

## INFORMATION COMMUNICATIONS AND TECHNOLOGY

*Information Communications and Technology* introduces students to the physical components and operation of computers. Technology is used to build students decision-making and problem-solving skills. Students should be given the opportunity to seek an industry-recognized digital literacy certification.

- DOE Code: 4528
- Recommended Grade Level: Grade 9-12
- Recommended Prerequisites: None
- Credits: 1 credit per semester, maximum of 2 credits
- Counts as a Directed Elective or Elective for the General, Core 40, Core 40 with Academic Honors and Core 40 with Technical Honors diplomas
- This course is aligned with postsecondary courses for Dual Credit:
  - Ivy Tech
    - CINS 101 Introduction to Microcomputers
  - Any other postsecondary course offered for dual credit that is listed under *Introduction to Microcomputers* in the Indiana Core Transfer Library. Go to [www.transferin.net](http://www.transferin.net) to view the list of courses.

### Dual Credit

This course provides the opportunity for dual credit for students who meet postsecondary requirements for earning dual credit and successfully complete the dual credit requirements of this course.

### Application of Content

Intensive laboratory applications are a component of this course and may be either school based or work based or a combination of the two. Work-based learning experiences should be in a closely related industry setting. Instructors shall have a standards-based training plan for students participating in work-based learning experiences.

### Career and Technical Student Organizations (CTSOs)

Career and Technical Student Organizations are considered a powerful instructional tool when integrated into Career and Technical Education programs. They enhance the knowledge and skills students learn in a course by allowing a student to participate in a unique program of career and leadership development. Students should be encouraged to participate in Business Professional of America, DECA, or Future Business Leaders of America, the CTSOs for this area.

## Content Standards

### Domain – Technology as a Planning and Productivity Tool

**Core Standard 1** Students integrate technology to arrange materials and solve problems efficiently.

#### Standards

- ICT-1.1 Apply technology as a means to create business, industry, and professional tasks and develop strategies for solving problems
- ICT-1.2 Use appropriate technology to plan, develop, edit and present material to different types of audiences both in a group or individually (i.e., paper, web page, multimedia presentation, publications, speech, hypermedia, etc.)
- ICT-1.3 Integrate information and communication technology to analyze a real-world problem, design and implement procedures to monitor information, set timelines, and evaluate

progress toward the solution

- ICT-1.4 Using appropriate handling and use of supplies and equipment, practice respectful and responsible use of technology through abiding by the professional practices
- ICT-1.5 Apply an understanding of plagiarism and fair use; respect copyright laws of information producers such as authors and artists, including website developers

### **Domain – Document Processing**

**Core Standard 2** Students design documents by using complex features of software to develop advanced documents that are user-friendly.

#### **Standards**

- ICT-2.1 Create and manage master documents and subdocuments by using various edit tools, formatting tools, and templates
- ICT-2.2 Use advanced features to create combo boxes, macros, newsletters with mastheads, multi-column brochures, multi-page books, forms wizards, composition, table of contents, and mail merge
- ICT-2.3 Explain the use of various document types and how they related to different situations (school, work, home, etc)
- ICT-2.4 Demonstrate saving, opening, and finding files in various formats and the ability to follow instructions

### **Domain – Spreadsheet Software**

**Core Standard 3** Students apply concepts of spreadsheet software to organize and manipulate data.

#### **Standards**

- ICT-3.1 Use industry terminology when using spreadsheet software
- ICT-3.2 Apply relative, absolute, mixed cell references and advanced features (i.e. naming ranges; track, accept and reject changes; formatting, filtering and protection) in formulas and printing
- ICT-3.3 Create and evaluate formulas and functions; customize formats; pivot tables and charts; and edit and run command buttons, macros and macros with buttons
- ICT-3.4 Edit and label chart components (i.e. axis, legends, titles, and databases)
- ICT-3.5 Link and merge worksheets/workbooks; importing and exporting data to and from spreadsheets

### **Domain – Presentation Software**

**Core Standard 4** Students create a variety of multi-media presentations using appropriate design principles to communicate in a professional manner.

#### **Standards**

- ICT-4.1 Demonstrate how electronic presentations are created
- ICT-4.2 Apply Industry design guidelines to create, manipulate and enhance visual presentations
- ICT-4.3 Demonstrate presentation skills by creating well-organized, audience-appropriate presentations such as informative, entertaining, instructional, while using proper public speaking techniques
- ICT-4.4 Create a stand-alone presentation with video, embedded objects, specialized features, by modifying and designing templates

### **Domain – Database Software**

**Core Standard 5** Students synthesize database management concepts to manage, evaluate, and organize information in an effective manner.

**Standards**

- ICT-5.1 Create database objects such as tables, forms and queries
- ICT-5.2 Use advanced functions to filter, extract, and split databases and cross reference
- ICT-5.3 Use a database application software to create or modify a database structure, enter records in a database, create reports, sort and index a database

**Domain – Internet Tools**

**Core Standard 6** Students establish communication and collaboration skills using the internet and social media to increase global awareness.

**Standards**

- ICT-6.1 Construct basic HTML5 coding
- ICT-6.2 Apply and adapt best practices for internet research
- ICT-6.3 Investigate the effects of social media tools on society
- ICT-6.4 Explain concepts of internet privacy and security

**Domain – Technology Assessment**

**Core Standard 7** Students apply technology concepts to take industry standard certifications.

**Standards**

- ICT-7.1 Investigate industry-based certifications within the information technology industry
- ICT-7.2 Take computer-based narrative tests and computer adaptive timed tests for topic remediation and support

**Domain – Functions on Technology**

**Core Standard 8** Students connect functions of technology with computer hardware and software so they make decisions about computer technology.

**Standards**

- ICT-8.1 Identify the principle hardware components of a microcomputer and describe their functions
- ICT-8.2 Use operating system utilities to control the operation of the computer
- ICT-8.3 Investigate security risks and how to prevent or resolve security issues
- ICT-8.4 Recognize and explain compatibility issues and common errors
- ICT-8.5 Assess the risk associated with upgrading technology
- ICT-8.6 Identify preventative maintenance products and techniques
- ICT-8.7 Establish knowledge of computer technology in relationship to networks