

TOWNSHIP OF UNION PUBLIC SCHOOLS



Computer Applications I **Updated December 18, 2018**

Mission Statement

The mission of the Township of Union Public Schools is to build on the foundations of honesty, excellence, integrity, strong family, and community partnerships. We promote a supportive learning environment where every student is challenged, inspired, empowered, and respected as diverse learners. Through cultivation of students' intellectual curiosity, skills and knowledge, our students can achieve academically and socially, and contribute as responsible and productive citizens of our global community.

Philosophy Statement

The Township of Union Public School District, as a societal agency, reflects democratic ideals and concepts through its educational practices. It is the belief of the Board of Education that a primary function of the Township of Union Public School System is the formulation of a learning climate conducive to the needs of all students in general, providing therein for individual differences. The school operates as a partner with the home and community.

Statement of District Goals

- Develop reading, writing, speaking, listening, and mathematical skills.
- Develop a pride in work and a feeling of self-worth, self-reliance, and self-discipline.
- Acquire and use the skills and habits involved in critical and constructive thinking.
- Develop a code of behavior based on moral and ethical principles.
- Work with others cooperatively.
- Acquire a knowledge and appreciation of the historical record of human achievement and failures and current societal issues.
- Acquire a knowledge and understanding of the physical and biological sciences.
- Participate effectively and efficiently in economic life and the development of skills to enter a specific field of work.
- Appreciate and understand literature, art, music, and other cultural activities.
- Develop an understanding of the historical and cultural heritage.
- Develop a concern for the proper use and/or preservation of natural resources.
- Develop basic skills in sports and other forms of recreation.

Course Description

This course provides a “hands on” experience using integrated software Microsoft Office 2016, which allows students to develop an understanding of the computer’s capabilities for business operations and school. PC keyboarding mastery continues to be developed. This course teaches the fundamentals of an integrated software package, exposes students to practical examples of the computer as a useful tool, and acquaints students with the proper procedures to create documents, workbooks, and presentations suitable for course work, professional purposes, and personal use. The Internet will be used as a research tool. Students’ use of the PC supports an interdisciplinary approach to learning through application in other curricular areas. “Office-style” atmosphere is simulated.

Recommended Resources

Freund, Steven M., Corinne L. Hoisington, Mary Z. Last, Philip J. Pratt, Susan L. Sebok, and Misty E. Vermaat. Microsoft® Office 365 OFFICE 2016 Introductory. Boston, MA: Thomson Course Technology, 2017.

Shelly. Gary B. and Misty E. Vermaat. Microsoft® Office 2010 Introductory. Boston, MA: Course Technology, 2011.

www.cengage.com

www.cengage.com/sam/

www.microsoft.com

Curriculum Units

Unit 1: Microsoft Word

Unit 2: Microsoft Excel

Unit 3: Microsoft PowerPoint

Pacing Guide – Course

<u>Content</u>	Number of Days
<u>Unit 1:</u> Microsoft Word	75
<u>Unit 2:</u> Microsoft Excel	70
<u>Unit 3:</u> Microsoft PowerPoint	35

New Jersey Student Learning Standards

21st Century Life and Careers

- **9.1 Personal Financial Literacy**

This standard outlines the important fiscal knowledge, habits, and skills that must be mastered in order for students to make informed decisions about personal finance. Financial literacy is an integral component of a student's college and career readiness, enabling students to achieve fulfilling, financially-secure, and successful careers.

- **9.2 Career Awareness, Exploration, and Preparation**

This standard outlines the importance of being knowledgeable about one's interests and talents, and being well informed about postsecondary and career options, career planning, and career requirements.

- **9.3 Career and Technical Education**

This standard outlines what students should know and be able to do upon completion of a CTE Program of Study.

Unit 1: Microsoft Word

Unit 1 introduces the importance of properly formatted documents using Microsoft Word. Students will learn a variety of documents and formatting practices. Students can use these concepts academically and professionally.

