

The Assessment Process at UMC

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Assessment at UMC emphasizes a process that actively engages its faculty, staff, students and external constituents. Due to its unique designation as a polytechnic university, UMC strives to measure student achievement and growth in a variety of settings, from general education courses to student internships in their field of study. The overall assessment process at UMC includes a variety of components related to all aspects of the student experience and institutional effectiveness, but recent assessment activities have focused on teaching and student learning. This is the perspective that is highlighted in this summary of assessment at UMC.

CURRICULUM COMPONENTS RELATED TO TEACHING AND LEARNING

The UMC curriculum is comprised of three components that pertain to assessment activities – general education courses, the core components and program specific courses.

General Education

General education requirements at UMC include a minimum of 45 credits from courses in the areas of technology, communications, humanities, mathematics/natural science and social science. Of these 45 credit hours, 12 credits (4 specific courses) are common to all students. Appendix A contains a list of the courses from which students select their 45 credit hours.

There is currently no single test to assess overall student learning in general education. Developing an efficient and useful method of assessing general education is currently under discussion on campus. A first step has been completed with the development of a broad program outcome for each of the four curriculum areas in general education. They are as follows:

- **Communication:** Graduates will apply coherent listening, reading, speaking, and writing skills using appropriate computer technology to communicate effectively in their career disciplines.
- **Humanities:** Graduates will demonstrate an awareness of the evolution of human cultures and an awareness of a diverse heritage of ideas, values, and their expressions.
- **Mathematical Thinking/Natural Science Thinking:** Graduates will demonstrate skills in mathematical reasoning, and application of critical thinking skills to analyze, to raise questions, to develop methods of proof, and to synthesize and integrate scientific information in laboratory settings.
- **Social Sciences:** Graduates will demonstrate knowledge of individual and group behaviors and their impact upon social institutions.

Core Components

UMC emphasizes the development of a set of core skills deemed important to the success of all graduates. These core competencies include communication, critical thinking and working with others. These components are concepts and skills emphasized in the teaching and learning process, not content taught in specific courses. The intent is that they be integrated into both the general education and program-specific courses. As defined by the institution, the core components are dominant themes, transferable skills and abilities essential to an individual's success in any occupation or life setting. The chart below details the various aspects of the core components.

UMC Core Components	
Core Component	Performance Indicators
1. Communication	
Listening	<ul style="list-style-type: none"> • Understands intended messages. • Recognizes and compares multiple viewpoints. • Responds by analyzing, evaluating, and synthesizing information.
Reading	<ul style="list-style-type: none"> • Probes and researches to gain knowledge or information. • Restructures meaning through interpreting and summarizing information. • Responds to text by analyzing.
Speaking	<ul style="list-style-type: none"> • Applies basic speech principles to a variety of oral experiences. • Applies audience analysis to topic selection and speech organization. • Presents well organized, carefully supported speeches, which demonstrate mastery of content and sophistication of oral style.
Using Technology	<ul style="list-style-type: none"> • Understands technology applications. • Manipulate technology for desired results. • Implements complex new technology.
Writing	<ul style="list-style-type: none"> • Applies appropriate invention, drafting, revision, editing, and proofreading strategies to the recognition and establishment of purpose of writing. • Understands and uses critical thinking principles in the application of research and analytical skills development of the student. • Carefully considers audience in the creation of logical and coherent documents appropriate to discipline-related writing.
2. Critical Thinking	
Problem Solving	<ul style="list-style-type: none"> • Identifies and describes problems. • Creates and collects data related to problems. • Creates solutions to problems.
Applied Learning	<ul style="list-style-type: none"> • Identifies and follows oral and written procedures. • Proposes basic technological solutions. • Implements processes using technological improvements and changes.

3. Working With Others

Teamwork	<ul style="list-style-type: none">• Participates in and assumes responsibility for accomplishing team goals.• Understands teams strengths and limitations.• Encourages, supports, and evaluates team activities.
Diversity	<ul style="list-style-type: none">• Recognizes differences and biases.• Responsibly challenges discriminatory practices and procedures.• Assesses and works to modify procedures that could be discriminatory actions.

