Computer and Information Technology II Syllabus

The purpose of this course is to produce and promote "Information Literacy". "Information literacy forms the basis for lifelong learning. It is common to all disciplines, to all learning environments, and to all levels of education. It enables learners to master content and extend their investigations, become more self-directed, and assume greater control over their own learning."(Stanford 2012) Computer and Information Technology I is a course designed for students to learn about technology using technology. Project Based Learning, Inquiry and Problem Based learning will be emphasized to create a student centered learning environment. It enables learners to master content and extend their investigations, become more self-directed, and assume greater control over their own learning."

Students will use and learn the skills needed for the 21st century such as the ability to use digital technology, communication tools, and/or networks to define an information need, access, manage, integrate and evaluate information, create new information or knowledge and to be able to communicate this information to others. Students will learn in a Blended Learning environment. Blended Learing combines the best of face-to-face instruction with the best of online learning. This extends the learning beyond the classroom and gives students access 24/7.

Students will:

- Use technology as a tool to research, organize, evaluate and communicate information
- Use digital technologies (computers, PDAs, media players, GPS, etc.), communication/networking tools and social networks appropriately to access, manage, integrate, evaluate and create information to successfully function in a knowledge economy
- Apply a fundamental understanding of the ethical/legal issues surrounding the access and use of information technologies
- Solve real world problems, share ideas and work on collaborative projects
- Contribute to the collective knowledge base of Web 2.0

Students will create, use, and maintain a Blog as a digital portfolio of what they have done in the classroom. Students will create, produce and share a real world product. Students will be able to handle technological problems, assignments, decisions or tasks with the use of information problem-solving strategies.

Scope and Sequence

Unit	Time Frame:	Overview and Objectives	Activities and Assessment
1. Using the Operating System	5	Students will: ● Demonstrate the ability to use an Operating System ● Demonstrate the ability to organize information	● Watch videos and read tutorials on Operating System and basic functions. ● Perform basic and advanced OS functions. ● Organize information with OS files and functions. ● Complete OS assessment.
2. Communicating with the World Wide Web	5	Students will: ● Demonstrate the ability to use Web Browsers and Web Apps ● Demonstrate the ability to find, manage, and organize information	● Watch videos and read tutorials on using Web Browsers. ● Use multiple Browser window and tabs. ● Install and use browser tools. ● Complete Browser performance assessment.
3. Blogs and Blogging Basics	5	Students will: ● Create, customize, and modify a Blog. ● Understand, manage and create effective written and/or multimedia communication	● Sign up for a Google/Blogger account. ● Change setting privacy and comment settings. ● Create a mobile version of their Blog. ● Customize and modify Blog layout, settings and comments. ● Write a proper post using proper grammar, spelling and punctuation. ● Follow and comment on others Blogs. ● Complete Blog assessment.

		• Analyze, access, manage, integrate, evaluate and create information • Use Blog as a living portfolio	• Portfolio Assessment.
4. Digital Literacy	20	Students will: • Understand online ethics, risks of sharing information online, copyright and fair use • Understand how to develop a positive reputation and build a positive community • Define digital citizenship and digital footprint • Identify strategies to avoid sexting, cyberbullying and online cruelty • Identify online responsibilities, and the legal and ethical considerations of creative works	• Read, discuss and analyze information from articles on the topics included in this section. • Communicate the results to others using oral, written (Blog post), graphic, pictorial, or multi-media methods. • Watch videos and complete assessment on the these topics. ○ Online safety, Digital Etiquette, Cyberbullying, Online Predators, Information Privacy, Copyright, and Plagiarism. • Assessment of Blog writing, projects, online discussions and comments. • Portfolio Assessment.
5. Information Technology Literacy and Tech Compentency	20	Students will: • Consider the perspectives of new and emerging tools, technologies, software and Apps	• Read, discuss and analyze information from articles on the topics below. • Watch videos on the topics below.

