

Assessment Plan Computer Science and Information Systems Department

The CSIS Program supports the CBE Mission, values, and AoL philosophy presented below:

- Assessment is mission driven and supports mission revision. First and foremost, the value of assessment is in how it enhances the College of Business and Economics.
- Assessment must be owned by the faculty, individually and collectively. This requires that assessment be meaningful but streamlined so it is not seen as an arduous process.
- Assessment is developmental, both for individual faculty, programs, and the CBE. It is designed to support continuous improvement activities. As such, assessment is a value-added activity that enhances student learning, curriculum development, strategic management activities of the college.
- Assessment is an ongoing process that needs period review and revision. In addition, assessment is responsive to and inclusive of multiple stakeholders. As such both internal and external feedback processes are included as well as direct and indirect measures.
- Learning outcome assessment focuses on learning goals and measures demonstrated achievement of those goals. Yet, LOA is not full assessment of student learning or its environment and other measure must be included in a comprehensive assessment plan.
- Assessment is a tool that provides linkage from individual course objectives to program outcomes to global CBE goals and objectives. Multiple assessment methods should be used to assess outcome achievement with no one prescribed approach to assurance of learning being sufficient. And, assessment results must be analyzed, disseminated, and used by the faculty and CBE. Collecting the data is only the first step – the feedback must be used to ‘close the loop.’
- Assessment is not a ‘canned’ process. Measurement methods appropriate for undergraduate education may not be valid for graduate education. As such, appropriate quantitative and qualitative measures must be used. Not all outcomes need to be measured at the same time or on an annual basis. While assessment of all students for some methods is important, not all students need to be included in all assessment methods. Random, representative sampling is effective.

Along with other programs and emphasis areas, Finance draws from college wide assessment activities:

Course-based objectives: Each course in the business core has objectives that relate to the overall CBE objectives. These objectives are assessed at the course level. Course-based assessment is conducted each semester by course instructors and the results are reported to the Assessment Committee. A copy of the form completed by faculty is presented in Appendix G. The outcomes are common to the course. Individual faculty teaching each course determines the goals and assessment methods. The Assessment Committee reviews the reports and provides feedback to functional area faculty.

EBI surveys: EBI undergraduate exit surveys are administered every two years to graduating seniors in business administration at the end of Fall and Spring semesters. This survey encompasses feedback on overall CBE objectives in addition to affinity and satisfaction measures. In addition to the standardized questions, the College adds an additional seven self-developed questions that ask students to respond to the statement, “To what extent did the

Business program enhance your:

- Ability to think creatively?
- Awareness of legal and regulatory issues?
- Awareness of political issues?
- Awareness of environmental issues
- Awareness of impact of diversity?
- Ability to cope with uncertainty in decision making?
- Information acquisition skills?

The EBI allows for comparison of CBE graduating senior responses to those of peer institutions. The EBI survey is administered by the Dean's Office and the results are reported to the Assessment Committee. The Assessment Committee reviews the results and provides feedback to the College of Business and Economics.

Student portfolios: Students construct portfolios consisting of representative work beginning from the time of admission to the College of Business and Economics. Primary areas for assessment include critical thinking, creative thinking, and dealing with uncertainty in unstructured problem-solving. Assessment occurs in CBE 100, 200 and 300 and Senior closure courses.

The portfolio evaluation is administered by the Dean's Office. Results of the assessment will be provided to the Assessment Committee. The Assessment Committee provides feedback to the College of Business and Economics.

LiveText, an electronic portfolio management system will be implemented as part of the College's AoL process.

Alumni survey: Graduating senior information is important, but potentially stronger insight is gained from getting feedback from alumni. To this end, two alumni surveys are administered. The first is an internally developed alumni survey that is administered to alumni one, five, and ten years after their graduation. This survey is administered every two years and encompasses feedback on overall CBE objectives in addition to affinity and satisfaction measures, and includes an open-ended question. The alumni survey is administered by the Dean's Office and the results reported to the Assessment Committee. The Assessment Committee reviews the results and provides feedback to the College of Business and Economics.

The second alumni survey is purchased from EBI and is administered every two years [odd numbered years].

Organization survey: An internally developed organization survey will be administered to regional organizations every three years. This survey encompasses feedback on overall CBE objectives in addition to affinity and satisfaction measures, and includes an open-ended question.

The organization survey is administered by the Dean's Office and the results reported to the Assessment Committee. The Assessment Committee reviews the results and provides feedback to the College of Business and Economics.

Program Reviews: The departments engage in the program review process prescribed by the

university. This review occurs every seven years.

