2023 Introduction to Information Technology

The Research and Curriculum Unit (RCU), located in Starkville, as part of Mississippi State University (MSU), was established to foster educational enhancements and innovations. In keeping with the land-grant mission of MSU, the RCU is dedicated to improving the quality of life for Mississippians. The RCU enhances intellectual and professional development of Mississippi students and educators while applying knowledge and educational research to the lives of the people of the state. The RCU works within the contexts of curriculum development and revision, research, assessment, professional development, and industrial training.

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Acknowledgments

Standards

Some standards and alignment crosswalks are referenced in the appendix. Depending on the curriculum, these crosswalks should identify alignment to some of the standards mentioned below, as well as possible related academic topics as required in the Subject Area Testing Program in Algebra I, Biology I, English II, and U.S. History from 1877, which could be integrated into the content of the units. Mississippi's Introduction to Information Technology curriculum is aligned to the following standards:

National Standards for Business Education
The National Business Education Association (NBEA) has created standards to introduce students to the basics of personal finance, the decision-making techniques needed to be wise consumers, the economic principles of an increasingly global marketplace, and the processes by which businesses operate. In addition, these standards provide a solid educational foundation for students who want to successfully complete college programs in various business disciplines. *NBEA Business Education Library* (2020).
nbea.org

International Society for Technology in Education Standards (ISTE)
Reprinted with permission from *ISTE Standards for Students* (2016). All rights reserved. Permission does not constitute an endorsement by ISTE.
iste.org

College- and Career-Ready Standards
College- and career-readiness standards emphasize critical thinking, teamwork, and problem-solving skills. Students will learn the skills and abilities demanded by the workforce of today and the future. Mississippi adopted Mississippi College- and Career-Readiness Standards (MCCRS) to provide a consistent, clear understanding of what students are expected to learn and so teachers and parents know what they need to do to help them.
mdek12.org/oae/college-and-career-readiness-standards

Framework for 21st Century Learning
In defining 21st-century learning, the Partnership for 21st Century Skills has embraced key themes and skill areas that represent the essential knowledge for the 21st century: global awareness; financial, economic, business, and entrepreneurial literacy; civic literacy; health literacy; environmental literacy; learning and innovation skills; information, media, and technology skills; and life and career skills.
battelleforkids.org/networks/p21/frameworks-resources

Executive Summary

Course Description
The Introduction to Information Technology curriculum is designed to prepare students to be successful in today's diverse business environment. This course introduces students to the information technology field by providing knowledge related to digital citizenship, devices and components, operating systems, applications and software, and career opportunities.

Applied Academic Credit
The latest academic credit information can be found at
mdek12.org/ese/approved-course-for-the-secondary-schools.

Teacher Licensure
The latest teacher licensure information can be found at
mdek12.org/oel/apply-for-an-educator-license.

Professional Learning
If you have specific questions about the content of any of training sessions provided, please contact the RCU at 662.325.2510.

Course Outline

One 1-Carnegie Unit Course

This curriculum consists of one 1-credit course.

Introduction to Information Technology—Course Code: 110600

Unit	Title	Hours
1	Introduction to Information Technology	10
2	Digital Citizenship, Security, and Risk Management	25
3	Devices and Components	30
4	Operating Systems	30
5	Applications and Software	35
6	Information Technology Careers	10
Total		**140**

Unit 1: Introduction to Information Technology

Competencies and Suggested Objectives

1. Identify uses of technology in the home, school, workplace, and globally diverse society. DOK1
 	
    a. Explain how information technology meets human needs and affects the quality of life.
    b. Identify the impact of information technology on the environment and society—both positive and negative.

2. Describe the impact of technology on worker productivity and teamwork the knowledge and skills needed for success in the workplace. DOK2
    a. Explain how information technology has impacted worker productivity and teamwork.
    b. Describe how information technology affects worker-management relationships (e.g., outsourcing, communications, cloud computing, etc.).
    c. Identify emerging trends in information technology and predict influences on business, industry, and the global economy.

3. Use technology sources to gather, evaluate, cite, and disseminate information. DOK4
4. Understand the purpose of data and networking infrastructures as it relates to information technology. DOK1

Unit 2: Digital Citizenship, Security, and Risk Management

Competencies and Suggested Objectives

1. Identify respectful, responsible, inclusive, and ethical behaviors in a digital world. [DOK1]
    a. Discuss basic issues related to the responsible use of technology and describe personal or legal consequences of inappropriate use.
    b. Explore the risks and dangers of sharing personal information in a digital world (e.g., digital footprint, cyberbullying, cyberstalking, identity theft, etc.) and apply internet safety practices.

2. Demonstrate appropriate use of intellectual property. [DOK4]   a. Compare and contrast various types of license agreements (e.g., open source, creative commons, copyright, etc.).

3. Demonstrate appropriate etiquette when using information technology. [DOK4]
    a. Discuss the process of safely buying and selling online.
    b. Identify safe practices when using social media.
    c. Analyze legal and ethical dilemmas within the framework of current laws and legislation (e.g., virus development, hacking, threats, phishing, etc.).

