University of North Carolina Wilmington

Educational Program Assessment Plan and Report
Assessment Plan for 2013-2014
Cameron School of Business

Degree: Master of Science in Computer Science and Information Systems

MSCSIS Program Outcomes

Program Outcome UNCW Strategic Goal	Tools	Implementation	Summary of Findings	Actions Taken
PO 1: Increase dialogue between industry and MS CSIS program. **UNCW Goal 5**	Wilmington IT Exchange and Conference	Dr. Tom Janicki; number of industry people, faculty and students who attend events	Spring 2014 event had approximately 425 attendees: students, industry professionals, faculty. Breakout sessions and panels also support PO2. Supports PO3 through broad awareness marketing.	Panel topics are adjusted each year to maintain currency. Post-event meetings to adjust operational issues. New speakers and special guests each year.
	IT Career Day	Dr. Tom Janicki, other faculty	Fall 2014 event had more than 34 employers inverviewing. Approximately 30 graduate students attended. Approximately 20 CSIS alumni participated.	Continue to promote the event, with the goal of increasing industry and student involvement.
	Cyber Defense Competition	Dr. Jeffery Cummings	Spring 2014, a group of graduate and undergraduate students attended the cyber defense competition. The team competed in the	Continue involvement making operational changes. Offer independent study credit to students.

Program Outcome UNCW Strategic Goal	Tools	Implementation	Summary of Findings	Actions Taken
			regional qualifier but unfortunately did not qualify.	
	Cape Fear .Net Developer Group	Meeting space on campus through Center for Innovation and Entrepreneurship (CIE), IT professionals arrange meetings	This fills a professional organization gap in the Wilmington area. Venue for faculty and professionals to interact and share knowledge.	Continue supporting this professional group through meeting space and attendance of faculty and students.
	Day trip to Raleigh to visit various Tech Companities	Whole day trip where students spend time at one of these companies: EMC, Metlife, Fidelity, and IBM.	Employers enjoy working with students.Students see a real-world work environment.	Continue to make the trip. Expand the pool of companies that students can visit. Candidates include Credit Suisse, EMC, Metlife, Fidelity, IBM, SAS and Red Hat.
	Spring trip to NC State Engineering Career Fair	Graduate Student Association in CSIS organized a trip to the NC State Career Fair.	MSCSIS students had access to approximately 300 employers during both the Fall 2013 and Spring 2014 trips. About 10 students went on each trip. As a result of the Fall 2013 trip, one student accepted a full-time position in a leadership development program with a Fortune 100 company. In the Spring of 2014, two students accepted Summer internships with	The Graduate Student Association will continue to make trips to the NC State Career Fair. The MSCSIS program as well as the Graduate School are provided funding to assist the students with travel expenses.

Program Outcome UNCW Strategic Goal	Tools	Implementation	Summary of Findings	Actions Taken
			companies met at the fair. Overall, six students had interviews with companies met at the NCSU Career Fair. Also on the trips, students toured a game software development company, Epic Games, and had a Q&A session with various employees.	
	Alumni Reunion	One early evening of Business Week, we hosted a social event in honor of MSCSIS alumni, and invited faculty, students, alumni, and employers. The event was held at the Hops Supply Co.	About 40-50 attendees. Approximately 13 alumni and several guests, 5 employer representatives, and 9 students and 10 faculty attended. All were very pleased with the event.	Continue to organize and host this event. We may try to bring in a few more employer representatives.
	Business Week Sessions specifically for MSCSIS students by MSCSIS Alumni	Three MSCSIS alumni returned to campus to be on a panel of MSCSIS alumni, and relate their work experience. Companies: ATMC, Credit Suisse, and IBM.	At least 30 attendees. Good networking opportunities for current students.	Continue to develop Business Week sessions that are specifically of interest to MSCSIS students. Invite alumni from other companies.
	Advisory Board Meeting	The Advisory Board Typically meets twice a year to discuss how to improve the quality of the undergraduate (BS IS/IT) and graduate programs	The agenda for the February 2014 meeting are attached in the appendices. In the last meeting, one of MS CSIS graduates gave a	The Advisory Board will continue to meet on its current schedule.

Program Outcome UNCW Strategic Goal	Tools	Implementation	Summary of Findings	Actions Taken
		(MS CSIS).	presentation on his capstone project. The Advisory Board did not address curriculum changes to the MS CSIS program during this meeting, but did discuss how to improve WITX and Career Day	
PO2: Provide learning opportunities for faculty **UNCW Goal 2**	IT Breakfast Series	Dr. Tom Janicki; number of breakfast meetings and attendance data	Approximately 3 breakfast meetings each semester. Faculty and professionals share knowledge and keep current with fast-changing technologies.	Continue to offer new topics each year.
	Cyber Defense Competition	Dr. Jeffery Cummings	Bi-weekly meetings of students with industry professionals guest-speaking. Faculty learn real-world challenges.	Continue and increase involvement in this event.
	Cape Fear .Net Developer Group	Meeting space on campus through Center for Innovation and Entrepreneurship (CIE), IT professionals arrange meetings	A valuable learning opportunity for faculty.	Continue supporting this professional group through meeting space and attendance of faculty and students.
PO3: Improve student recruitment **UNCW Goal 1**	Face-to-Face meetings with undergraduate students at various universities in the region.	Dr. Clayton Ferner will make visits to several universities in the region as well as visites to classes at UNCW. Dr. Ferner has already planned the 1st	This activities is just starting.	Nothing to report yet.