Assessing the Core Components

It is assumed that there will be a certain amount of overlap with general education and core competencies. The same can be said of the skills/knowledge students develop in their program specific courses. Therefore, the assessment of the core competency skills cannot be done in isolation. It is expected that the assessment of communications, critical thinking and working with others will take place within the context of both general education and program specific courses. However, there may be certain assessment strategies that focus on particular skills that can be combined with course-based data that will help provide a more complete picture of student learning. These strategies are institutional-based and provide a broad view of the student population at UMC. Current efforts at the institutional level include:

Communications

A computer-based writing assessment is in the pilot stage for the winter term 2002. If successful, this process will be used for testing incoming freshmen for baseline data with subsequent testing to assess individual student growth.

Critical Thinking

The California Critical Thinking Skills Test (CCTST) was administered to new incoming freshmen students in fall 2001, with subsequent testing to be done for this cohort at the end of their sophomore year (spring 2003) and again at the end of their senior year (spring 2005). This strategy will be used for the next few years with incoming freshmen classes to provide ongoing data for comparative purposes, as well as assessing individual student growth.

Working With Others

Discussions are currently underway for ideas related to assessing this core competency.

Academic Programs of Study

UMC offers three types of degrees, the bachelor of science (B.S.) with 17 program areas and a variety of different emphasis options, two bachelor in an applied field, (Bachelor of Manufacturing and Bachelor of Applied Health), the associate in applied science (A.A.S.), the associate in science (A.S.) and the bachelor of science (B.S.).

For assessment purposes, the foundation of each program is a set of program outcomes and associated learner outcomes, the source where learner outcomes are taught (specific class, internship, etc.) and assessment activities designed to assess student achievement. The program outcomes are broad statements that include the key content and skills specific to the program, as well as outcomes that reflect the integration of the core components within the context of the specific program. Program outcomes were reviewed/revised in 2001.

Each program outcome also has a set of learner outcomes attached to it that detail more specific skills/knowledge that students should learn in the program. The source where each learner outcome is taught is also identified along with assessment activities used to measure student learning.

USING ASSESSMENT FOR INSTITUTIONAL DECISION MAKING

The basic framework for assessment is in place at UMC regarding what to assess and the types of data to collect. The UMC Assessment Matrix below provides a general overview of the major elements of the assessment plan. A critical task to be accomplished is connecting assessment findings to institutional decision-making. This means developing an ongoing institutional system to monitor what is being done, collect and analyze the information from an institutional

perspective, and report the results to the UMC community. While the matrix details some of this, there are still decisions to be made regarding the assessment of some components. However, the critical step of connecting assessment findings to institutional decision-making is proceeding by focusing on the pieces of the plan that are in place and creating the communications or feedback flow. This step has been identified as a priority during the 2001-02 academic year.

UMC Assessment Matrix

Assessment Components (Student Learning)	Assessment Criteria	Assessment Activities and/or Measurement Tools (I) Institutional Activity	Tasks and Responsibilities
General Education	"Program" Outcomes <ul style="list-style-type: none"> • Communication • Humanities • Mathematical Thinking/Natural Science Thinking • Social Sciences 	<ul style="list-style-type: none"> • Institutional writing assessment (I) • Portfolio • Course-based assessments • Research projects • Group projects • Labs • Demonstrations 	Vice-Chancellor for Academic Affairs (VCAA) Assessment Coordinator (AC) responsible for guiding development of general education assessment. AC and faculty responsible for developing or selecting general education assessment process. AC/faculty/Centers responsible for feedback to program and institutional level.
	Course Objectives		

Core Components	<p>Critical thinking</p> <ul style="list-style-type: none"> • Problem solving • Applied learning 	<ul style="list-style-type: none"> • California Critical Thinking Skills Test (I) • Review of critical thinking strategies within programs (I) • Portfolio • Course-based assessments • Research projects • Group projects • Labs • Demonstrations/Displays • Applied Projects • Simulation Activities 	<p>AC responsible for coordinating administration of CCTST.</p> <p>AC responsible for CCTST results to be analyzed and reported to students, faculty and VCAA.</p> <p>VCAA/AC responsible for faculty development to assist with integration of critical thinking into programs/courses.</p> <p>Program/Center faculty responsible for revising/implementing instructional strategies and assessment activities related to critical thinking.</p>
	<p>Communications</p> <ul style="list-style-type: none"> • Reading • Writing • Speaking • Listening • Using technology 	<ul style="list-style-type: none"> • Review of standardized reading test scores (I) • Institutional writing assessment (I) • Technology “certification” (I) • Portfolio • Course-based assessments • Research projects • Group projects 	<p>Academic advisors/faculty responsible for identifying student reading problems and referring to appropriate resource.</p> <p>AC and composition faculty responsible for administering and analyzing writing assessment.</p> <p>AC responsible for results to be analyzed and reported to students, faculty and VCAA.</p> <p>AC/VCAA/faculty responsible for developing/identifying technology “certification” process.</p>