In addition to the above, the Dean's Office collects the following assessment information and provides the results to the Assessment Committee. The Assessment Committee will provide feedback to the College of Business and Economics.

CBE Indirect Assessment Measures

Internships	<ul style="list-style-type: none"> • Number of internships • Feedback from employers
International Opportunities	<ul style="list-style-type: none"> • Number of international opportunities • Percentage of international coverage in each course over time
Placement	<ul style="list-style-type: none"> • Number of employers recruiting on campus • Percentage of recent alumni employed in their field
Teaching	<ul style="list-style-type: none"> • Teaching awards • Number of published pedagogical research papers • Number of published case papers • Number of course web sites • Attendance at teaching workshops • Number of textbooks authored • Number of faculty discussions on teaching
Intellectual Contributions	<ul style="list-style-type: none"> • Number of publications and presentations from the past 5 years. • Number of research grants written and received • Number of publications in Cabell journals
Service Contributions	<ul style="list-style-type: none"> • Number of UWRF committees served on and chaired • Number of professional committees served on and chaired • Number of community presentations • Number of consulting engagements
Student Satisfaction	<ul style="list-style-type: none"> • Number of students participating in student organizations
Faculty Satisfaction	<ul style="list-style-type: none"> • Anonymous customized annual survey administered by an impartial third-party • Length of service • Leadership and interaction with student groups • Turnover and Number of sick days
Other	<ul style="list-style-type: none"> • Number of Center for Economic Research and Center for Economic Education workshops and successful grants • The Assessment Committee can also judge the achievement of the continual improvement objective by monitoring the trends in the measures over the years. Assessment data are a portfolio of measures that complements other quality control programs such as program reviews and accreditation

The major in computer systems consists of two options - Computer Science, and Information System. The Computer Science track is designed for graduates who are interested in understanding the fundamentals of computing and organization of computing machinery. Upon graduation, these graduates are expected to directly join the computer industry or go on to graduate school. The Information System Track has an emphasis on the use of computers in management and processing of information. The graduates are expected to enter the business information system environment or go on to graduate school.

Since the Computer Science/Information Systems program is a major within the College of Business, CSIS faculty will meet each semester with CBE assessment committee to review the measurable results of our assessment program as it impacts the AACSB accreditation.

Department faculty also complete course-based assessment reports each semester, in which we indicate learning objectives and how each objective was satisfied. These course-based assessment results are reviewed by faculty and the department chair.

Goals

1. **Problem Solving**: Demonstrate the ability to analyze, design, and construct solutions to simple and complex problems.
2. **Technology and Tools**: Be able to select and apply appropriate software tools and methods for organizational solution.
3. **Communication**: Be able to communicate complex ideas through oral presentations and written documents.
4. **Interpersonal Relationships**: effectively work as a member of a team to complete a project under a manager's supervision.
5. **Professionalism**: be able to articulate her/his own value system and differentiate between his/her personal values and those of other individuals and organizations.
6. **Independent Learning**: Demonstrate an ability to learn about a new technologies or methodologies.

Assessment Methods:

TABLE 2A: Assessment for CSIS Students Summary

Learning Outcome	Direct Measures	Indirect Measures
Goal 1: Demonstrate the ability to analyze, design, and construct solutions to simple and complex problems.	Course-based Assessment: CSIS 161,162,237,247, and 333 Student Learning Portfolio	Alumni survey results Employer/Organization survey results
Goal 2: Be able to select and apply appropriate software tools and methods for organizational solution	Course-based Assessment: CSIS 42,433, 343, and 429 Student Learning Portfolio Number of internships	Alumni survey results Employer/Organization survey results
Goal 3: Be able to communicate complex ideas through oral presentations and written documents.	Course-based Assessment: CSIS 423, 484 and 343 Student Learning Portfolio	Alumni survey results Employer/Organization survey results Student survey results (EBI)
Goal 4: Effectively work as a member of a team to complete a project under a manager's supervision.	Course-based Assessment: CSIS 423, 433 and 343 Student Learning Portfolio	Alumni survey results Employer/Organization survey results
Goal 5: be able to articulate her/his own value system and differentiate between his/her personal values and those of other individuals and organizations.	Course-based Assessment: CSIS 423, 433, 343 Global Perspectives course Cultural Diversity course Demographic diversity of faculty and students.	Alumni survey results Employer/Organization survey results
Goal 6: Demonstrate an ability to learn about a new technologies or methodologies.	Course-based Assessment: CSIS 161, 343, 333, 355	Alumni survey results Employer/Organization survey results Student survey results (EBI)

Course-based objectives: This assessment method is comprised of two separate processes. The first consist of traditional faculty assessment of student projects, papers, exams, and other course specific assessment processes.