Program Outcome UNCW Strategic Goal	Tools	Implementation	Summary of Findings	Actions Taken
		trip to visit UNGG and Wake Forest.		
	New web site content; web site analytics	Dr. Clayton Ferner	In the last report, the suggested course of action was, "Implement 'landing pages' more focused towards specialized areas such as Security. Provide links from capstone documents to main site. Improve calls-to-action. More clearly explain application process." This has been done.	No actions recommended
	Social media: LinkedIn, Facebook	Dr. Clayton Ferner, Mrs. Karen Barnhill	Social media usage is increasing among potential applicants. In the last report, the suggested course of action was, "Establish LinkedIn and Facebook presences. Adopt LinkedIn for internal processes such as event announcement. Use LinkedIn for public announcements: awards, publications, etc." This has been done	No actions recommended
	Google Adwords and reports	Dr. Clayton Ferner, Mrs. Karen Barnhill	The traffic generated by Google Adwords does not appear to be having a significant impact on	The Adwords will continue as long as there is a balance in our account with Google

Program Outcome UNCW Strategic Goal	Tools	Implementation	Summary of Findings	Actions Taken
			recruitment..	
	Graduate School applications reports	Graduate School	Applicants hear about graduate programs from 1) the web; 2) word-of-mouth	Continue to use social media to increase alumni word-of-mouth.
	Mobile-friendly web content	Mobile-friendly versions of targeted marketing pages: FAQ, YouTube Video, Top Ten Reasons, and targeted topic pages	Bounce rate for these landing pages dropped from 95% to about 40%.	This strategy for recruitment has been given a lower priority over face to face engagement with prospective students.

MSCSIS Student Learning Outcomes

Program Outcome UNCW Strategic Goal	Tools	Implementation	Summary of Findings	Actions Taken
SLO1: Graduates will be able to formulate and solve problems using advanced mathematics and numerical methods, and computer information systems-based techniques. **UNCW Goal 1**	Method: Multiple choice questions were developed to assess content knowledge.	Administration: Questions are administered to all students in CSC/MIS 532 Design and Analysis of Algorithms at the end of their program. The MSCSIS faculty committee reviews the data and initiates any changes.	No trends in the average scores were apparent over time. In the last report, it was reported that the percent of correct answers to the recurrence question of the assessment were very low. The proposed action was to give greater attention to recurrences. There appears to be an improvement in these scores since Spring 2013; although the N is low and it is still too soon to tell.	We will continue to give special attention will be given to writing and solving recurrences for running time in the Computer Algorithms course.
SLO2: Graduates will	Method: Multiple choice	Administration: Questions	No trends were identified	Crypto analysis is being

Program Outcome UNCW Strategic Goal	Tools	Implementation	Summary of Findings	Actions Taken
demonstrate knowledge of ethics and professionalism, and understand contemporary issues such as green computing, data security, privacy, and compliance with regulations. **UNCW Goal 3**	questions were developed to assess content knowledge.	are administered to all students in CSC/MIS 534Information Security Management at the end of their program. The MSCSIS faculty committee reviews the data and initiates any changes.	in assessment scores across time. In the last report, it was reported that the percent of correct answers to questions regarding cryptoanalysis were low. The proposed action was that Dr. Cummings would be teaching the course and would cover cryptoanalysis. It does not appear that there is an improvement in the scores on cryptoanalysis as well as the question related to backups systems; although the N is low and it is still too soon to tell.	covered in MIS 534. It may be too early to see the benefit of the change. This SLO will be measured again to determine if there is an improvement. No proposed changes are made at this time.
SLO3: Graduates will be able to complete analysis and design of business processes employing the latest information technology techniques, including the unified process model. **UNCW Goal 1**	Method: Multiple-choice questions were developed to assess content knowledge.	Administration: Questions are administered in CSC/MIS 550 and 565, Software Engineering and Analysis, Modeling, and Design courses, respectively at the end of their program. The MSCSIS faculty committee reviews the data and initiates any changes.	Average scores did not change in a patterned way over time. In the last report, it was reported that scores were low for the question regarding project management's role in system develop-ment scored very low. The proposed action was to give more emphasis on this topic in MIS 565.	In order to emphasize the importance of project management in MIS 565, Dr. Reinicke has included a number of Harvard and Ivey Business cases in the course the emphasize different aspects of project management. The cases run through various aspects of project management, the impact

Program Outcome UNCW Strategic Goal	Tools	Implementation	Summary of Findings	Actions Taken
				of proper (or improper) project management on success for new systems projects and the financial aspects of project management as well. No assessments of the impact of these cases on the students' knowledge of project management have be performed as of yet.
SLO4: Graduates will be able to apply science and business principles to analyze and interpret data, using analytic and computer-based techniques. **UNCW Goal 1**	Method: Multiple-choice questions were developed to assess content knowledge.	Administration: Questions are administered in CSC 555 Data Management Systems at the end of their program. The MSCSIS faculty committee reviews the data and initiates any changes.	No obvious trends in the average scores over time were apparent. It was reported in the last report that correct responses to the question regarding Clustered indexes were very low. These scores remain low as do the scores for questions related to balanced trees, the reason for relational databases, fragmentation, and ACID. Although there are not trends in the overall performance, there are significant fluctuations from semester to semester.	No suggested changes are proposed at this time, but this SLO will be measured again to determine if a trend exists. If we continue to see low scores, a proposal will be recommended.
SLO5: Graduates will demonstrate effective	**A: Written Communication**	**A: Written Communication**	**A: Written Communication**	No action is proposed for this assessment. The

Program Outcome UNCW Strategic Goal	Tools	Implementation	Summary of Findings	Actions Taken
communication through written and oral presentations. **UNCW Goal 1**	Method: A capstone assessment survey was developed for all projects for evaluation, including thesis. **B: Oral Communication** Method: A rubric is applied to oral presentations in MIS 565 or CSC 550.	Administration: The faculty on a student's committee evaluates the work using the assessment survey to determine if effective written communication was evident. This is conducted when the project for the degree is completed. **B: Oral Communication** Administration: The faculty teaching MIS 565 or CSC 550 apply a rubric to assess the quality of student presentations conducted as part of that class. The MSCSIS faculty committee reviews the data and initiates any changes	The scores on the capstone assessment survey remain in the range 3.5-4.5 on a five point scale. **B: Oral Communication** The scores on the oral communication rubrics remain relatively consistent. The "Presenter Presence" scores are the lowest of the categories.	instructor of MIS 565 does not feel that the scores for the "Presenter Presence" category is an issue. He feels it is expected of students and that this is an opportunity to give feedback to the students on their presentations so that they may improve.
SLO6: Graduates will be exposed to a variety of advanced technology communications tools, such as Web conferencing, wikis, and social networking	Method: Multiple-choice questions were developed to assess content knowledge.	Administration: Assessment is administered by faculty member in the CSC 544 Network Programming course every fall semester to all students. The	The scores on this assessment remain high and do not require any action.	No action is proposed for this assessment.

