

COMPONENT	OBJECTIVES	COMPETENCY
<p>I Basic Operations and Concepts</p>	<ol style="list-style-type: none"> 1. Demonstrate knowledge and appropriate use of operating systems. 2. Delineate and make necessary adjustments regarding compatibility issues including digital file formats and cross platform connectivity. 3. Differentiate current programming languages and discuss the use of the languages in other fields of study. 4. Demonstrate knowledge of specific programming terminology and concepts. 5. Identify object-oriented data types and delineate the advantages/disadvantages of object data. 	<ol style="list-style-type: none"> A. Demonstrate proper care and operation of equipment. B. Demonstrate coding proficiency in contemporary programming languages including an object-oriented language.
<p>II Problem-Solving Tools</p>	<ol style="list-style-type: none"> 1. Use appropriately and trace recursion in program design comparing iterative and recursive algorithms 2. Compare and contrast design methodologies including top-down and bottom-up. 3. Evaluate solution to a specified problem by testing results for correctness. 	<ol style="list-style-type: none"> A. Demonstrate the ability to read and modify large programs including the design description and process development.
<p>III Structured Programming</p>	<ol style="list-style-type: none"> 1. Develop code using various data types. 2. Demonstrate effective use of predefined input and output procedures for lists of computer instructions including procedures to protect from invalid input. 3. Identify, describe and use sequential/non-sequential files 4. Identify, describe and use multidimensional arrays and array of records. 5. Define and develop code using the concepts of abstract data types. 	<ol style="list-style-type: none"> A. Produce a program or a series of programs that demonstrate block-structured programming. B. Write a program or series of programs that demonstrate the correct use of multidimensional arrays. C. Create robust programs with increased emphasis on design, style, clarity of expression and documentation for ease of maintenance, program expansion, reliability, and validity.