The second relates to course objectives. Each course in the CSIS core has objectives that relate to the overall CBE objectives. These objectives are assessed at the course level [Appendix A]. Course-based assessment will be conducted each semester by course instructors and the results are reported to the Assessment Committee. The Assessment Committee reviews the reports and provides feedback to functional area faculty. In addition to the above, CSIS meets every spring to review outcome data and determine what changes are suggested from this data. To facilitate this process, faculty submit to the department Chair a selection of assignments for each required course.

TABLE 2B: Sample Course Assignment Submissions for Program Review

CSIS 161: Programming I	<ul style="list-style-type: none"> • An assignment requiring students to use decision (if), • An assignment requiring students to use loops • An assignment requiring students to use methods and classes
CSIS 162 Programming II	<ul style="list-style-type: none"> • An assignment requiring students to use arrays of objects • An assignment requiring students to use inheritance an polymorphism • Score on A final programming project
CSIS 433 : System Analysis & Implementation II	<ul style="list-style-type: none"> • Score on peer reviews of their final oral presentation • Score on “group Synergy” functional area of the CSIS 433 grading rubric • Score on the documentation Deliverables” functional area of the CSIS 433 grading rubric • Score on the Technical solution functional area of the CSIS 433 grading rubric
CSIS 389 : Internship	<ul style="list-style-type: none"> • Internship supervisor’s Final Evaluation • A well structured “reflective Essay” as part of the Final Student report for the Internship

Electronic Student Portfolios: Implemented Spring 2007. As part of CBE’s portfolio assessment, students will submit artifacts [research project, data analysis project, program creations, and other appropriate CSIS work] and reflect on their learning. The Student Learning Portfolio is assessed in CBE 100, 200, 300 and in CSIS 484 each year. The outcomes become part of the course-based assessment for that course for discussion each fall and spring semester.

EBI surveys: The CSIS department participates in the EBI undergraduate exit survey process described in the Business Administration and Accounting Department section.

Program Reviews: The economic department engages in the program review process prescribed by the university. This review occurs every seven years.

Other: The other demographic and numerical statistics are compiled annually by the department chair and the university. Alumni, employer, and student surveys are administered at least every two years and the results are shared with the college and discussed at a college meeting. Overall assessment outcomes are reviewed annually at the college and university levels, leading to suggestions for improvement, and the semester departmental discussions also lead to improvements. Improvement suggestions are explicitly part of the course-based assessment feedback form, and department members are held accountable for making improvement based on the suggestions.

The objectives of the CSIS major are communicated to current and prospective student majors through the promotional fact sheet and the required coursework. Assessment results are posted at www.uwrf.edu/~W1082888/Assessment/Assessment.htm to make them available to students and other constituencies. The Student Learning Portfolios allow students to integrate many different skills and abilities, and to reflect on their progress in the program at the freshmen, sophomore, junior, and senior levels.

Assessment Measurement for CSIS 161 - Assessment of learning outcomes for *CSIS 161– Programming I* will be measured using the following grid.

Overall Outcomes						
Percentage of students that got 70% or more of the total points on exams, assignments and projects					%
Percentage of students that earned an average of 70% or better on all of exams					%
Percentage of students that earned an average of 70% or better on the course project					%
Percentage of students that earned an average of 70% or better on all of course assignments?					%
Specific Outcomes – Each assessment outcome should be measure by the outcome of a question taken from any exam.	Which Exam?	Which Problem?	Maximum Points?	Actual Scores	% of students that got 80% or better the problem	
Developed understanding of programming problem						
Developed understanding of concepts behind expressions Decisions, and loops						
Learned to work with methods						
Developed basic working knowledge of classes						

Assessment Measurement for CSIS 162 - Assessment of learning outcomes for *CSIS 162 – Programming II* will be measured using the following grid.

Overall Outcomes						
Percentage of students that got 70% or more of the total points on exams, assignments and projects					%
Percentage of students that earned an average of 70% or better on all of exams					%
Percentage of students that earned an average of 70% or better on the course project					%
Percentage of students that earned an average of 70% or better on all of course assignments?					%
Specific Outcomes – Each assessment outcome should be measure by the outcome of a question taken from any exam.	Which Exam?	Which Problem?	Maximum Points?	Actual Scores	% of students that got 80% or better the problem	
Developed understanding of programming Java arrays						
Developed understanding of concepts behind object inheritance and polymorphism						
Learned to work with abstract classes and interfaces.						
Developed basic working knowledge of excep						

Assessment Measurement for CSIS 247

Assessment of learning outcomes for *CSIS 247 – Introduction to Computer Networks* will be measured using the following grid.

