IT ESSENTIALS

IT Essentials 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.

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.

- DOE Code: 4528
- Recommended Grade Level: Grade 9-12
- Recommended Prerequisites: None
- Credits: 1 credit per semester, maximum of 2 semesters, 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 the course *Introduction to Microcomputers* in the Indiana Core Transfer Library. Go to www.transferin.net for more information.

Content Standards

Domain – Research
Core Standard 1 Students evaluate various resources to classify relevance of information for reporting purposes.

> **Standards**
>
> ITE-1.1   Use advanced searching techniques to evaluate and select appropriate sources from a variety of resources
>
> ITE-1.2   Create various file types that can be published on the web

Domain – Technology as a Planning and Productivity Tool
Core Standard 2 Students integrate technology to arrange materials and solve problems efficiently.

> **Standards**
>
> ITE-2.1   Apply technology as a means to create business, industry, and professional tasks and develop strategies for solving problems
>
> ITE-2.2   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.)
>
> ITE-2.3   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
>
> ITE-2.4   Using appropriate handling and use of supplies and equipment, practice respectful and responsible use of technology through abiding by the professional practices
>
> ITE-2.5   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 3 Students design documents by using complex features of software to develop advanced documents that are user-friendly.

Standards

ITE-3.1   Create and manage master documents and subdocuments by using various edit tools, formatting tools, and templates

ITE-3.2   Use advanced features to create combo boxes, macros, newsletters with mastheads, multi-column brochures, multi-page books, forms wizards, composition, and table of contents

Domain – Spreadsheet Software
Core Standard 4 Students apply concepts of spreadsheet software to organize and manipulate data.

Standards

ITE-4.1   Use industry terminology when using spreadsheet software

ITE-4.2   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

ITE-4.3   Create and evaluate formulas and functions; customize formats; pivot tables and charts; and edit and run command buttons, macros and macros with buttons

ITE-4.4   Copy, move, and verify accuracy of formulas

ITE-4.5   Edit and label chart components (i.e. axis, legends, titles, and databases)

ITE-4.6   Link and merge worksheets/workbooks; importing and exporting data to and from spreadsheets

Domain – Presentation Software
Core Standard 5 Students create a variety of multi-media presentations using appropriate design principles to communicate in a professional manner.

Standards

ITE-5.1   Demonstrate how electronic presentations are created

ITE-5.2   Apply Industry design guidelines to create, manipulate and enhance visual presentations

ITE-5.3   Demonstrate presentation skills by creating well-organized, audience-appropriate presentations such as informative, entertaining, instructional, while using proper public speaking techniques

ITE-5.4   Create a stand-alone presentation with video, embedded objects, specialized features, by modifying and designing templates

Domain – Database Software
Core Standard 6 Students synthesize database management concepts to manage, evaluate, and organize information in an effective manner.

Standards

ITE-6.1   Create database objects such as tables, forms and queries

ITE-6.2   Use advanced functions to filter, extract, and split databases and cross reference

ITE-6.3   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 – Technology Assessment
Core Standard 7 Students apply technology concepts to take industry standard certifications.

Standards

ITE-7.1   Take computer-based narrative tests and computer adaptive timed tests (multiple

choice or true false) for topic remediation and support

ITE-7.2   Demonstrate saving, opening, and finding files in various formats and the ability to follow instructions

ITE-7.3   Students establish knowledge of computer technology in relationship to networks

Domain – Basic Computer Terminology

Core Standard 8 Students connect basic computer terminology with computer hardware and software so they can perform basic computer operations.

Standards

ITE-8.1   Power up a microcomputer and use operating system utilities to control the operation of the computer

ITE-8.2   Identify the principle hardware components of a microcomputer and describe their functions

Process Standards

Common Core Literacy Standards for Technical Subjects

Reading Standards for Literacy in Technical Subjects 9-10

The standards below begin at grade 9 and define what students should understand and be able to do by the end of grade 10. The CCR anchor standards and high school standards in literacy work in tandem to define college and career readiness expectations – the former providing broad standards, the latter providing additional specificity.

Key Ideas and Details

9-10.RT.1   Cite specific textual evidence to support analysis of technical texts, attending to the precise details of explanations or descriptions.

9-10.RT.2   Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.

9-10.RT.3   Follow precisely a complex multistep procedure when performing technical tasks, attending to special cases or exceptions defined in the text.

Craft and Structure

9-10.RT.4   Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific context relevant to *grades 9-10 texts and topics*.

9-10.RT.5   Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., *force, friction, reaction force, energy*).

9-10.RT.6   Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, defining the question the author seeks to address.

Integration of Knowledge and Idea

9-10.RT.7   Translate technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.

9-10.RT.8   Assess the extent to which the reasoning and evidence in a text support the author's claim or a recommendation for solving a technical problem.

9-10.RT.9   Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.

Range of Reading and Level of Text Complexity

9-10.RT.10   By the end of grade 10, read and comprehend technical texts in the grades 9-10 text complexity band independently and proficiently

Writing Standards for Literacy in Technical Subjects 9-10
The standards below begin at grade 9 and define what students should understand and be able to do by the end of grade 10. The CCR anchor standards and high school standards in literacy work in tandem to define college and career readiness expectations – the former providing broad standards, the latter providing additional specificity.

Text Types and Purposes

9-10.WT.1   Write arguments focused on *discipline-specific content*.

9-10.WT.2   Write informative/explanatory texts, including technical processes.

9-10.WT.3   Students will not write narratives in technical subjects. *Note: Students' narrative skills continue to grow in these grades. The Standards require that students be able to incorporate narrative elements effectively into arguments and informative/explanatory texts. In technical, students must be able to write precise enough descriptions of the step-by-step procedures they use in their technical work that others can replicate them and (possibly) reach the same results.*

Production and Distribution of Writing

9-10.WT.4   Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

9-10.WT.5   Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.

9-10.WT.6   Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.

Research to Build and Present Knowledge

9-10.WT.7   Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

9-10.WT.8   Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectivity to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation

9-10.WT.9   Draw evidence from informational texts to support analysis, reflection, and research.

Range of Writing

9-10.WT.10   Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

Career and Technical Student Organizations

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 a Career and Technical Student Organization, such as Business Professional of America, DECA, or Future Business Leaders of America.