Program Outcome UNCW Strategic Goal	Tools	Implementation	Summary of Findings	Actions Taken
software. **UNCW Goal 1**		MSCSIS faculty committee reviews the data and initiates any changes		

Appendix A: Advisory Board Meeting Minutes

Information Systems and
Master of Science Computer Science Information Systems
Advisory Board

Spring Business Meeting - Agenda

February 4, 2014
Madeline Suite

5:20 Welcome ..... Tom Janicki
Advisory Board Coordinator

Members/Guest Update

5:30 IS Student Club Update ..... Denton Campbell
Samantha Humphrey

5:35 Master CS IS Capstone Presentation ..... Tyler Loftis
MS CSIS Graduate Student

5:45 Internships/Placement ..... Teresa Walker
CSB Director of Work Practice

5:55 IS Career Outlook ..... Judith Gebauer
MIS Associate Professor

6:00 December Undergraduate Placement ..... Tom Janicki
MIS Internship Coordinator

Masters Placement ..... Douglas Kline
MS CSIS Coordinator

Roundtables
WITX Learning Module Topics/Speakers ..... Bryan Reinicke
Curriculum Review – IT Project Management ..... Jeff Cummings
Curriculum Review – Intro to MIS .....George Schell

Upcoming events

Wilmington Area IT Professionals Breakfast
February 18, 7:30 am
"Status of Software Development and Innovation in SE NC"

Business Week
March 25 and 26

WITX 2014
April 8, 2014

Notes from Fall Roundtables

WITX Roundtable Discussion

Ignite

Discussion related to moving Ignite to an earlier position in the program.
Perhaps move to 5 PM.
Consider placing a small bar in the room hosting the presentations.
Consider moving back in to CIS 1003 (Fishbowl).

Learning Exchanges

Major issue with attendees not being able to find rooms for presentations.
Suggest color-coding rooms and signage to ease finding rooms.

Operations

Consider centralized "Information" booth that attendees can access
Don't reduce alcohol.

Parking

Need better parking options.
Led to discussion of moving WITX new location. Locations discussed included: Cape Fear campus and UNCW Center for Innovation and Entrepreneurship.

Updates:

Ignite will start at 5:15 back in CIS 1003 (glass room)
Learning Exchanges will have room #'s on tickets and matching color
Will add signage for a portion of the registration area to also be Information
Adding a second lot, seeing if we can provide shuttle service
Want to hold on campus

Advisory Board - Senior Presentation Discussion

Some suggestions that came out of the discussion include:

- Assigning mentors earlier on in the process
    - Many felt they did not have enough time to meet with the students
    - Could they assign them during MIS411 at the beginning of the semester
    - Maybe change name to coach instead of mentor

- The overwhelming comment from everyone is the lack of communication skills many of the students have concerning presentation skills
    - In the past, many of the students failed to express the value of their proposal
    - They felt students should be able to present 1 slide that states the ROI of the project and be convincing enough to sell that project

- The timing of the senior presentation was discussed most
    - Should we move these to MIS411 and have them sell the project to the advisory board?
    - Can we have this at the advisory board meeting in the fall?
    - Should this be a requirement for MIS411 or extra credit?
    - Are the cash prizes incentivizing to students?

- Another discussion included providing workshops to students in 411/413
    - The goal would be to have advisory board members spend time on presentation skills, communication skills, etc.
    - Todd Hawthorne had some additional ideas around this if needed

Updates:

Need to set specific actions to change focus to improve communication skills versus a summary of a project

We let this one fall through the cracks and implement

Career day

- Timing good this year – early is better Credit S. Keith from atmc also likes it earlier.
- The students are better prepared, but we still have some showing up unprepared. They are doing a better job with interacting professionally. Students should do a little research on the companies beforehand. Perhaps have a little blurb on each company on the web. What are the companies and what types of jobs are they posting. This would allow us them to get more information from the students that they interact with.
- They liked having the UNCW alumni present – they felt that this helped to connect with the students. They got more interaction with the students because of that.

- They liked having the student present about internships in class. The students actually remembered that and brought it up with the companies. Another suggestion was that the students do a presentation ahead of career day – student who had internships could run a session on the companies that they worked for so that people are even better informed.
- What about health care IT? We don't have any companies from there and this could be a good extension.

Updates:

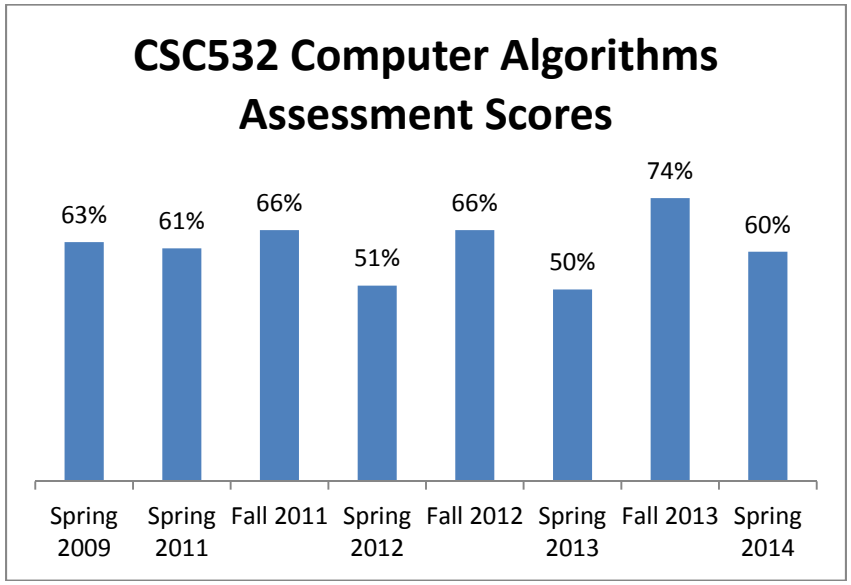
1. Will ask firms for the types of jobs they have available (internship, full time, titles) and post on web site in advance of career day so students are better prepared
2. Ask student clubs to have an event with students who had internships with firms coming to be better prepared
3. Seek health care IT, try to get New Hanover Regional Medical Center and others more involved