Overall Outcomes					
Percentage of students that got 70% or more of the total points on exams, assignments and projects				%
Percentage of students that earned an average of 70% or better on all of exams				%
Percentage of students that earned an average of 70% or better on the course project				%
Percentage of students that earned an average of 70% or better on all of course assignments?				%
Specific Outcomes – Each assessment outcome should be measure by the outcome of a question taken from any exam.	Which Exam?	Which Problem?	Maximum Points?	Actual Scores	% of students that got 80% or better the problem
Developed understanding of concepts and vocabulary of computer networks					
Developed understanding of network hardware, software and protocols					
Developed understanding of concepts behind the design and configuration of computer network					
Learned skills to work with network technology.					
Learned skills to deal with installation, setup and administration of network operating systems such as Windows 2003 and Linux Servers.					

Assessment Measurement for CSIS 333

Assessment of learning outcomes for *CSIS 333 – Database Management Systems* will be measured using the following grid.

Overall Outcomes					
Percentage of students that got 70% or more of the total points on exams, assignments and projects				%
Percentage of students that earned an average of 70% or better on all of exams				%
Percentage of students that earned an average of 70% or better on the course project				%
Percentage of students that earned an average of 70% or better on all of course assignments?				%
Specific Outcomes – Each assessment outcome should be measure by the outcome of a question taken from any exam.	Which Exam?	Which Problem?	Maximum Points?	Actual Scores	% of students that got 80% or better the problem
Learned skills to design, implement, and manage data systems.					
Developed understanding of the relational database models.					
Learned skills to use the Entity Relationship Model to design sound databases.					
Learned skills to normalize database tables as part of the design process.					
Learned skills to use the Structured Query Language (SQL) and its constructs for implementation of sound databases.					
Developed understanding of the System Development and Database Life Cycle.					

Assessment Measurement for CSIS 429

Assessment of learning outcomes for *CSIS 429 – Operating Systems* will be measured using the following grid.

Overall Outcomes					
Percentage of students that got 70% or more of the total points on exams, assignments and projects				%
Percentage of students that earned an average of 70% or better on all of exams				%
Percentage of students that earned an average of 70% or better on the course project				%
Percentage of students that earned an average of 70% or better on all of course assignments?				%
Specific Outcomes – Each assessment outcome should be measure by the outcome of a question taken from any exam.	Which Exam?	Which Problem?	Maximum Points?	Actual Scores	% of students that got 80% or better the problem
Learned basic Unix commands to traverse, modify a file system, query the state of the system, and examine files.					
Developed an understanding of shell scripts to automate tasks.					
Learned how to write C language programs and make system calls from a C program.					
Developed an appreciation of theoretical aspects of process scheduling.					

Assessment Measurement for CSIS 237

Assessment of learning outcomes for *CSIS 237 – Data Structures and Algorithms* will be measured using the following grid.

Overall Outcomes					
Percentage of students that got 70% or more of the total points on exams, assignments and projects				%
Percentage of students that earned an average of 70% or better on all of exams				%
Percentage of students that earned an average of 70% or better on the course project				%
Percentage of students that earned an average of 70% or better on all of course assignments?				%
Specific Outcomes – Each assessment outcome should be measure by the outcome of a question taken from any exam.	Which Exam?	Which Problem?	Maximum Points?	Actual Scores	% of students that got 80% or better the problem
Developed an understanding of data storage issues – data hiding, abstract data type, generics.					
Developed skills in analyzing simple algorithms – sorting and searching.					
Learned different techniques to store collections of objects – arrays, linked list library collection classes.					
Learned to design and analyze recursive methods. Developed basic understanding of stack queues, and binary trees					

Assessment Measurement for CSIS 343

Assessment of learning outcomes for *CSIS 343 – Software Engineering* will be measured using the following grid.

Overall Outcomes					
Percentage of students that got 70% or more of the total points on exams, assignments and projects				%
Percentage of students that earned an average of 70% or better on all of exams				%
Percentage of students that earned an average of 70% or better on the course project				%
Percentage of students that earned an average of 70% or better on all of course assignments?				%
Specific Outcomes – Each assessment outcome should be measure by the outcome of a question taken from any exam.	Which Exam/ Project ?	Which Problem?	Maximum Points?	Actual Scores	% of students that got 80% or better the problem
Learned to construct basic software pro requirements.					
Learned to use the Unified Modeling Language to design and analyze softwa					
Developed understanding of design patt in software development.					
Learned techniques of software testing, specifically, unit tests.					
Learned techniques used in group proje					

