of current and emerging technology developments.

**Microsoft and VMware**
Technology vendors such as Microsoft and VMware often offer webinars or online presentations to exhibit and explain their latest technological achievements.

**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.

**Week 1**

- **Learning Resources**
  - Managing technological innovation: Competitive advantage from change
  - Essentials of systems analysis and design
  - The management of technology and innovation: A strategic approach
  - Accessing SkillSoft Learning Resources
  - Accessing WGU Library E-Reserves
- **Introduction**
  - Watch Introduction Video
- **Analyzing Technology Needs**
  - Read chapter III in Information Technology Strategy and Management: Best Practice
  - Read pages 122-143 of chapter 5 in Essentials of Systems Analysis and Design
  - Complete Define Business Need Techniques and Stakeholders of Business Analysis: Enterprise Analysis
  - Read "Home Depot's Special Projects Support Team Powers Information Management for Business Needs", and "Needs Analysis Improves Enterprise GIS"
  - Complete Current & Emerging Tech: RLYT Task 1 in TaskStream

**Week 2**

- **Popularity in the Marketplace**
  - Read chapter 1 in The Management of Technology and Innovation
Read "Diversity in Modeling Diffusion of Information Technology", "Innovation Diffusion: A Stakeholder and Social Network View", and "Exploring Technology Diffusion: Case of Information Technologies"

Review Technologies & Methodologies for Evaluating Information Technology in Business

Read chapter 13 in The Adventures of an IT Leader

Week 3

- Fitting Technology into the Organization
  - Read chapter IV, and chapter V in Information Technology Strategy and Management: Best Practices
  - Read chapter 9 in Managing Technological Innovation: Competitive Advantage from Change

Week 4

- Examining Benefits and Implications of a solution
  - Read chapter 4, and chapter 5 The Adventures of an IT Leader
  - Read "An Extension of Benefit Cost Analysis to IS/IT Investments"

Week 5

- Planning for Adoption
  - Review chapter 7 in The Management of Technology and Innovation
  - Review chapter 3, chapter 4, and chapter 5 in Breakthrough IT Change Management: How to Get Enduring Change Results
  - Read chapter 6 in The Adventures of an IT Leader
  - Read "Accelerating CMMI Implementation with Technology Adoption Tools"
  - Complete Current & Emerging Tech: RLYT Task 2, and Current & Emerging Tech: RLYT Task 3 in TaskStream

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.

Determining Technological Needs

Before a solution can be found, the problem must be defined. The solution must address system requirements enumerated well in advance; once a full analysis of requirements has been completed, technological solutions can be graded against the organizational needs.

An analysis of the organization’s existing technology infrastructure is necessary to determine if it will support the proposed solutions.
Analyzing Technology Needs

IT managers must be able to accurately analyze the needs of an organization. Communication with stakeholders is a critical component of formulating a complete needs analysis. The result of a needs analysis should be documentation of the issues and problems for which a solution is to be found.

This topic addresses the following competency:

- Competency 432.1.2: Needs Analysis
  The graduate conducts a needs analysis of an organization that identifies issues and problems for which an innovative technology might represent a solution.

Strategic Technology Use

Read the following chapter in *Information Technology Strategy and Management: Best Practices*:

- chapter III ("Strategic Alignment, IT Value, and Organizational Analysis")

Determining System Requirements

Read the following section in *Essentials of Systems Analysis and Design*:

- pages 122-143 of chapter 5 ("Determining System Requirements")

Defining Business Needs and Stakeholders

Complete the following section of the *Business Analysis: Enterprise Analysis* SkillSoft course:

- Define Business Need Techniques and Stakeholders

Needs Analyses

Read the following articles, available in the WGU Central Library:

- "Home Depot's Special Projects Support Team Powers Information Management for Business Needs"
- "Needs Analysis Improves Enterprise GIS"

Complete: Task 1

Complete the following task in Taskstream:

- Current & Emerging Tech: RLYT Task 1

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

Evaluating Technology Solutions

Organizations will fit into a spectrum of technology adopters. IT managers must utilize a number of resources to evaluate technologies and be able to read an organization's technology
“climate” in order to successfully recommend appropriate technologies.

**Popularity in the Marketplace**

IT managers must have methods in place for researching and evaluating technologies. It is important to be objective when examining new technologies in order to ensure that solutions align with business goals.

This topic addresses the following competencies:

- **Competency 432.1.1: Diffusion of Technology**
  The graduate integrates theories surrounding the adoption and diffusion of technology into the evaluation of prospective technologies.

- **Competency 432.1.5: Innovative Solutions**
  The graduate recommends innovative technology solutions in alignment with a given organization's mission and goals.

- **Competency 432.1.6: Organizational Culture Barriers**
  The graduate analyzes potential organizational culture barriers to the adoption of new technology for a given organization.

**Technology Management**

Read the following chapter in *The Management of Technology and Innovation*:

- chapter 1 ("Management of Technology and Innovation: An Overview")

**Technology Diffusion**

Read the following articles, available in the WGU Central Library:

- "Diversity in Modeling Diffusion of Information Technology"
- "Innovation Diffusion: A Stakeholder and Social Network View"
- "Exploring Technology Diffusion: Case of Information Technologies"

**Technology Evaluation**

Review the various methods of technology evaluation outlined in the following book by reading Section 1: Chapters 1, 2, 3, and 4.

