

Course Outcome Guide (COG)

Approved 13 September 2012

Course:	CSCI 161 – Computer Science II	Credits:	3	Instructor:	TBD
Course Description:	Advanced concepts in computer science including data structures, algorithm analysis, standard problems such as searching and sorting and memory management issues. Prerequisite: CSCI 160.				
Concepts and Issues	Process Skills	Assessment Tasks	Intended Outcomes		
			Course	General Education or Program	Institutional
<p>Basic concepts of programming language</p> <p>Functions</p> <p>Arrays</p> <p>STL strings</p> <p>Structures</p> <p>Compilers</p> <p>Pseudocode</p> <p>Debugging tools</p>	<p>Follow the software development process (requirements analysis, design, implementation, and test) in the development of small programs.</p> <p>Use an understanding of cultural differences in user populations and global software design requirements in order to design effective software.</p> <p>Employ good software engineering practices and good software design, always applying Software Engineering Code of Ethics as determined by Association for Computing Machinery (ACM).</p> <p>Construct appropriate user interfaces for simple programs, and design systems with minimal complexity and maximal functionality.</p> <p>Analyze and construct</p>	<p>*Participate in class discussions and activities demonstrating knowledge of subject matter.</p> <p>*Complete examinations demonstrating acceptable skill level of concept and process.</p> <p>*Complete textbook readings, questions and problems (both individually and collaboratively) demonstrating acceptable skill levels of concept and process.</p> <p>* Design, construct and test your final project.</p>	<p>Students demonstrate an ability to apply knowledge of computing and mathematics including computer science theory appropriate to the discipline including recursion and order N analysis and demonstrate knowledge of machine code and pointer manipulation.</p> <p>Students demonstrate an ability to analyze a problem and identify and define the computing requirements appropriate to its solution.</p> <p>Students demonstrate an ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs including exposure to advanced sorting, object</p>	<p>1.Mathematics-including numeration literacy and the knowledge and use of statistical and logical processes.</p> <p>2.Analytical-gathering, organizing, and evaluating information</p> <p>3.Analogical-using former knowledge to help comprehend and explain new situations</p> <p>4.Critical Thinking-the ability to identify ad define criteria, understand biases, and construct objective judgments.</p> <p>5.Problem solving-the ability to analyze situations and synthesize solutions.</p>	<p>1. Students will demonstrate effective communication skills.</p> <p>2. Students will use reasoning skills to analyze and solve problems.</p>

	<p>efficient and effective algorithms and translate to appropriate control structures in an implementation language. Effectively use software development tools including libraries, compilers, editors, linkers and debuggers.</p>		<p>oriented design, and programming. Students demonstrate an ability to use current techniques, skills, and tools necessary for computing practice including C++.</p>		
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