Appendix B: MSCSIS SLO1 Findings

Content Knowledge Assessment Results, Spring2009 – Spring 2014
CSC 532

	Percent Correct							
	Spring 2009	**Spring 2011**	**Fall 2011**	**Spring 2012**	**Fall 2012**	**Spring 2013**	**Fall 2013**	**Spring 2014**
Is the following true or false? f(n) = O(g(n)) Implies g(n) = O(f(n))	0%	50%	50%	42%	25%	50%	60%	20%
Is the following true or false? f(n) = O(g(n)) implies g(n) = Ω(f(n))	100%	25%	50%	33%	75%	50%	60%	40%
What is the O() complexity for the following function. Give your answer as a function of n.	100%	62%	50%	50%	50%	17%	100%	100%
What is the O() complexity for the followng segment of program which multiplies two matrices a and b (resident in 2-d arrays) to find the result matric in c.	100%	75%	75%	75%	75%	100%	100%	80%
The two most common algorithms (Prim and Kruskal Algorithms) to solve Minimum Spanning Tree problem belong to which of the following class of techniques.	100%	100%	75%	42%	100%	67%	80%	60%
Which of the following characterizes the applicability of Dynamic Programming Techniques to solve problems?	100%	75%	100%	75%	100%	50%	100%	60%
Write a recurrence for the running time T(n) of f(n), and solve that recurrence. Assume that addition can be done in constant time.	0%	50%	75%	25%	50%	17%	20%	40%
Decide whether you think the following statement is true or false. In a flow network which has maximum flow from node s to node t the flow across any s-t cut (no matter which cut is considered) is the same.	0%	50%	50%	67%	50%	50%	60%	60%
Which of the following characterizes the applicability of **Linear Programming Technique** to solve problems?	100%	88%	100%	92%	100%	100%	100%	80%

	Percent Correct							
	Spring 2009	**Spring 2011**	**Fall 2011**	**Spring 2012**	**Fall 2012**	**Spring 2013**	**Fall 2013**	**Spring 2014**
Decide whether you think the following statement is true or false. Let G be a flow market, with a source s and a sink t, and a positive integer capacity c(e) on every edge e. If it is a maximum flow in G, then f saturates every edge out of s with flow (I.e. for all edges e out of s, we have f(e)=c(e)).	0%	62%	100%	83%	75%	83%	60%	60%
Average	63%	61%	66%	51%	66%	50%	74%	60%
N	1	8	4	12	4	6	5	5

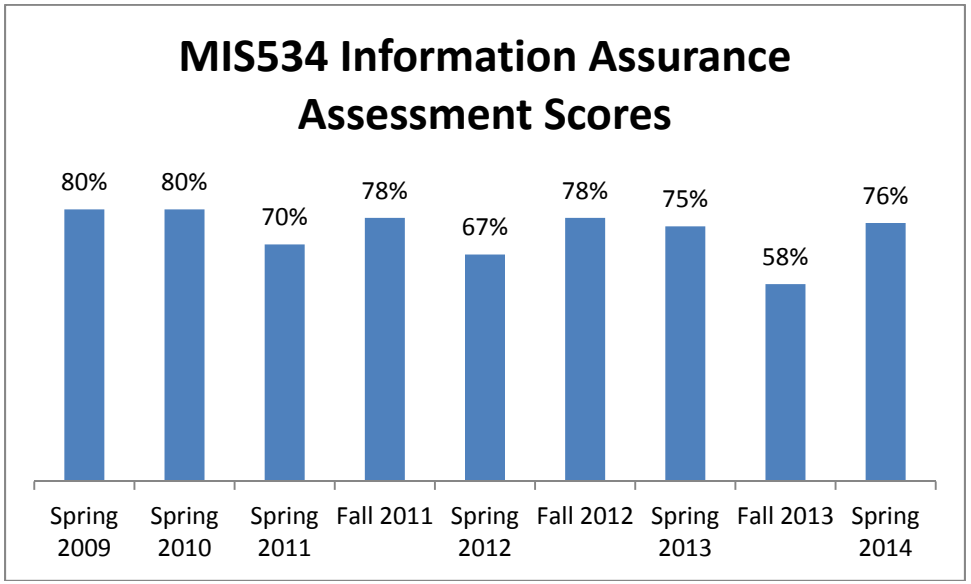


Appendix C: MSCSIS SLO2 Findings

Ethics/ MIS534 Assessment Results, Spring 2009-Spring 2014

	Percent Correct								
	Spring 2009	**Spring 2010**	**Spring 2011**	**Fall 2011**	**Spring 2012**	**Fall 2012**	**Spring 2013**	**Fall 2013**	**Spring 2014**
Identifying, assessing, and reducing risk to an acceptable level and maintaining the achieved level is referred to as _____.	89%	100%	92%	100%	100%	100%	100%	80%	100%
What are the three fundamental principles (AIC triad) that serve as a security program's objectives?	67%	100%	96%	75%	92%	100%	83%	60%	100%
The steps of an access control model should follow which logical flow?	67%	60%	71%	75%	67%	100%	83%	80%	100%
What is the new program/standard that evaluates the computer security in the United States?	33%	60%	33%	25%	33%	50%	17%	20%	20%
Which of the following items is Not considered a preventive physical control?	100%	80%	92%	75%	83%	100%	100%	80%	100%
A function that takes a variable-length string and creates a fixed-length value is called _____.	100%	80%	58%	100%	75%	75%	100%	100%	80%
When considering an IT system Development life-cycle, security should be:	100%	80%	88%	100%	92%	100%	100%	80%	100%
Preparing for a damaging event before it takes place in order to minimize loss and ensure that the business continues to operate is the definition of _____?	100%	100%	96%	100%	83%	100%	67%	60%	100%
A hospital is trying to select a facility backup option. They want to ensure no downtime and extremely focused on contingency planning and testing capability through the year. Which of the following alternatives would serve the hospital best?	44%	60%	21%	75%	25%	25%	17%	0%	20%
Which of the following is the science of studying and breaking encryption algorithms and cryptosystem?	100%	80%	50%	50%	17%	25%	83%	20%	40%
Average	80%	80%	70%	78%	67%	78%	75%	58%	76%

