

Information Technology Applications II	Course Code 270502				
Course Description					
<i>This course will focus on skill development in advanced spreadsheet, database, integration of applications utilizing advanced features, and exploring web technologies. Students taking both Information Technology Applications I and II may be eligible for articulated or dual credit at a participating postsecondary institution. Skills, standards, and coursework align with industry certifications.</i>					
Program of Study to which the course applies					
<i>Information Technology Cluster</i>					
<i>Business Technology Applications Pathway</i>					
	Course Content	Crosswalk to Common Core Academic Standards	Crosswalk to Nebraska Academic Standards	Crosswalk to Nebraska Career Readiness Standards	Crosswalk Clarification
Standard 1	Students will employ advanced spreadsheet applications to organize, aggregate, and manipulate data.				
Benchmark 1.1	Create worksheet structures using formulas and the proper order of operations (e.g., logical statements, vLookup, financial, statistical functions).	ELA.RST.11-12.3	LA.12.1.6.k LA.12.3.2 MA.12.1.3.d	CR.1.A.4 CR.9.A.3 CR.9.B.2	Alignment presumes that students must comprehend oral or written instructions to complete the task (CC: ELA.RST.11–12.3; NE: LA.12.1.6.k, LA.12.3.2).
Sample Performance Indicator 1.1.1	Problem solve and manage worksheets and workbooks.				
Sample Performance Indicator 1.1.2	Manage data tools (e.g., text-to-columns, duplications, validations, consolidations, data analysis).				
Sample Performance Indicator 1.1.3	Demonstrate cell references (e.g., absolute, relative).				
Sample Performance Indicator 1.1.4	Define, edit, and name cell ranges.				

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Sample Performance Indicator 1.1.5	Audit formulas, manipulate formula options, perform data summary tasks, and apply functions in formulas.				
Benchmark 1.2	Analyze data through sorting, filtering, listing, and pivot tables.	ELA.RST.11-12.3	LA.12.1.6.k LA.12.3.2 MA.12.1.3.d	CR.1.A.4 CR.5.A.1 CR.9.A.3 CR.9.B.2	Alignment presumes that students must comprehend oral or written instructions to complete the task (CC: ELA.RST.11–12.3; NE: LA.12.1.6.k, LA.12.3.2).
Sample Performance Indicator 1.2.1	Interpret data (e.g., financial statements, duplicate entries).				
Sample Performance Indicator 1.2.2	Create and manage a tracking tool (e.g., gradebook, statistics tracker).				
Benchmark 1.3	Import, export, and share worksheet data.	ELA.RST.11-12.3	LA.12.1.6.k LA.12.3.2	CR.1.A.4 CR.9.A.3 CR.9.B.2	Alignment presumes that students must comprehend oral or written instructions to complete the task (CC: ELA.RST.11–12.3; NE: LA.12.1.6.k, LA.12.3.2).
Sample Performance Indicator 1.3.1	Import and export to different file formats.				
Sample Performance Indicator 1.3.2	Design and work with worksheet templates.				
Sample Performance Indicator 1.3.3	Share spreadsheet data using web capabilities (e.g., Google Docs, cloud applications).				
Benchmark 1.4	Utilize formatting methods, including conditional formatting and other advanced formatting methods.	ELA.RST.11-12.3	LA.12.1.6.k LA.12.3.2 LA.12.2.1.f	CR.1.A.4 CR.9.A.3 CR.9.B.2	Alignment presumes that students must comprehend oral or written instructions to complete the task (CC: ELA.RST.11–12.3; NE: LA.12.1.6.k, LA.12.3.2).
Sample Performance Indicator 1.4.1	Apply conditional formatting.				
Sample Performance Indicator 1.4.2	Link and share multiple worksheets and workbooks.				
Benchmark 1.5	Use advanced features.	ELA.RST.11-12.3	LA.12.1.6.k LA.12.3.2	CR.1.A.4 CR.9.B.2	Alignment presumes that students must comprehend oral or written instructions to complete the task (CC: ELA.RST.11–12.3; NE: LA.12.1.6.k, LA.12.3.2).
Sample Performance Indicator 1.5.1	Apply and manipulate advanced chart features, data analysis, pivot tables, and pivot charts.				