Essential Questions	Instructional Objectives/ Skills and Benchmarks <i>(CPIs)</i>	Activities	Assessments
<p>What are the various documents that can be created in Word?</p> <p>How is a professionally formatted document created?</p> <p>Why is it important to format a Word document correctly?</p> <p>How do you create a professional resume and cover letter?</p>	<ul style="list-style-type: none"> • Improve ability to proofread, edit, revise and rewrite work. • Use Microsoft Word to create print-ready announcements with picture effects. • Use Microsoft Word to create a variety of styles of resumes, letterhead, and cover letters with tables and bullets. • Use Microsoft Word to create multi-page reports with cover sheets, watermarks, page numbers, picture bullets, formatted tables, and charts. • Use Microsoft Word to create document cover sheets using SmartArt. 	<ul style="list-style-type: none"> • Create an announcement with clip art, pictures borders and effects, and font changes. • Compile resumes using Word templates. • Construct cover letters with a letterhead, table, and bullets. • Create a multi-page report with a header, footer, table, chart, and watermarks. • Prepare and apply Smart Art graphics. 	<ul style="list-style-type: none"> • Projects and critical thinking activities. • Final mastery test on unit. • Daily tasks and procedures are followed.

Unit 2: Microsoft Excel

Unit Two exposes students to the importance of Excel and the various uses. Students will learn how to successfully format worksheets and incorporate formulas and graphs. These skills can be transferred to other academic areas and professionally.

Essential Questions	Instructional Objectives/ Skills and Benchmarks (CPIs)	Activities	Assessments
<p>What is excel used for?</p> <p>How are spreadsheets/workbooks formatted?</p> <p>What are the common formulas used?</p> <p>How are various charts created?</p> <p>How can excel be used to create timelines?</p>	<ul style="list-style-type: none"> • Use Microsoft Excel to create worksheets with formulas, functions, and charts. • Use Microsoft Excel to create worksheets formatted with borders, fill color and effects, clip art, and font changes. • Use Microsoft Excel to create formatted worksheets with pictograph charts. • Use Microsoft Excel to create timelines. 	<ul style="list-style-type: none"> • Develop Excel worksheets with formulas and with embedded charts. • Produce Excel worksheets with clipart, formatting changes, functions, conditional formatting, and charts as a separate page. • Create pictograph charts in Excel. • Prepare timelines in Excel based on historical events. • Formulate worksheets in Excel with absolute values. • Apply 3-D formats, rotate, and explode a pie chart 	<ul style="list-style-type: none"> • Projects and critical thinking activities. • Final mastery test on unit. • Daily tasks and procedures are followed.

Unit 3: Microsoft PowerPoint

Unit 3 explores the uses of PowerPoint to create a variety of professional presentations. Students will learn guidelines to follow when creating a presentation for a group, along with various formatting strategies and creative additions.

Essential Questions	Instructional Objectives/ Skills and Benchmarks <i>(CPIs)</i>	Activities	Assessments
<p>What purposes are appropriate for Microsoft PowerPoint?</p> <p>What makes an effective PowerPoint presentation?</p> <p>How can one incorporate animation in a presentation?</p> <p>Where can a PowerPoint presentation be used?</p>	<ul style="list-style-type: none"> • Use Microsoft PowerPoint to create slide shows with tables, clip art, sound, and animation effects. • Use Microsoft PowerPoint to manipulate clip art and graphics to suit the needs of the user. • Adjust slide transitions and presentation times. • Add and print speaker notes. 	<ul style="list-style-type: none"> • Develop professional PowerPoint presentations. • Design professional PowerPoint presentations with custom animation, sound, and motion clips. • Revise and generate unique images. • Prepare timed presentations. 	<ul style="list-style-type: none"> • Projects and critical thinking activities. • Final mastery test on unit. • Daily tasks and procedures are followed.

Resource Links

- **Cengage**
www.sam.cengage.com
www.cengage.com
- **Microsoft**
www.office.com
www.office.live.com
- **Google**
www.google.com
- **YouTube**
www.youtube.com
- **Cengage Brain**
www.cengage.com
- **MP3 Converter**
www.mp3converter.net

Career Ready Practices

Career Ready Practices describe the career-ready skills that all educators in all content areas should seek to develop in their students. They are practices that have been linked to increase college, career, and life success. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

CRP1. Act as a responsible and contributing citizen and employee.

CRP2. Apply appropriate academic and technical skills. **CRP3.** Attend to personal health and financial well-being. **CRP4.** Communicate clearly and effectively and with reason.

CRP5. Consider the environmental, social and economic impacts of decisions.

CRP6. Demonstrate creativity and innovation.

CRP7. Employ valid and reliable research strategies.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

CRP9. Model integrity, ethical leadership and effective management.

CRP10. Plan education and career paths aligned to personal goals.

CRP11. Use technology to enhance productivity.

