

MOBILE APPLICATIONS DEVELOPMENT
COURSE CODE: 5378
STUDENT PROFILE

STUDENT'S NAME:		TEACHER'S NAME:			
School Year/Semester:		Grade:			
Begin Date:		Date Completed:			
<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)</p> <p>1 – Can apply and perform independently (80-100)</p> <p>2 – Can perform the task completely with limited supervision (70-79)</p> <p>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				
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; cyberbullying; 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, and ethics pertaining to downloading of images, photographs, Creative Commons, 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.				
D. PERSONAL QUALITIES AND EMPLOYABILITY SKILLS		0	1	2	3
1	Demonstrate punctuality.				
2	Demonstrate critical thinking and problem-solving skills				
3	Demonstrate initiative and self-direction.				
4	Demonstrate integrity.				
5	Demonstrate work ethic.				
6	Demonstrate conflict resolution skills.				
7	Demonstrate listening and speaking skills.				
8	Demonstrate respect for diversity.				
9	Demonstrate customer service orientation.				
10	Demonstrate teamwork.				
E. PROFESSIONAL KNOWLEDGE		0	1	2	3
1	Demonstrate global or “big picture” thinking.				
2	Demonstrate career and life management skills and goal-making.				
3	Demonstrate continuous learning and adaptability skills to changing job requirements.				
4	Demonstrate time and resource management skills.				
5	Demonstrates information literacy skills.				
6	Demonstrates information security skills.				

7	Demonstrates information technology skills.				
8	Demonstrates knowledge and use of job-specific tools and technologies.				
9	Demonstrate job-specific mathematics skills.				
10	Demonstrates professionalism in the workplace.				
11	Demonstrates reading and writing skills.				
12	Demonstrates workplace safety.				
F. MOBILE DEVICES		0	1	2	3
1	Design a timeline that describes the major milestones in the development of mobile devices and the market.				
2	Examine the global market for availability and use of mobile applications in developing countries/emerging economies and present your findings.				
3	List and prioritize the important capabilities that mobile devices should have.				
4	Identify relevant input/output devices in regards to mobile devices.				
5	Compare and contrast storage capabilities and formats available both locally and remotely for various mobile devices (e.g., cloud, database and file storage, and internal/external).				
6	Assess the strengths and weaknesses of various programming languages for various applications (e.g., XML for interface design).				
G. DESIGN TECHNIQUES		0	1	2	3
1	Develop a plan for an application that identifies <ul style="list-style-type: none"> a. the problem/purpose b. audience c. input, output, storage, and processing requirements d. sample data 				
2	Solicit and incorporate peer and professional feedback on the application plan including accessibility concerns.				
3	Select appropriate components (e.g., text fields, buttons, labels, vertical/horizontal layouts, picture box, list views, etc.) to achieve the purpose of the application.				
4	Select the necessary client and server components required to achieve the purpose of the application.				
5	Create a wireframe/design sketch/prototype incorporating interface standards and guidelines.				
6	Select and evaluate application assets/resources (e.g., images, icons, sounds, video, animation, etc.) for appropriateness in an application.				
7	Implement the use of stylesheets to format the application				

	<p>interface.</p> <ol style="list-style-type: none"> Implement color choices that account for cultural and psychological interpretations. Implement color schemes (i.e., monochromatic, analogous, triadic, tetradic) that promote readability, accessibility (to include colorblindness), and ease of use (avoid complimentary). Select appropriate typography (fonts, font size, font style, etc.) to facilitate readability and accessibility of the application. 				
8	Implement a variety of design principles (i.e., balance, contrast, dominance, proximity, repetition, continuance, negative space, unity) that promote a positive user experience.				
9	Implement security and privacy best practices.				
H. DEVELOPMENT TECHNIQUES		0	1	2	3
1	Create algorithms to solve computational problems that have an application in the real world (e.g., local community, church, civic organization, school, home life) that can be handled by a mobile application.				
2	Create valid variables and constants using appropriate data types to store information used in the program.				
3	Create data sets that could be used to explore a real world phenomenon or support a claim.				
4	Organize collected data to communicate the solution to a real-world phenomenon and support a claim.				
5	Decompose tasks into smaller, reusable parts to facilitate the design, implementation, and review of mobile applications.				
6	Develop code to solve the smaller parts of a decomposed task that can be reused to solve similar problems (e.g., procedures, functions, objects).				
7	Develop mobile applications that utilize conditionals (if, else if, else, switch) to produce multiple outcomes based on input given from a user.				
8	Develop mobile applications that utilize the different Control structures (e.g., Sequence logic, Selection logic, iteration Logic) to basically analyze and choose in which direction a program flows based on certain parameters and conditions.				
9	Develop mobile applications that utilize Loops (if, else if, else, switch) to produce multiple outcomes based on input given from a user.				
10	Develop mobile applications that correctly access remote resources (client/server access).				
11	Develop mobile applications that implement security and privacy best practices.				
12	Trace the flow of execution of a mobile application that uses a variety of programming constructs (e.g., procedures, modules, objects).				