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Sample Performance Indicator 1.5.2	Create and manipulate macros.				
Sample Performance Indicator 1.5.3	Insert and manipulate form controls.				
Sample Performance Indicator 1.5.4	Apply protection and sharing properties.				
Standard 2	Students will synthesize relational database concepts to design, manage, evaluate, and organize information in an effective manner.				
Benchmark 2.1	Design tables specifying properties for data entry and relationships.	ELA.RST.11-12.3 ELA.WHST.11-12.6	LA.12.1.6.k LA.12.2.1.f LA.12.3.2	CR.1.A.4 CR.6.A.1 CR.9.A.3 CR.9.B.2	Alignment presumes that students must comprehend oral or written instructions to complete the task (CC: ELA.RST.11–12.3; NE: LA.12.1.6.k, LA.12.3.2).
Sample Performance Indicator 2.1.1	Customize field properties (e.g., data type, field size, format, input mask, default values, validation).				
Sample Performance Indicator 2.1.2	Create appropriate foreign key for relating tables.				
Sample Performance Indicator 2.1.3	Create one-to-many relationships between tables discussing and/or using referential integrity.				
Benchmark 2.2	Construct multi-table queries to retrieve, organize, and aggregate data.	ELA.RST.11-12.3	LA.12.1.6.k LA.12.3.2 MA.12.1.3.a SC.12.1.3.a SC.12.1.3.c	CR.1.A.4 CR.9.A.3 CR.9.B.2	Alignment presumes that students must comprehend oral or written instructions to complete the task (CC: ELA.RST.11–12.3; NE: LA.12.1.6.k, LA.12.3.2). Alignment presumes that students will propose designs for queries to analyze data and implement the selected design when constructing multi-table queries (NE: SC.12.1.3.a, SC.12.1.3.c).
Sample Performance Indicator 2.2.1	Analyze data using multiple types of queries (e.g., select, update, delete, append, or make-table queries).				
Sample Performance Indicator 2.2.2	Generate calculated data using queries.				

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Benchmark 2.3	Design forms and sub-forms for efficient and effective data entry or retrieval.	ELA.WHST.11-12.6	LA.12.2.1.f MA.12.1.3.d	CR.1.A.4 CR.6.B.1 CR.9.A.3 CR.9.B.2	
Sample Performance Indicator 2.3.1	Explore properties for different control choices (e.g., combo box, label, text, bound vs. unbound, yes/no).				
Sample Performance Indicator 2.3.2	Adjust tab ordering for data entry and layout.				
Benchmark 2.4	Design reports and sub-reports for visually appealing display of appropriate data.	ELA.WHST.11-12.6	LA.12.2.1.f MA.12.1.3.d	CR.1.A.4 CR.6.A.1 CR.9.A.3 CR.9.B.2	
Sample Performance Indicator 2.4.1	Design a report based on multiple tables and/or queries.				
Sample Performance Indicator 2.4.2	Design a report using grouping and sorting.				
Standard 3	Students will develop an awareness of web fundamentals.				
Benchmark 3.1	Apply intellectual property issues when using information technologies.	ELA.WHST.11-12.8	LA.12.4.1.b	CR.9.C.1	
Sample Performance Indicator 3.1.1	Discuss copyright rules and regulations.				
Sample Performance Indicator 3.1.2	Evaluate effective copyright usage on the web.				
Sample Performance Indicator 3.1.3	Perform a web scavenger hunt.				
Benchmark 3.2	Identify and explain the basic Hyper Text Markup Language (HTML) terms and concepts.	ELA.RST.11-12.4 ELA.SL.11-12.4 ELA.WHST.11-12.2.b	LA.12.1.5 LA.12.2.1.b LA.12.3.1.a	CR.2.B.1 CR.2.C.1 CR.9.B.1	When students explain information or ideas, they communicate their knowledge through either speaking or writing. To demonstrate full knowledge on the topic, students' written or oral presentations must include all the main ideas and relevant details on the subject (CC: ELA.WHST.11-12.2.b, ELA.SL.11-12.4; NE: CR.2.B.1, CR.2.C.1, LA.12.2.1.b, LA.12.3.1.a).

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Sample Performance Indicator 3.2.1	Create basic HTML page.				
Sample Performance Indicator 3.2.2	View various web page sources and codes.				
Sample Performance Indicator 3.2.3	Compare and contrast different web editors.				
Benchmark 3.3	Explain the different electronic media formats (e.g., audio, video, image, graphic, animation).	ELA.WHST.11-12.2.b ELA.SL.11-12.4	LA.12.1.6.g LA.12.2.1.b LA.12.3.1.a	CR.2.B.1 CR.2.C.1	When students explain information or ideas, they communicate their knowledge through either speaking or writing. To demonstrate full knowledge on the topic, students' written or oral presentations must include all the main ideas and relevant details on the subject (CC: ELA.WHST.11-12.2.b, ELA.SL.11-12.4; NE: CR.2.B.1, CR.2.C.1, LA.12.2.1.b, LA.12.3.1.a).
Sample Performance Indicator 3.3.1	Identify different file extensions of media used on the web and the associated software.				
Sample Performance Indicator 3.3.2	Generate media using the web (e.g., animation, image slideshow, audio, image file).				
Benchmark 3.4	Apply effective web design principles.	N/A	N/A	CR.1.A.4 CR.6.A.1 CR.6.B.1 CR.9.B.2	
Sample Performance Indicator 3.4.1	Identify effective color schemes.				
Sample Performance Indicator 3.4.2	Identify effective font face, font style, and font size.				
Sample Performance Indicator 3.4.3	Evaluate placement of text and graphics while considering load time.				
Standard 4	Students will use critical thinking skills to integrate information technology tools to access, manage, and create new information.				
Benchmark 4.1	Gather, evaluate, use, and disseminate information from multiple technology sources.	ELA.WHST.11-12.7-9	LA.12.1.6.j LA.12.4.1.a-c	CR.5.B.1 CR.9.A.1-2 CR.9.B.2	The depth of students' investigations, and thus the research standards that apply, will be determined by the nature of the task (CC: ELA.WHST.11-12.7-9; NE: CR.5.B.1, CR.9.A.2, LA.12.4.1.a-c, LA.12.1.6.j).