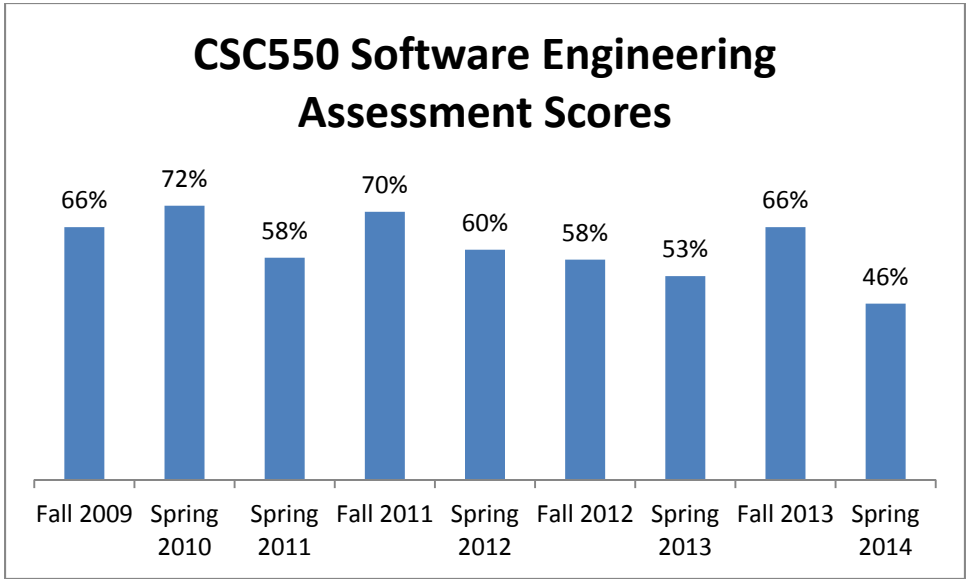
	Percent Correct								
	Spring 2009	Spring 2010	Spring 2011	Fall 2011	Spring 2012	Fall 2012	Spring 2013	Fall 2013	Spring 2014
N	9	5	24	4	12	4	6	5	5



Appendix D: MSCSIS SLO3 Findings

Content Knowledge Assessment Results, Spring2009 – Spring 2014
CSC 550

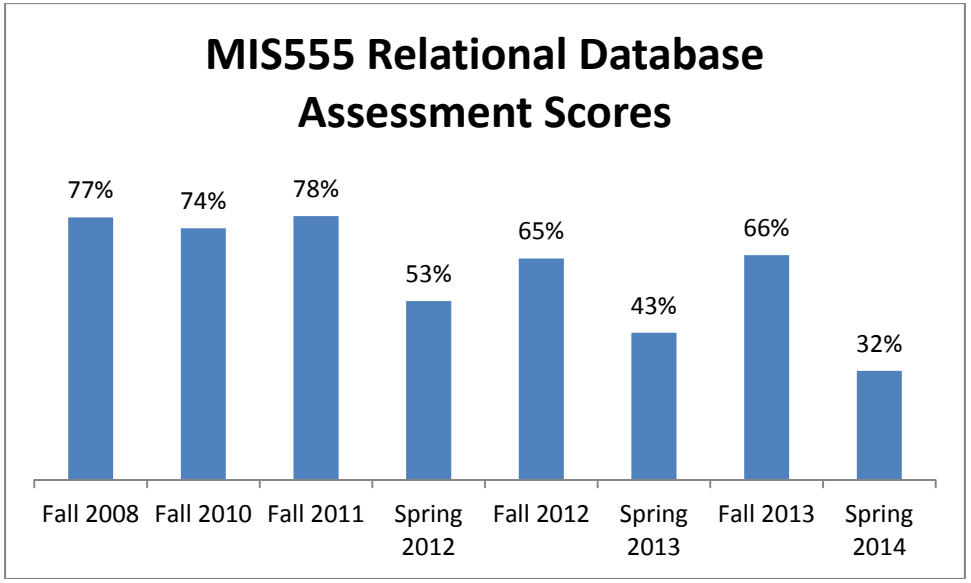
	Percent Correct								
	Fall 2009	**Spring 2010**	**Spring 2011**	**Fall 2011**	**Spring 2012**	**Fall 2012**	**Spring 2013**	**Fall 2013**	**Spring 2014**
In general, academics and professionals read research literature for all but one of the following reasons.	69%	67%	80%	75%	92%	50%	50%	80%	80%
Which of these questions is least important in assessing research articles?	38%	17%	60%	50%	33%	50%	83%	60%	40%
To which scientist is the origin of separation of concerns principle normally attributed?	100%	83%	60%	50%	75%	100%	33%	80%	80%
Which of the following is not a fundamental AOSD concept	92%	83%	100%	75%	67%	100%	50%	100%	40%
A meta-model is:	100%	100%	80%	100%	92%	100%	83%	100%	40%
Software testing shows all of the following, except:	46%	100%	40%	100%	75%	75%	33%	60%	40%
It is difficult to find all the bugs in large complex software because:	92%	100%	60%	100%	83%	50%	50%	40%	80%
Validation is:	38%	50%	20%	25%	50%	0%	67%	80%	20%
A test oracle is:	54%	83%	60%	100%	17%	25%	50%	40%	40%
Identify the concept that is not fundamental to model-driven software development.	31%	33%	20%	25%	17%	25%	33%	20%	0%
Average	66%	72%	58%	70%	60%	58%	53%	66%	46%
N	13	6	5	4	12	4	6	5	5


CSC550 Software Engineering Assessment Scores
66%
72%
58%
70%
60%
58%
53%
66%
46%
Fall 2009
Spring 2010
Spring 2011
Fall 2011
Spring 2012
Fall 2012
Spring 2013
Fall 2013
Spring 2014