13	Design and iteratively develop mobile applications that combine control structures (e.g., conditionals, loops, event handlers, and recursion).				
14	Trace the flow of execution of a mobile application that uses a combination of control structures (e.g., conditionals, loops, event handlers, and recursion).				
15	Design a solution through systematic analysis using programming constructs (e.g., procedures, modules, objects).				
I. TESTING & REVISION		0	1	2	3
1	Plan and develop programs for a variety of audiences using a process that incorporates development, feedback, and revision as part of a cyclical process. a. Review the program. b. Build the program. c. Execute the program to test the logical validity of an application program given appropriate data. d. Identify values of variables at different points in the flow of execution. e. e. Debug the program for errors (e.g., syntax and build errors).				
2	Systematically test programs using a range of test cases to meet design specifications (e.g., specific outcomes, functionality, user interface, error handling). a. Develop a test strategy. b. Create a test plan. c. Design a test suite of conditions to evaluate best and worst cases of a program. d. Identify the difference between a test case and test script. e. Create a test script. f. Demonstrate the ability to debug the program for errors (e.g., run-time/exception, and logic/semantic). g. Test applications for bias and accessibility issues.				
J. DEPLOYMENT		0	1	2	3
1	Examine marketing strategies related to the successful deployment of a mobile app. (e.g., landing page, social media, asking for app reviews, blog articles, giveaways, etc.)				
2	Conduct a cost-volume-profit (CVP) analysis to determine the economic justification for deploying the mobile application.				
3	Explore branding strategies for the mobile application and implement them into the deployment plan.				
4	Evaluate a mobile application in terms of meeting privacy needs, legal and intellectual property requirements, and security considerations (such as preventing attacks from malicious hackers, building secure applications, preventing data leaks, secure mobile transactions for in-app purchases).				

5	Demonstrate an understanding for how to deploy a mobile application to the marketplace, including marketplace submission rules.				
6	Create a mobile application deployment diagram highlighting the detailed steps of the preferred platform.				
7	Justify the selection of a deployment approach based upon the demands of the mobile application design. (e.g., web app, native, hybrid, etc.)				
8	Examine legal reference requirements for the preferred platform and incorporate them into the deployment package.				
9	Create a system for collecting analytical data for the deployed application. (e.g., number of users, audience segmentation, advertisement engagement, etc.)				
10	Develop a plan to monitor and manage the need for version updates, including how and when updates will be implemented. (e.g., app reviews, feedback form, end user data surveys, etc.)				
11	Research and develop end user documentation, including the visual application usage guide and End User Agreements.				
12	Create a comprehensive deployment package for a mobile application. (Deploy the mobile application, if resources are available.)				
K. PROFESSIONAL DEVELOPMENT		0	1	2	3
1	Develop an electronic portfolio to include applications, planning documentation and quality assurance reports that demonstrate mobile application design, development, and testing skills.				
2	Students are encouraged to demonstrate mastery of knowledge and skills learned in this course by earning the appropriate, aligned department-promoted industry certifications.				
3	Research educational opportunities to determine programs, degrees, and training availability to improve job prospects in mobile application development.				
4	Identify skills, interests, potential income opportunities, work environment in various careers in the mobile computing world.				
5	Incorporate career-specific skills.				
6	Research indie mobile applications developers in your community as a possible career opportunity.				
7	Develop a functional/skills-based resume that highlights technology skills, courses, experience, certifications, etc.				