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Sample Performance Indicator 4.1.1	Synthesize information from multiple data sources.				
Sample Performance Indicator 4.1.2	Create a product using a combination of document processing, spreadsheet, database, and/or communication tools.				
Sample Performance Indicator 4.1.3	Demonstrate the transferability of skills between productivity software applications.				
Sample Performance Indicator 4.1.4	Retrieve data from a database, graph the data in a spreadsheet, and assemble information in a document or presentation.				
Sample Performance Indicator 4.1.5	Determine the most appropriate technology tool for the task.				
Benchmark 4.2	Design e-business and e-commerce solutions.	N/A	N/A	CR.4.B.3 CR.6.A.1	
Sample Performance Indicator 4.2.1	Develop an electronic portfolio (e.g., professional, career).				
Sample Performance Indicator 4.2.2	Construct an interface for web interactivity.				
Benchmark 4.3	Create digitally designed products.	ELA.WHST.11-12.6	LA.12.2.2.a	CR.6.A.1 CR.9.B.2	
Sample Performance Indicator 4.3.1	Create projects with digital design software.				
Sample Performance Indicator 4.3.2	Design, create, edit, revise, and publish project (e.g., newsletters, flyers, brochures).				
Benchmark 4.4	Examine resources to develop an understanding of any career field as it relates to information technology.	ELA.WHST.11-12.7-9	LA.12.1.6.j LA.12.4.1.a-c SS.12.2.6.d	CR.5.B.1 CR.9.A.2 CR.10.B.1 CR.10.D.2	The depth of students' investigations, and thus the research standards that apply, will be determined by the nature of the task (CC: ELA.WHST.11–12.7–9; NE: CR.5.B.1, CR.9.A.2, LA.12.4.1.a-c, LA.12.1.6.j).
Sample Performance Indicator 4.4.1	Participate in extended learning opportunities (e.g., job shadowing, internships, community partnerships).				
Sample Performance Indicator 4.4.2	Apply spreadsheet and database concepts to college and career readiness.				

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Sample Performance Indicator 4.4.3	Evaluate professional web tools to manage your professional digital footprint.				
Sample Performance Indicator 4.4.4	Plan educational and career paths aligned to personal goals.				

Reference Sheet

Key Code	Source
CCTC	2012 Common Career Technical Core National Career Cluster Knowledge and Skills Statements
KS NDE	Nebraska Business Education Framework National Business Education Association Standards (2007)
NBEA	Virginia Information Technology (IT) Fundamentals 2012-2013
VA	Web Design Development Dual Credit Course ITPC01.08.03

Additional Resources for Educators

Suggestions for innovative teaching and learning strategies

Common Sense Media
Copyright Quiz - <http://www.csus.edu/indiv/p/peachj/edte230/copyright/quiz.htm>
Copyright Challenge - <http://www.copyrightkids.org/quizframes.htm>
Product Tutorials
(e.g., <http://www.apple.com/findouthow/mac/>,
<https://support.google.com/docs/bin/topic.py?hl=en&topic=1382883>
<http://office.microsoft.com/en-us/support/training-FX101782702.aspx>)

Design and assign a scavenger hunt on copyright

www.copyright.gov

Related Assessments

MOS Certification - <http://www.microsoft.com/learning/en/us/certification/mos.aspx>
Certiport Certification - <http://www.certiport.com/portal/desktopdefault.aspx?TZ=-5>

Online Assessment Products (e.g., SAM, Brainbench)

Extended Learning Opportunities

Career Service Organizations (e.g., FBLA, DECA, Skills USA)

Internships and job shadows

Guest speakers

Professional Development

Common Sense Media - Educator online training

Industry certification providers

Conferences (e.g., NCE Conference, NBEA)

Professional Associations (e.g., NSBEA, NETA, ACTE)

Community Links/Resources available

Local FBI and/or Law Enforcement - Identify Theft

Nebraska Attorney General's Office - Digital Citizenship Resources

A Collection of 1,800+ Apps for Education

Online Tools and Applications for Web

I Education App Review

Bonnie Sibert Online Resources

Tony Vincent's Learning in Hand

Kathy Schrock's Website of Everything

Business Education Lesson Plans by Tonya Skinner

Tech Chef 4 U

Partnership for 21st Century Skills

Nebraska Career Connections

<http://www.appitic.com/>]<http://www.appitic.com/>

<http://go2web20.net/>]<http://go2web20.net/>

<http://www.iear.org/>]<http://www.iear.org/>

<http://www.education.ne.gov/BMIT/onlineresources.html>

<http://learninginhand.com/>]<http://learninginhand.com/>

<http://www.schrockguide.net/>]<http://www.schrockguide.net/>

<http://lessonplans.btskinner.com/>

<http://www.techchef4u.com/>]<http://www.techchef4u.com/>

<http://www.p21.org/home>]<http://www.p21.org/home>

<http://www.nebraskacareerconnections.org/>

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