

DISCOVERING COMPUTER SCIENCE
COURSE CODE: 5061
STUDENT PROFILE

STUDENT'S NAME		TEACHER'S NAME			
School Year/Semester	Date Began	Date Completed	Grade		
<p>Directions: Document student's progress using the applicable rating scales below: Enter date of completion under the appropriate column.</p>					
<p>0 - Has not received instruction in this area / no experience or knowledge of this task (N/A) 1 – Can apply and perform independently (80-100) 2 – Can perform the task completely with limited supervision (70-79) 3 – Requires additional instruction and or close supervision (60-69)</p>					
A. SAFETY		0	1	2	3
1	Review school safety policies and procedures.				
2	Review classroom safety rules and procedures.				
3	Review safety procedures for using equipment in the classroom.				
4	Identify major causes of work-related accidents in office environments.				
5	Demonstrate safety skills in an office/work environment				
B. STUDENT ORGANIZATIONS		0	1	2	3
1	Identify the purpose and goals of a Career and Technology Student Organization (CTSO).				
2	Explain how CTSOs are integral parts of specific clusters, majors, and/or courses.				
3	Explain the benefits and responsibilities of being a member of a CTSO.				
4	List leadership opportunities that are available to students through participation in CTSO conferences, competitions, community service, philanthropy, and other activities.				
5	Explain how participation in CTSOs can promote lifelong benefits in other professional and civic organizations.				
C. TECHNOLOGY KNOWLEDGE		0	1	2	3
1	Demonstrate proficiency and skills associated with the use of technologies that are common to a specific occupation (e.g., keying speed).				
2	Identify proper netiquette when using e-mail, social media, and other technologies for communication purposes.				
3	Identify potential abuse and unethical uses of laptops, tablets, computers, and/or networks.				

4	Explain the consequences of social, illegal, and unethical uses of technology (e.g., cyber bullying; piracy; illegal downloading; licensing infringement; inappropriate uses of software, hardware, and mobile devices in the work environment).				
5	Discuss legal issues and the terms of use related to copyright laws, fair use laws, creative commons, and ethics pertaining to downloading of images, photographs, documents, video, sounds, music, trademarks, and other elements for personal use.				
6	Describe ethical and legal practices of safeguarding the confidentiality of business-related information.				
7	Describe possible threats to a laptop, tablet, computer, and/or network and methods of avoiding attacks.				
8	Evaluate various solutions to common hardware and software problems.				
D. PERSONAL QUALITIES AND EMPLOYABILITY SKILLS		0	1	2	3
1	Demonstrate punctuality.				
2	Demonstrate self-representation.				
3	Demonstrate work ethic.				
4	Demonstrate respect.				
5	Demonstrate time management.				
6	Demonstrate integrity.				
7	Demonstrate leadership.				
8	Demonstrate teamwork and collaboration.				
9	Demonstrate conflict resolution.				
10	Demonstrate perseverance.				
11	Demonstrate commitment.				
12	Demonstrate a healthy view of competition				
13	Demonstrate a global perspective.				
14	Demonstrate health and fitness.				
15	Demonstrate self-direction.				
16	Demonstrate lifelong learning.				
E. PROFESSIONAL KNOWLEDGE		0	1	2	3
1	Demonstrate effective speaking and listening skills.				
2	Demonstrate effective reading and writing skills.				
3	Demonstrate mathematical reasoning.				
4	Demonstrate job-specific mathematics skills.				

5	Demonstrate critical-thinking and problem-solving skills.				
6	Demonstrate creativity and resourcefulness.				
7	Demonstrate an understanding of business ethics.				
8	Demonstrate confidentiality.				
9	Demonstrate an understanding of workplace structures, organizations, systems, and climates.				
10	Demonstrate diversity awareness.				
11	Demonstrate job acquisition and advancement skills.				
12	Demonstrate task management skills.				
13	Demonstrate customer-service skills.				
F. COMPUTING SYSTEMS		0	1	2	3
1	Define key computing terms (e.g., hardware, software, data, etc.).				
2	Identify and define the key functional components (input devices, output devices, processor, operating system, software applications, memory, storage, etc.).				
3	Define the terms and units that are used to describe major hardware components (RAM, ROM, Peta-, Tera-, Giga-, Mega-Kilo-, Hz, Bit, Byte, Binary, etc.).				
4	Describe how software and hardware interact.				
5	Compare and contrast characteristics of a variety of file formats (e.g., software compatibility, file size, compresses/uncompressed files.).				
G. PROBLEM SOLVING AND COMPUTATIONAL THINKING (TO BE IMPLEMENTED THROUGHOUT THE COURSE)		0	1	2	3
1	Describe how computer programs and apps can be used to solve various problems (e.g., desktop, mobile, enterprise).				
2	Define algorithm (a set of clearly defined, logical steps to solve a problem).				
3	Demonstrate an understanding of algorithms and their practical applications.				
4	Create, evaluate, and adjust algorithms to solve a variety of problems.				
5	Use an iterative problem-solving process to design and refine solutions to a variety of problems. a. Define the problem including a variety of considerations (e.g., users, environment, demographics, societal trends, etc.) b. Design a solution. c. Prepare, test, and refine the solution. d. Reflect on results.				
H. FUNDAMENTALS OF PROGRAMMING		0	1	2	3
1	Express the design of a program using representations such as flowcharts and pseudocode.				
2	Analyze and explain how a particular program functions.				

3	Solve problems of increasing complexity using visual block-based programming individually and collaboratively.				
4	Write code that uses variables, events, functions, operators (i.e. arithmetic, relational, logical), conditional control structures (e.g., if, if-else) and repetition/iteration control structures (e.g., while, for).				
5	Differentiate between text and numerical data.				
6	Edit, compile/run, test, and debug a program.				
I. FUNDAMENTALS OF WEB DESIGN AND DEVELOPMENT		0	1	2	3
1	Evaluate the results of Internet searches and the reliability of information found on Web sites.				
2	Describe how Web sites are used to communicate and exchange data.				
3	Plan a web page considering subject, devices, audience, layout, color, links and graphics.				
4	Create a web page that contains a variety of HTML elements (e.g., hyperlinks, ordered and unordered lists, images, headings, and paragraphs) and CSS styles.				
J. ETHICAL, LEGAL & SOCIAL ISSUES OF COMPUTING		0	1	2	3
1	Explore the consequences resulting from issues involving ethics around security, privacy, copyright, fair use, intellectual property, social media and licensing.				
2	Explain the importance of Acceptable Use Policies.				
3	Explain the importance of data security and physical security.				
4	Identify computing threats (e.g., spyware, adware, malware, viruses, ransomware, phishing, hacking, software piracy, identity theft, etc.) and their potential impacts on society.				
K. COMPUTING CAREERS		0	1	2	3
1	Research careers in computing along with their education, training requirements, industry certifications and salary ranges.				
2	Describe how computing enhances other career fields.				
3	Describe the importance of access and equity in computing.				