- *Technologies & Methodologies for Evaluating Information Technology in Business*

**Emerging Technology**

Read the following chapter in *The Adventures of an IT Leader*:

- chapter 13 ("Emerging Technology")

Use an internet search engine to conduct a search on "emerging technologies." Peruse the results of the search and examine some of the technologies being developed. Consider how these technologies may be used in the business environment in the near future.

**Fitting Technology to the Organization**
IT managers must have a strong understanding of an organization's business goals and a sense of how willing the organization is to adopt cutting-edge technology. They must also be able to identify potential barriers to adopting certain technologies and have well-researched arguments to overcome those barriers. IT managers should identify allies within the organization who can act as technology evangelists on behalf of the IT department.

This topic addresses the following competencies:

- Competency 432.1.1: Diffusion of Technology
  The graduate integrates theories surrounding the adoption and diffusion of technology into the evaluation of prospective technologies.
- Competency 432.1.5: Innovative Solutions
  The graduate recommends innovative technology solutions in alignment with a given organization's mission and goals.
- Competency 432.1.6: Organizational Culture Barriers
  The graduate analyzes potential organizational culture barriers to the adoption of new technology for a given organization.

**Success Through Strategic Alignment**

Read the following chapters in *Information Technology Strategy and Management: Best Practices*:

- chapter IV ("Critical Success Factors of IT Strategy")
- chapter V ("Strategic Alignment for Business Value Creation")

**Integrating Technology and Business Strategy**

Read the following chapter in *Managing Technological Innovation: Competitive Advantage from Change*:

- chapter 9 ("Integrating Technology and Business Strategy")

**Technology and Business Alignment**

Read the following articles, available in the WGU Central Library:

- "Barriers to Innovation Adoption: A Study of E-Markets"
- "Aligning Technology and Business: Applying Patterns for Legacy Transformation"
- "Aligning Technology With Business Goals"

**Putting a Solution in Place**

After conducting a needs analysis and evaluating potential technological solutions, a choice may be made to implement a new system or product. Benefits of the new system must be clearly defined and easily justifiable with facts.

Care must be taken to identify potential hazards of implementation. The chosen solution must be appropriate for the organization. Proper planning is absolutely critical to the success of the
Examining the Benefits and Implications of a Solution

It is the IT manager’s responsibility to enumerate the potential benefits of a proposed solution. Benefits to the bottom line should figure prominently in any summary of benefits. Often, it is the well-written description of benefits that will result in a project's approval.

It is important to identify both the positive and negative implications of the adoption of a new technology. IT managers must take care to ensure that negative implications, such as increased costs, are clearly explained. IT managers should note the risks of technology adoption alongside the risks of not adopting the technology in order to present a complete picture to executive management staff.

This topic addresses the following competencies:

- **Competency 432.1.3: Benefits of Adoption**
  The graduate evaluates potential benefits of the adoption of various leading-edge technologies.

- **Competency 432.1.4: Implications of Adoption**
  The graduate evaluates potential implications of the adoption of various leading-edge technologies.

- **Competency 432.1.7: Adoption Plans**
  The graduate develops adoption plans that address organizational culture and potential obstacles to the successful adoption of innovative technology.

Costs and Benefits of New Technology

Read the following chapters in *The Adventures of an IT Leader*:

- chapter 4 ("The Cost of IT")
- chapter 5 ("The Value of IT")

Planning for Adoption

Care should be taken to recognize where within the technology adoption curve individuals throughout the organization reside; the project plan should address the individuals within these areas to ensure the greatest possibility of successful implementation.

IT managers should cultivate power users within departments to act as an extension of IT staff. It is important to ensure that end users have sufficient resources to consult in the event that questions about the new technology arise.

This topic addresses the following competencies:

- **Competency 432.1.3: Benefits of Adoption**
  The graduate evaluates potential benefits of the adoption of various leading-edge technologies.

- **Competency 432.1.4: Implications of Adoption**
  The graduate evaluates potential implications of the adoption of various leading-edge technologies.
Competency 432.1.7: Adoption Plans
The graduate develops adoption plans that address organizational culture and potential obstacles to the successful adoption of innovative technology.

Technology Implementation

Review the following chapter in *The Management of Technology and Innovation*:

- chapter 7 ("Obtaining Technology: Implementation")

Preparing for Change

Review the change management strategies found in *Breakthrough IT Change Management: How to Get Enduring Change Results*, focusing on the chapters below:

- chapter 3 ("Politics and the Resistance to Change")
- chapter 4 ("Develop Your Change Goals and Strategy")
- chapter 5 ("Prepare Your Change Management Framework")

Project Management

Read the following chapter in *The Adventures of an IT Leader*:

- chapter 6 ("Project Management")

Complete: Task 2 and Task 3

Read the following article:

- "Accelerating CMMI Implementation with Technology Adoption Tools"

Complete the following task in Taskstream:

- Current & Emerging Tech: RLYT Task 2  
- Current & Emerging Tech: RLYT Task 3

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

Final Steps

Congratulations on completing the activities in this course! This course has prepared you to complete the assessments associated with this course. If you have not already been directed to complete the assessments, schedule and complete your assessments now.