4. Understand the purpose of risk management in information technology. [DOK1]
5. Design and implement risk management policies and procedures for information technology. [DOK4]

Unit 3: Devices and Components

Competencies and Suggested Objectives

1. Describe current and emerging devices and components. ^{DOK2}
   a. Identify the parts of a computer.
   b. Identify devices appropriate for specific tasks.
   c. Research different types of assistive devices used to help those with disabilities (e.g., text to speech, voice recognition, immersive reader, etc.).

2. Describe interrelationships between device components (internal and external) and supportive applications. ^{DOK2}
   a. Identify storage options.
   b. Compare and contrast various storage devices (e.g., local, removable, remote, cloud, etc.).

3. Use various input technologies to enter and manipulate information appropriately. ^{DOK3}
   a. Use a variety of input technologies to optimize academic and workplace performance.
   b. Apply proper ergonomic techniques when using various input technologies.

4. Plan the selection and acquisition of various devices that could be utilized in an information technology classroom. ^{DOK3}

Unit 4: Operating Systems

Competencies and Suggested Objectives

1. Identify and evaluate basic operating systems. ^{DOK3}
   a. Describe various operating systems, platforms, and utilities (e.g., Android, iPhone, Chrome, open source, etc.).
   b. Differentiate between operating systems and applications.
   c. Compare and contrast the functions, features, and limitations of different operating systems (e.g., open source, mobile, and proprietary operating systems).

2. Plan the selection and acquisition of devices with various operating systems that could be utilized in an information technology classroom. ^{DOK3}

Unit 5: Applications and Software

Competencies and Suggested Objectives

1. Identify and use applications appropriate for specific tasks to improve academic achievement across the curriculum (e.g., word processing software, spreadsheet software, presentation software, etc.). DOK4
  a. Produce projects that include a variety of media (e.g., images, text, video, web-based tools, audio, etc.).
  b. Practice the use of peer classroom training when utilizing various applications and software.

2. Identify and utilize various types of resources for web development. DOK4
  a. Demonstrate and apply appropriate design concepts.
  b. Research and apply accessibility guidelines and laws affecting website design.

3. Investigate cybersecurity software and determine best practices for personal and industry use. DOK3
4. Discuss and explore various database management software systems. DOK2

Unit 6: Information Technology Careers

Competencies and Suggested Objectives

1. Explore career opportunities in information technology. [DOK3]
    a. Identify and discuss the impact of information technology commonly used in careers.
    b. Examine the education, experience, skills, and personal requirements for careers in information technology.
    c. Research career opportunities and emerging fields in information technology.

Appendix: National Standards for Business Education

National Standards for Business Education Crosswalk for Introduction to Information Technology							
Units		**1**	**2**	**3**	**4**	**5**	**6**
Standards							
IT1		X					
IT2		X					
IT3			X				
IT4				X			
IT5					X		
IT6						X	
IT7						X	
IT8						X	
IT9						X	
IT10						X	
IT11						X	
IT12						X	
IT13		X					
IT14				X	X		
IT15			X				
IT16						X	
IT17				X			
IT18							X

Information Technology

NBEA-IT1 – Impact on Society
- Assess the impact of information technology in a diverse global society.

NBEA-IT2 – Information Literacy
- Gather, evaluate, synthesize, use, cite, and disseminate information from technology sources.

NBEA-IT3 – Digital Citizenship
- Demonstrate respectful, responsible, inclusive, and ethical behavior in a digital world.

NBEA-IT4 – Devices and Components
- Describe current and emerging devices and components; configure, install, and upgrade equipment; diagnose problems; and repair hardware.

NBEA-IT5 – Operating Systems
- Identify, evaluate, select, install, use, upgrade, and customize operating systems. Diagnose and solve problems with various types of operating system utilities.

NBEA-IT6 – Input Technologies
- Use various input technologies to enter and manipulate information appropriately.

NBEA-IT7 – Applications

- Identify, evaluate, select, install, use, upgrade, troubleshoot, and customize applications.

NBEA-IT8 – Digital Media

- Use, analyze, and create digital media.

NBEA-IT9 – Web Development and Design

- Design, develop, test, implement, update, and evaluate web solutions.

NBEA-IT10 – Database Management Systems

- Use, plan, develop, and maintain database management systems.

NBEA-IT11 – Project Management and Systems Analysis

- Analyze and design projects and information systems using appropriate management and development tools.

NBEA-IT12 – Programming and Application Development

- Design, develop, test, and implement programs and applications.

NBEA-IT13 – Data and Networking Infrastructures

- Develop the skills to design, deploy, and administer networks and telecommunications systems.

NBEA-IT14 – Information Technology Planning and Acquisition

- Plan the selection and acquisition of information technologies.

NBEA-IT15 – Security and Risk Management

- Design and implement security and risk management policies and procedures for information technology.

NBEA-IT16 – End-User Support and Training

- Develop the technical and interpersonal skills and knowledge to train and support a diverse user community.

NBEA-IT17 – Information Technology and Business Functions

- Describe the information technology components of business functions and explain their interrelationships.

NBEA-IT18 – Information Technology Careers

- Explore career opportunities in information technology.