		• Keep up to date on current technologies and products
		• Identify how to maintain ICT literacy and Tech competencies
		• Think critically about the effects of technology on people and society
			• Communicate the results to others using oral, written (Blog post), graphic, pictorial, or multi-media methods on these topics.
			  ○ New and emerging tools, technologies, software and Apps
			  ○ Current technologies and products
			  ○ The effects of technology on people and society
			• Assessment of Blog writing, projects, online discussions and comments.

6. Computer Basics	5	Students will: • Identify the basic components of computer systems • Describe how computers function • Describe how to get the most out of a computer system	• Read, discuss and analyze information from articles on Computer Basics. • Watch videos on Computer Basics. • Communicate the results to others using oral, written (Blog post), graphic, pictorial, or multi-media methods. • List computer components and describe their functions. • Make a chart of a computer system. • Assessment of Blog writing, projects, online discussions and comments. • Complete Computer Basics, Data Storage, Computer Viruses and Printer assessments.
7. Computer Math	5	Students will: • Understand and describe how computer use numbers	• Convert binary numbers to base 10 • Convert base 10 numbers to binary • Complete the Binary assessment.

		• Convert binary numbers to base 10 • Convert base 10 numbers to binary	
8. Computer Evolution	5	Students will: • Analyze how computers and computer advancement affect people's lives and society • Describe the evolution of the computer • Describe the evolution of Smartphones, Tablets, and Portables	• Read, discuss and analyze information from articles on Computer Evolution. • Watch videos on Computer Evolution. • Communicate the results to others using oral, written (Blog post), graphic, pictorial, or multi-media methods. • Create a Computer timeline. • Make a project on the Smartphones, Tablets, and Portables. • Assessment of Blog writing, projects, online discussions and comments. • Complete Computer History assessment.
9. Internet	5	Students will: • Compare and contrast different types of electronic communication • Understand the differences between the Internet and the World Wide Web • Identify tools, resources and services of the Web	• Read, discuss and analyze information from articles on the Internet. • Watch videos on the Internet. • Communicate the results to others using oral, written (Blog post), graphic, pictorial, or multi-media methods. • Make an Internet Firsts project. • Assessment of Blog writing, projects, online discussions and comments.

		• Identify benefits and problems associated with using the Web	• Complete the Internet assessment.
10. Network Basics	5	Students will: • Evaluate the different types of computer and mobile Networks • Describe the advantages and disadvantages of computer and mobile networks • Identify and describe the way the hardware components of a computer and mobile network operate	• Read, discuss and analyze information from articles on Computer and Mobile Networks Basics. • Watch videos on Computer and Mobile Networks Basics. • Communicate the results to others using oral, written (Blog post), graphic, pictorial, or multi-media methods. • List Computer and Mobile Network types and describe their functions. • Create a Network Diagram. • Assessment of Blog writing, projects, online discussions and comments.
11. Network Evolution	5	Students will: • Analyze how Computer and Mobile Networks advancement affect people's lives and society • Describe the evolution of the Computer and Mobile Networks	• Read, discuss and analyze information from articles on Computer and Mobile Networks. • Watch videos on Computer and Mobile Networks. • Communicate the results to others using oral, written (Blog post), graphic, pictorial, or multi-media methods. • Create a Computer and Mobile Networks timeline. • Work on combined unit multimedia project. • Assessment of Blog writing, projects, online discussions and comments.

12. Introduction to Computer Programming	75	Students will: ● Identify and apply programming fundamentals, including: ○ Variables ○ User Input ○ Basic Math in JavaScript ○ Using Graphics in JavaScript ○ Booleans ○ Logical Operators ○ Comparison Operators ○ If Statements ○ For Loops in JavaScript ○ General For Loops ○ For Loop Practice ○ Random Numbers ○ While Loops ○ Loop and a Half	● Read, discuss and analyze information from articles on programming fundamentals. ● Watch videos on programming fundamentals. ● Communicate the results to others using written (Blog post), graphic, pictorial, or multi-media methods. ● Follow step-by-step directions, view video tutorials and create and share their own interactive stories, games, music and art projects. ● Examine, evaluate and build upon the project of other students. ● Complete assessments on procedures, programming basics, program interface. ● Share and evaluate projects.