Appendix E: MSCSIS SLO4 Findings

Content Knowledge Assessment Results, MIS 555, Fall 2008 – Spring 2014

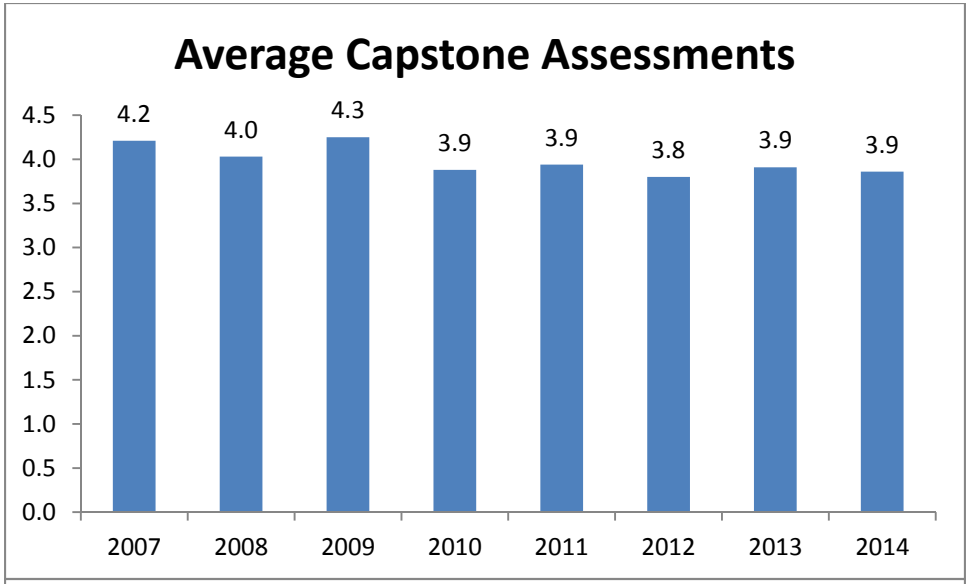
	Percent Correct							
	Fall 2008	**Fall 2010**	**Fall 2011**	**Spring 2012**	**Fall 2012**	**Spring 2013**	**Fall 2013**	**Spring 2014**
The main purpose of referential integrity constraints in a relational database is to:	57%	54%	100%	50%	50%	83%	60%	60%
Structured Query Language is a(n):	57%	77%	50%	67%	100%	50%	80%	40%
A foreign key must be:	43%	54%	50%	67%	25%	33%	40%	60%
As compared to other data structures, Balanced Trees are used in relational databases because they:	86%	100%	50%	50%	100%	17%	60%	0%
Data fragmentation is helpful in what type of system?	100%	69%	50%	42%	25%	0%	60%	20%
The "I" in the ACID transaction requirements stands for:	100%	100%	75%	50%	50%	67%	40%	20%
One purpose of an SQL view is to:	100%	85%	100%	83%	100%	83%	100%	60%
Transaction collisions without loss of data integrity are accomplished with:	100%	100%	100%	75%	100%	33%	80%	60%
Relational databases were created to:	57%	38%	100%	33%	50%	33%	80%	0%
Clustered indexes perform especially well on:	71%	62%	100%	8%	50%	33%	60%	0%
Average	77%	74%	78%	53%	65%	43%	66%	32%
N	13	6	5	4	12	4	5	5

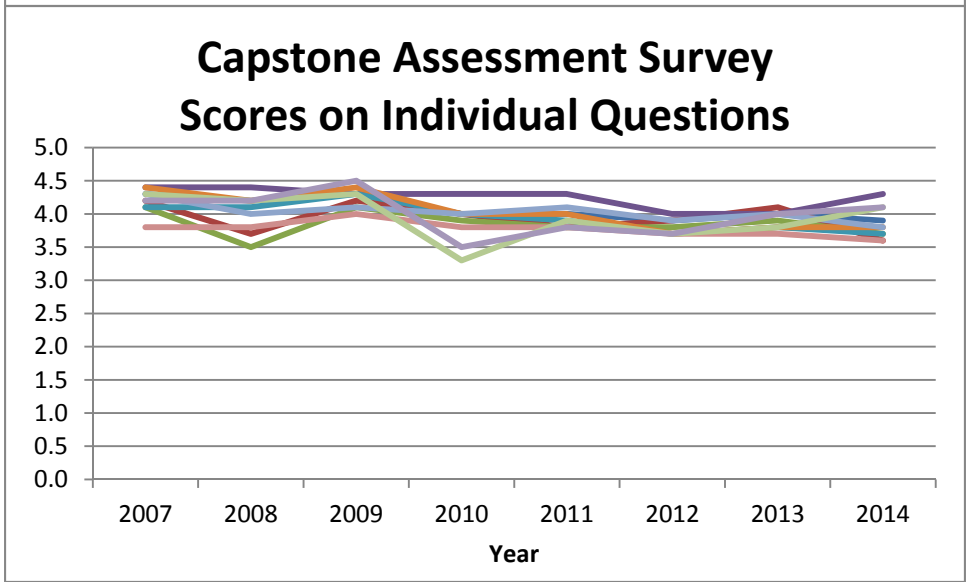

MIS555 Relational Database Assessment Scores
77%
74%
78%
53%
65%
43%
66%
32%
Fall 2008
Fall 2010
Fall 2011
Spring 2012
Fall 2012
Spring 2013
Fall 2013
Spring 2014

Appendix F: MSCSIS SLO5 Findings

1. Written Communication Assessment Results, 2007-2014

Category	2007	2008	2009	2010	2011	2012	2013	2014
Select and Narrow Topic for Research or Projects	4.3	4.2	4.3	4.0	4.0	3.9	4.0	3.9
Use Computer Lit Skills/Info Databases for Research	4.2	3.7	4.2	4.0	3.8	3.9	4.1	3.6
Independently Read CS and IS Papers	4.1	3.5	4.1	3.9	3.8	3.8	3.9	3.7
Apply Concepts, Principles, and Theories	4.4	4.4	4.3	4.3	4.3	4.0	4.0	4.3
Critically Analyze, Evaluate Project or Thesis Results	4.1	4.1	4.3	4.0	3.9	3.7	3.8	3.7
Assess Conclusions and Implications of Research or Project	4.4	4.2	4.4	4.0	4.0	3.7	3.8	3.8
Present Research/Proj. Findings (Clear, Coherent, Succinct)	4.3	4.0	4.1	4.0	4.1	3.9	4.0	3.8
Evaluate Work of Others Objectively and Fairly	3.8	3.8	4.0	3.8	3.8	3.7	3.7	3.6
Analyze Bus. User's Needs/Develop Solution	4.3	4.2	4.3	3.3	3.9	3.7	3.8	4.1
Combine CS/IS Learning for Research or Bus. Opportunities	4.2	4.2	4.5	3.5	3.8	3.7	4.0	4.1
Average	4.2	4.0	4.3	3.9	3.9	3.8	3.9	3.9