CRP12. Work productively in teams while using cultural global competence.

CRP1. Act as a responsible and contributing citizen and employee

Career-ready individuals understand the obligations and responsibilities of being a member of a community, and they demonstrate this understanding every day through their interactions with others. They are conscientious of the impacts of their decisions on others and the environment around them. They think about the near-term and long-term consequences of their actions and seek to act in ways that contribute to the betterment of their teams, families, community and workplace. They are reliable and consistent in going beyond the minimum expectation and in participating in activities that serve the greater good.

CRP2. Apply appropriate academic and technical skills.

Career-ready individuals readily access and use the knowledge and skills acquired through experience and education to be more productive. They make connections between abstract concepts with real-world applications, and they make correct insights about when it is appropriate to apply the use of an academic skill in a workplace situation

CRP3. Attend to personal health and financial well-being.

Career-ready individuals understand the relationship between personal health, workplace performance and personal well-being; they act on that understanding to regularly practice healthy diet, exercise and mental health activities. Career-ready individuals also take regular action to contribute to their personal financial well-being, understanding that personal financial security provides the peace of mind required to contribute more fully to their own career success.

CRP4. Communicate clearly and effectively and with reason.

Career-ready individuals communicate thoughts, ideas, and action plans with clarity, whether using written, verbal, and/or visual methods. They communicate in the workplace with clarity and purpose to make maximum use of their own and others' time. They are excellent writers; they master conventions, word choice, and organization, and use effective tone and presentation skills to articulate ideas. They are skilled at interacting with others; they are active listeners and speak clearly and with purpose. Career-ready individuals think about the audience for their communication and prepare accordingly to ensure the desired outcome.

CRP5. Consider the environmental, social and economic impacts of decisions.

Career-ready individuals understand the interrelated nature of their actions and regularly make decisions that positively impact and/or mitigate negative impact on other people, organization, and the environment. They are aware of and utilize new technologies, understandings, procedures, materials, and regulations affecting the nature of their work as it relates to the impact on the social condition, the environment and the profitability of the organization.

CRP6. Demonstrate creativity and innovation.

Career-ready individuals regularly think of ideas that solve problems in new and different ways, and they contribute those ideas in a useful and productive manner to improve their organization. They can consider unconventional ideas and suggestions as solutions to issues, tasks or problems, and they discern which ideas and suggestions will add greatest value. They seek new methods, practices, and ideas from a variety of sources and seek to apply those ideas to their own workplace. They take action on their ideas and understand how to bring innovation to an organization.

2014 New Jersey Core Curriculum Content Standards - Technology

Content Area		Technology	
Standard		8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.	
Strand		A. Technology Operations and Concepts: <i>Students demonstrate a sound understanding of technology concepts, systems and operations.</i>	
Grade Level bands	Content Statement Students will:	Indicator	Indicator
9-12	Understand and use technology systems.	8.1.12.A.1	Create a personal digital portfolio which reflects personal and academic interests, achievements, and career aspirations by using a variety of digital tools and resources.
	Select and use applications effectively and productively.	8.1.12.A.2	Produce and edit a multi-page digital document for a commercial or professional audience and present it to peers and/or professionals in that related area for review.
		8.1.12.A.3	Collaborate in online courses, learning communities, social networks or virtual worlds to discuss a resolution to a problem or issue.
		8.1.12.A.4	Construct a spreadsheet workbook with multiple worksheets, rename tabs to reflect the data on the worksheet, and use mathematical or logical functions, charts and data from all worksheets to convey the results.
		8.1.12.A.5	Create a report from a relational database consisting of at least two tables and describe the process, and explain the report results.
Content Area		Technology	
Standard		8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.	
Strand		B. Creativity and Innovation: <i>Students demonstrate creative thinking, construct knowledge and develop</i>	

