COLLEGE OF NATURAL AND APPLIED SCIENCES
COMPUTER SCIENCE AND COMPUTER INFORMATION SYSTEMS (CS/CIS)
BACHELOR OF ARTS IN COMPUTER SCIENCE
BACHELOR OF ARTS IN COMPUTER INFORMATION SYSTEMS
MINOR IN COMPUTER SCIENCE
MINOR IN COMPUTER INFORMATION SYSTEMS
THREE FULL-TIME FACULTY MEMBERS

CS/CIS CURRICULAR MAPPINGS (CMs)

DEFINED GE CS/CIS SLOs	CS/CIS PROGRAM SLOs
CS GE-1: Describe the major components of all modern computer systems. **CS GE-2: Using MS Word, create a well-formatted research paper with outline, embedded table, graphic illustration, and references.** **CS GE-3: Using MS Excel, create a well-formatted spreadsheet To calculate a cash-flow student budget.** **CS GE-4: Using PS PowerPoint, create a well-formatted presentation corresponding to the outline for the above research paper.** **CS GE-5: Using HTML, create well-formatted, linked webpages.**	**CS/CIS PR-1:** (GE) Demonstrate competence with **Windows** and basic **MS Office** applications especially MS WORD, EXCEL, and PowerPoint. **CS/CIS PR-2:** Demonstrate **technical competence*** in **Programming:** • Analyze problems and create algorithm/heuristic solutions. • Develop these using computer-programming methodologies in several programming languages. **CS/CIS PR-3:** Demonstrate technical competence in **Systems**. • Identify and analyze system requirements, criteria and specifications. • Design and implement human sensitive/compatible computer based systems using appropriate tools, methods and techniques. • Effectively manage, organize, and retrieve all forms of information. • Evaluate system design solutions and their risks. **CS/CIS PR-4:** Demonstrate technical competence in **Databases.** • Be able to design and implement a functional database. **CS/CIS PR-5:** Demonstrate technical competence in **Networks.** • Be able to design, install, administer, and maintain a computer network. • Be able to setup, install, and use two different operating systems and be able to program client-server applications for them. **CS/CIS PR-6**: Develop socially, professionally, and ethically utilize these technical skills to construct robust, secure, beneficial (commercial, educational, social) systems i.e. NO Spam, Phishing, Hacking, Deceptive, Fraudulent, Criminal, or Terroristic systems. ***Technical Competence** means to be able to design, implement (build/code, test, debug), communicate effectively (in written, oral, and numerical forms), individually, and as part of a team.

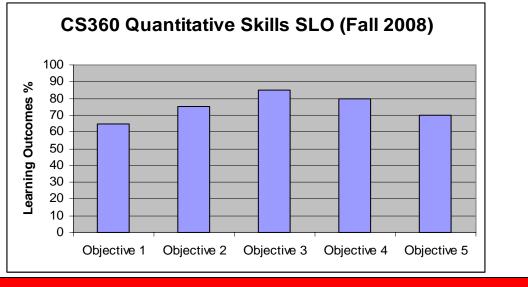| CS/CIS GE CURRICULAR MAPPING						CS/CIS DEGREE PROGRAM CURRICULAR MAPPING						
COURSE NO.	LINK TO GE SCIENCE SLOs[1]					COURSE NO.	LINK TO PROGRAM SLOs[1]					
	CS GE-1	CS GE-2	CS GE-3	CS GE-4	CS GE-5		CS/CIS-1	CS-CIS-2	CS/CIS-3	CS/CIS-4	CS/CIS-5	CSCIS-6
CS*200	1	2	3	4	5	CS*200	12345					
						CS*201		12345				
						CS*202		12345				
						CS*305		123				
						CS*315				12345		
						CS*360			12345			
						CS*365			12345			
						CS*370		12345				
						CS*380		12345				
						CS*403					1234	
						CS*410		12345				
						CS*431		12345	12345	12345	12345	12345
						CS*492				12345		

[1]**The numbers are course SLO numbers that link the course to the program SLO (See UOG/CNAS/CNAS Assessment Website for detailed descriptions of these course SLOs by visiting: http://www.uog.edu/dynamicdata/CNASAssessment.aspx?siteid=2&p=20);**

CS/CIS PROGRAM ASSESSMENTS

ASSESSMENT ACTIVITY	ASSESSMENT RESULTS AND RECOMMENDATIONS FOR PROGRAM IMPROVEMENTS
PROGRAM-LEVEL ASSESSMENT (See page 2 for details): Assessment for CS315 (Database Management Systems) by Dr. Fenglien Lee in Spring 2007 and Spring 2008 (Dr. Lee designed one set of quantitative skill assessment rubrics to measure the SLO on the four objectives given on page 2).	See page 2 for the details on the assessment results and recommendations.
Dr. Lee conducted the assessment for CS360 (Operating Systems) in Fall 2008. Students finished several labs on MS DOS and Unix, and twelve labs on Microsoft Windows XP to learn fundamental skills on operating systems. By the end of semester, students also finished a research project on a modern operating system. Below are the learning objectives for him to assess the SLO in this course: 1. Be able to describe the structures and functions on process management for a modern operating system. 2. Be able to describe the structures and functions on memory management for a modern operating system. 3. Be able to describe the structures and functions on file management for a modern operating system. 4. Be able to describe the structures and functions on input/output devices management for a modern operating system. 5. Be able to describe the structures and functions on network and security management for a modern operating system.	From the assessment results, we found that: 1. Most students were able to reach all five objectives successfully. 2. For objective 1, Dr. Lee needed to use a simple modern operating system, such as Linux, to explain the process management concepts completely; and let students to do more hand-on labs in process management. 3. For objective 5, Dr. Lee gave a brief introduction on how an operating system handles the network and security management. Students will learn more skills on this issue in CS403 (Data Communication and Networking). Below are the graphical assessment results for the five objectives for CS360 in Fall 2008: **CS360 Quantitative Skills SLO (Fall 2008)**

CS/CIS PR-4: Demonstrate technical competence in **Databases.**

- Be able to design and implement a functional database.

To assess the above CS/CIS program SLO, Dr. Lee conducted the assessment for CS315 (Database Management Systems) in both Spring 2007 and Spring 2008. Students used the same Microsoft Access system to design a simple business relational database. In Spring 2008, he spent more time on teaching both theoretical and practical aspects on table normalization. He also gave students more time on developing database management and user training skills. He used the same set of assessment rubrics and objectives to check the student learning outcomes (SLO).

Objectives for Relational Database Design:

1. Data collection, organization and understanding;

2. Using collected data to create and normalize tables;

3. Using normalized tables to create, implement and test the database;

4. Database management and customer training.

From the assessment results, we found that:

1. Most students are able to reach all four objectives successfully

2. For objective 2, most students understood both theoretical and practical aspects on table normalization

3. For objective 4, most students knew how to develop database management and user training skills

4. The SLOs in Spring 2008 have about 5% improvement from Spring 2007 even the class size of S08 is double of S07.

Below are the graphical assessment results for the four objectives in Spring 2007 and Spring 2008.

CS315 Skills Assessment Results