



## **Assessment Report for Master of Computer and Information Science Spring, 2007**

### **Introduction**

The basic purpose of the MCIS degree is to prepare students to take a leadership role in software development, primarily in the Greater Cleveland area. Students are required to have an undergraduate degree in a field closely related to Computer & Information Science. For those who do not, the CIS Department provides a preparatory program which covers a set of core courses required as a preparation for a Master's degree. The degree program requires each student to take three core courses, two relating to fundamentals of computer systems and one introducing a research component. A student then chooses several elective courses based on his or her interests. The electives are designed to ensure that students achieve depth in at least one specialization area, while also requiring a minimum amount of breadth across several specializations.

### **Goals**

Original goals were developed, following a faculty discussion, in 2003 by all tenure-track faculty teaching in the MCIS program. Based on the experience gained, a review of the program goals was conducted in 2006 by a faculty committee. The revised goals emphasizes issues such as providing students with practical experience in the design, analysis and implementation of software systems; exposing students to design and analysis methods for modern computer systems, and exposing students to research directions in Computer and Information Science.

### **Outcomes**

An original set of outcomes were determined by all tenure-track faculty teaching in the MCIS program, in 2003. During 2006-07, a faculty committee further reviewed the outcomes after program goals were reviewed. The department has identified about 20 outcomes to match with the newly defined program goals. Examples of outcome include

- All students will implement a large software system using an object-oriented programming language.
- All students will design a large software system using modern software engineering techniques.
- All students will demonstrate knowledge of database systems.



**Research Methods**

We have used essentially the same research methods for the past six semesters. However, significant changes have been made in the assessment instrument to test the knowledge requirement in the program. As of now, the assessment test is given to students in several classes with a request that a student not take a test for the second time during the semester. One of the problems of this method is the variation in the background of students taking the test. Since majority of students enter the MCIS program in the Fall semester, the background of students taking the assessment test is expected to be worse compared to those taking the test at the end of the Spring semester. We, therefore, expect the scores for the end of Spring assessment test to be better than those at the end of Fall.



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**Goal:** Provide the student with practical experience in the design, analysis and implementation of software systems while exposing a student to design and analysis methods as well research directions in computer and Information science.

Outcomes	Research Methods	Findings	Review	Actions
<ol style="list-style-type: none"> <li>All students will demonstrate in-depth knowledge of an object-oriented programming language</li> <li>All students will demonstrate knowledge of database systems</li> <li>All students will design a large software system using modern software engineering techniques</li> </ol>	<p>Faculty provided an assessment examination with 45 questions. These questions tested a student's knowledge in skills as well as several application areas. Test was administered to a mix of 34 students in the Fall of 2006, and 29 students in the Spring of 2007.</p>	<p>The average score for the test area for the Fall 2006 clustered within the middle third. From a possible maximum score of 45, 10 students scored between 0-15, and 24 students scored between 15 and 30, for a class average of 16.7. The Spring scores, by contrast is slightly better with an average of 22.52. 27 students scored between 15 and 30, and 2 scored between 30 and 45.</p>	<p>The scores are generally on the low side, but are contaminated by the variation in the background of students taking the test. The MCIS program admits students every semester and they bring a variety of background to the assessment test. We propose to factor out experience and classes taken in future assessment test.</p>	<p>The outcome result will be reviewed by a faculty committee during the Fall semester for necessary improvements in testing. A program review is also expected to be started.</p>