<i>innovative products and process using technology.</i>			
Grade Level bands	Content Statement Students will:	Indicator	Indicator
9-12		8.1.12.B.2	Apply previous content knowledge by creating and piloting a digital learning game or tutorial.
Content Area		Technology	
Standard		8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.	
Strand		C. Communication and Collaboration: <i>Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.</i>	
Grade Level bands	Content Statement	Indicator	Indicator
9-12		8.1.12.C.1	Develop an innovative solution to a real world problem or issue in collaboration with peers and experts, and present ideas for feedback through social media or in an online community.
Content Area		Technology	
Standard		8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.	
Strand		D. Digital Citizenship: <i>Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.</i>	
Grade Level bands	Content Statement	Indicator	Indicator
9-12	Advocate and practice safe, legal, and	8.1.12.D.1	Demonstrate appropriate application of copyright, fair use and/or

	responsible use of information and technology.		Creative Commons to an original work.
	Demonstrate personal responsibility for lifelong learning.	8.1.12.D.2	Evaluate consequences of unauthorized electronic access (e.g., hacking) and disclosure, and on dissemination of personal information.
		8.1.12.D.3	Compare and contrast policies on filtering and censorship both locally and globally.
	Exhibit leadership for digital citizenship.	8.1.12.D.4	Research and understand the positive and negative impact of one's digital footprint.
		8.1.12.D.5	Analyze the capabilities and limitations of current and emerging technology resources and assess their potential to address personal, social, lifelong learning, and career needs.
Content Area		Technology	
Standard		8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.	
Strand		E: Research and Information Fluency: <i>Students apply digital tools to gather, evaluate, and use information.</i>	
Grade Level bands	Content Statement	Indicator	Indicator
9-12	Plan strategies to guide inquiry. Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media. Evaluate and select information sources and digital tools based on the appropriateness for specific tasks.	8.1.12.E.1	Produce a position statement about a real world problem by developing a systematic plan of investigation with peers and experts synthesizing information from multiple sources.
		8.1.12.E.2	Research and evaluate the impact on society of the unethical use of digital tools and present your research to peers.

	Process data and report results.		
Content Area	Technology		
Standard	8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.		
Strand	F: Critical thinking, problem solving, and decision making: <i>Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.</i>		
Grade Level bands	Content Statement Students will:	Indicator	Indicator
9-12	Identify and define authentic problems and significant questions for investigation. Plan and manage activities to develop a solution or complete a project. Collect and analyze data to identify solutions and/or make informed decisions. Use multiple processes and diverse perspectives to explore alternative solutions.	8.1.12.F.1	Evaluate the strengths and limitations of emerging technologies and their impact on educational, career, personal and or social needs.

2014 New Jersey Core Curriculum Content Standards - Technology

Content Area	Technology
Standard	8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming: All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.

Strand		A. The Nature of Technology: Creativity and Innovation <i>Technology systems impact every aspect of the world in which we live.</i>	
Grade Level bands	Content Statement Students will be able to understand:	Indicator	Indicator
9-12	The characteristics and scope of technology.	8.2.12.A.1	Propose an innovation to meet future demands supported by an analysis of the potential full costs, benefits, trade-offs and risks, related to the use of the innovation.
	The core concepts of technology.	8.2.12.A.2	Analyze a current technology and the resources used, to identify the trade-offs in terms of availability, cost, desirability and waste.
	The relationships among technologies and the connections between technology and other fields of study.	8.2.12.A.3	Research and present information on an existing technological product that has been repurposed for a different function.
Content Area		Technology	
Standard		8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming: All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.	
Strand		B. Technology and Society: <i>Knowledge and understanding of human, cultural and societal values are fundamental when designing technological systems and products in the global society.</i>	
Grade Level bands	Content Statement Students will be able to understand:	Indicator	Indicator
9-12	The cultural, social, economic and political	8.2.12.B.1	Research and analyze the impact of the design constraints (specifications and limits) for a product or technology driven by a cultural, social, economic or

	effects of technology.		political need and publish for review.
	The effects of technology on the environment.	8.2.12.B.2	Evaluate ethical considerations regarding the sustainability of environmental resources that are used for the design, creation and maintenance of a chosen product.
	The role of society in the development and use of technology.	8.2.12.B.3	Analyze ethical and unethical practices around intellectual property rights as influenced by human wants and/or needs.
	The influence of technology on history.	8.2.12.B.4	Investigate a technology used in a given period of history, e.g., stone age, industrial revolution or information age, and identify their impact and how they may have changed to meet human needs and wants.
		8.2.12.B.5	Research the historical tensions between environmental and economic considerations as driven by human needs and wants in the development of a technological product, and present the competing viewpoints to peers for review.
Content Area		Technology	
Standard		8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming: All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.	
Strand		C. Design: <i>The design process is a systematic approach to solving problems.</i>	
Grade Level bands	Content Statement	Indicator	Indicator
	Students will be able to understand:		
9-12	The attributes of design.	8.2.12.C.1	Explain how open source technologies follow the design process.
		8.2.12.C.2	Analyze a product and how it has changed or might change over time to meet human needs and wants.
	The application of engineering design.	8.2.12.C.3	Analyze a product or system for factors such as safety, reliability, economic considerations, quality control, environmental concerns, manufacturability, maintenance and repair, and human factors engineering (ergonomics).