Average Capstone Assessments
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
4.2
4.0
4.3
3.9
3.9
3.8
3.9
3.9
2007
2008
2009
2010
2011
2012
2013
2014


Capstone Assessment Survey
Scores on Individual Questions
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
2007
2008
2009
2010
2011
2012
2013
2014
Year

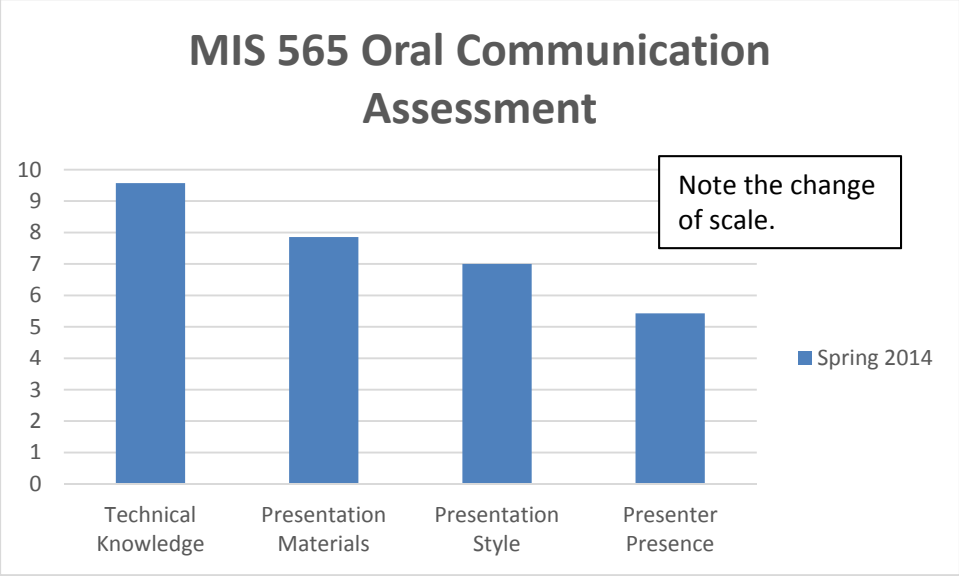
2. Oral Communication Assessment Rubric

	Exemplary (10)	Satisfactory (5)	Unacceptable (0)	Score
Technical Knowledge	The presenter shows a deep knowledge of the subject material. They are able to answer all questions on the material and expand/explicate on details both in the presentation and outside of the material in the presentation.	The presenter knew the material well. They were able to answer most questions well, and showed a generally good knowledge of the topic being presented.	The presenter did not know the material being presented. They were unable to answer questions from the audience and seemed unclear of the technical content of their own materials.	
Presentation Materials	The materials are clear and well designed. They present the information in a coherent and well thought out way.	The materials were generally clear and reasonably well designed. They presented the information fairly well, but could have been better at points.	The materials were hard to read and poorly organized. They distracted from the presentation, rather than adding to it.	
Presentation Style	The presentation moved well. Transitions between topics were smooth and well thought out.	The presentation moved well, but some transitions were rough. The presenter had to refer to their notes occasionally to find their place in the presentation.	The presentation was choppy and inconsistent. The presenter constantly read from their notes and easily lost their place in the presentation.	

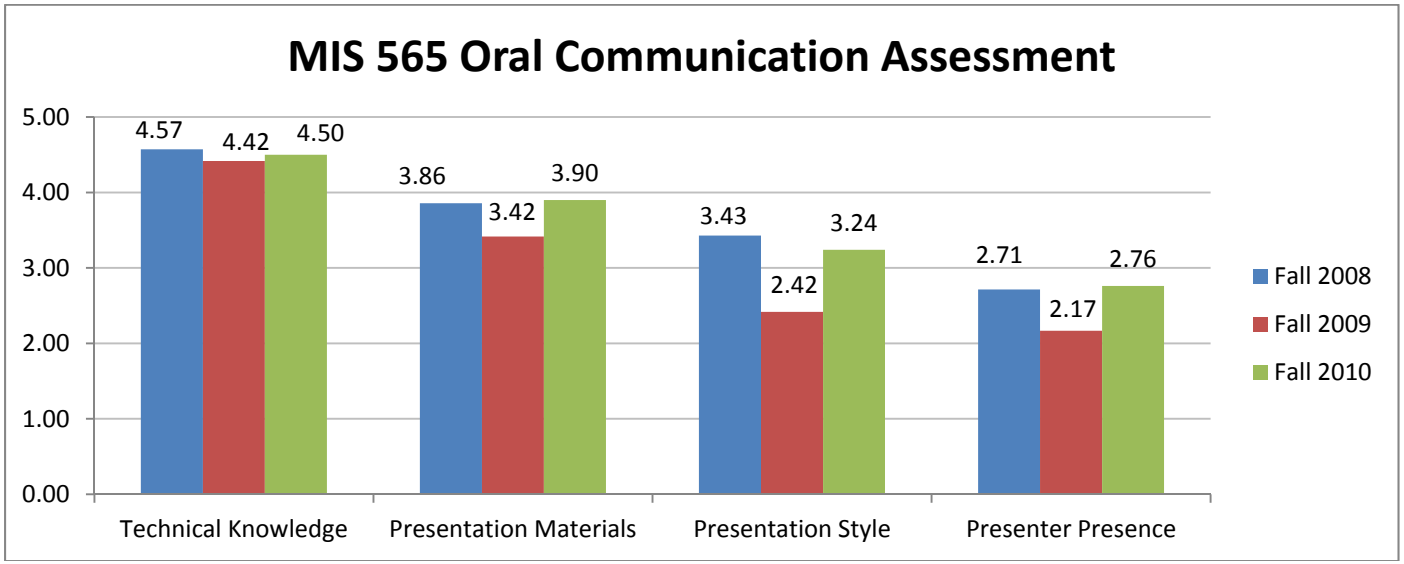
Presenter Presence	The presenter made excellent eye contact and "owned" the audience. They commanded the attention of the audience at all times and were dynamic and engaging.	The presenter made eye contact with the audience and could be heard. They occasionally read from their materials or notes, rather than from memory. They made a few distracting body movements.	The presenter did not look at the audience and was difficult to hear. They made multiple distracting movements, or hid behind a podium. They did nothing to engage the audience in the presentation.	
			Total	0