		8.2.12.C.4	Explain and identify interdependent systems and their functions.
		8.2.12.C.5	Create scaled engineering drawings of products both manually and digitally with materials and measurements labeled.
	The role of troubleshooting, research and development, invention and innovation and experimentation in problem solving.	8.2.12.C.6	Research an existing product, reverse engineer and redesign it to improve form and function.
		8.2.12.C.7	Use a design process to devise a technological product or system that addresses a global problem, provide research, identify trade-offs and constraints, and document the process through drawings that include data and materials.
Content Area		Technology	
Standard		8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming: All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.	
Strand		D. Abilities for a Technological World: <i>The designed world is the product of a design process that provides the means to convert resources into products and systems.</i>	
Grade Level bands	Content Statement Students will understand how to:	Indicator	Indicator
9-12	Apply the design process.	8.2.12.D.1	Design and create a prototype to solve a real world problem using a design process, identify constraints addressed during the creation of the prototype, identify trade-offs made, and present the solution for peer review.
		8.2.12.D.2	Write a feasibility study of a product to include: economic, market, technical, financial, and management factors, and provide recommendations for implementation.
	Use and maintain technological products and systems.	8.2.12.D.3	Determine and use the appropriate resources (e.g., CNC (Computer Numerical Control) equipment, 3D printers, CAD software) in the design, development and creation of a technological product or system.

	Assess the impact of products and systems.	8.2.12.D.4	Assess the impacts of emerging technologies on developing countries.
		8.2.12.D.5	Explain how material processing impacts the quality of engineered and fabricated products.
		8.2.12.D.6	Synthesize data, analyze trends and draw conclusions regarding the effect of a technology on the individual, society, or the environment and publish conclusions.
Content Area		Technology	
Standard		8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming: All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.	
Strand		E. Computational Thinking: Programming: <i>Computational thinking builds and enhances problem solving, allowing students to move beyond using knowledge to creating knowledge.</i>	
Grade Level bands	Content Statement Students will be able to understand:	Indicator	Indicator
9-12	Computational thinking and computer programming as tools used in design and engineering.	8.2.12.E.1	Demonstrate an understanding of the problem-solving capacity of computers in our world.
		8.2.12.E.2	Analyze the relationships between internal and external computer components.
		8.2.12.E.3	Use a programming language to solve problems or accomplish a task (e.g., robotic functions, website designs, applications, and games).
		8.2.12.E.4	Use appropriate terms in conversation (e.g., troubleshooting, peripherals, diagnostic software, GUI, abstraction, variables, data types and conditional statements).

Suggested Activities/Modifications

Below are a list of suggested activities, modifications, accommodations, and enrichment opportunities. This includes, but is not limited to:

1. Activities:

- Cengage Brain
www.cengage.com
- MP3 Converter
www.mp3converter.net

2. English Language Learners:

- a. Read written instructions
- b. Students may be provided with note organizers/study guides to reinforce key topics.
- c. Model and provide examples
- d. Extended time on assessments when needed.
- e. Establish a non-verbal cue to redirect student when not on task.
- f. Students may use a bilingual dictionary.
- g. Pair Visual Prompts with Verbal Presentations
- h. Highlight Key Words & Phrases

3. Special Education/504 Students:

- a. Students may be provided with note organizers / study guides to reinforce key topics.
- b. Extended time on assessments when needed.
- c. Preferred seating to be determined by student and teacher.
- d. Provide modified assessments when necessary.
- e. Student may complete assessments in alternate setting when requested.
- f. Establish a non-verbal cue to redirect student when not on task.

- g. Maintain strong teacher / parent communication.
- h. Repetition and practice
- i. Pair Visual Prompts with Verbal Presentations
- j. Check Use of Agenda

4. Gifted and Talented Students:

- a. Use of Higher Level Questioning Techniques
- b. Extension/Challenge Questions
- c. Provide Assessments at a Higher Level of Thinking

Interdisciplinary Connections/Global Perspective:

Content Workplace Readiness Skills/Standards as directed by the Core Curriculum Content Standards are infused into the curriculum.

English: Written reports & projects