3. Oral Communication Assessment Results

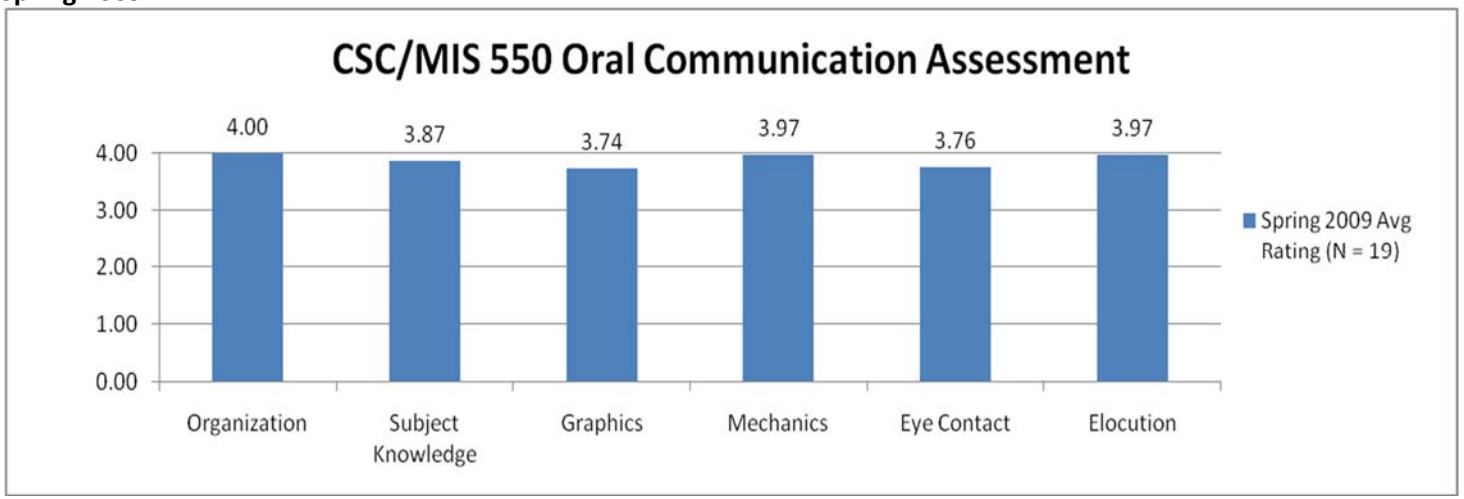
Spring 2014



Fall 2010



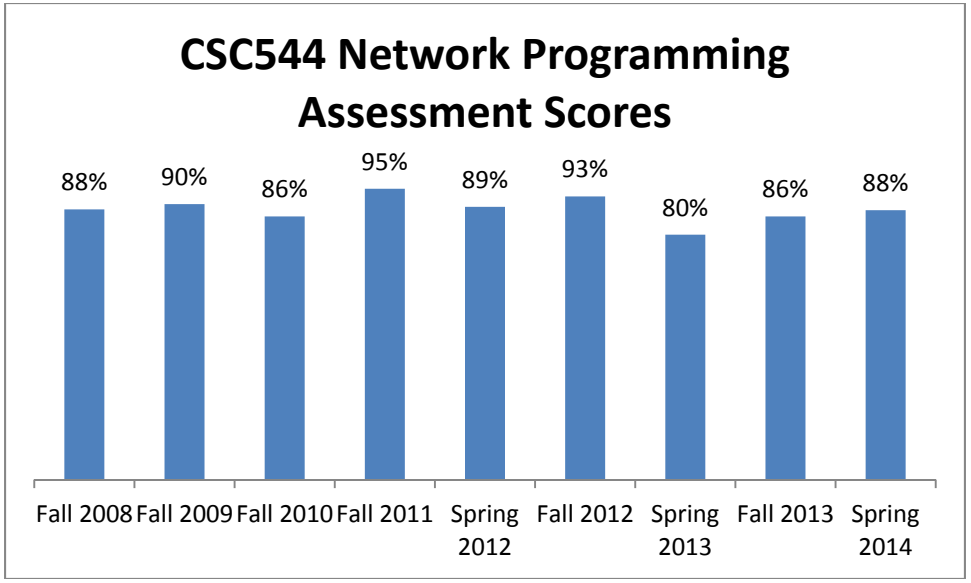
Spring 2009



Appendix G: MSCSIS Goal 6 Findings

Content Knowledge Assessment Results, Fall 2010
CSC 544

	Percent Correct								
	Fall 2008	**Fall 2009**	**Fall 2010**	**Fall 2011**	**Spring 2012**	**Fall 2012**	**Spring 2013**	**Fall 2013**	**Spring 2014**
The main difference between TCP and UDP is:	69%	100%	87%	100%	83%	100%	83%	60%	80%
World Wide Web technologies include:	92%	50%	100%	100%	92%	100%	67%	80%	100%
When developing a network application, the primary programming interface is:	92%	100%	87%	100%	83%	75%	50%	40%	100%
Examples of distributed computing/programming paradigms include:	62%	100%	47%	75%	67%	75%	50%	100%	40%
Which of the following are social networking sites:	92%	100%	93%	100%	100%	100%	100%	100%	100%
Wireshark is an example of:	100%	100%	100%	100%	100%	100%	100%	100%	100%
ARP refers to:	100%	100%	93%	75%	100%	100%	83%	80%	80%
DNS refers to:	92%	100%	87%	100%	83%	100%	100%	100%	80%
Network security technologies include:	92%	50%	73%	100%	83%	75%	67%	100%	100%
Database management systems used for web programming include:	92%	100%	93%	100%	100%	100%	100%	100%	100%
Average	88%	90%	86%	95%	89%	93%	80%	86%	88%
N	13	2	15	4	12	4	6	5	5


CSC544 Network Programming Assessment Scores
88%
90%
86%
95%
89%
93%
80%
86%
88%
Fall 2008
Fall 2009
Fall 2010
Fall 2011
Spring 2012
Fall 2012
Spring 2013
Fall 2013
Spring 2014