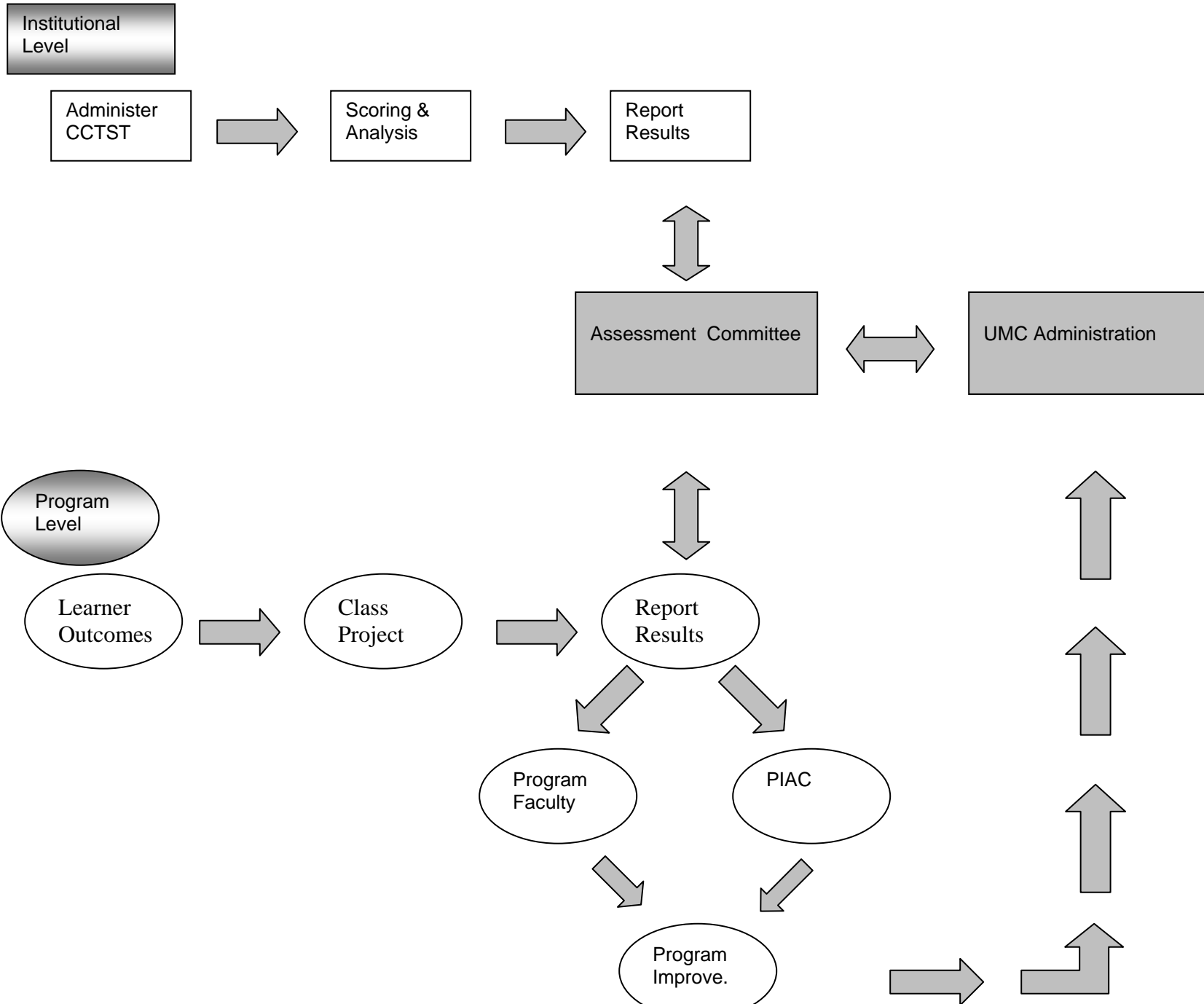
	<p>Working with others</p> <ul style="list-style-type: none"> • Teamwork • Diversity 	<ul style="list-style-type: none"> • Employer survey (I) • Alumni survey (I) • Portfolio • Group projects • Internship evaluation 	<p>VCAA/AC/Faculty responsible for developing or identifying campus-wide process for assessing this concept.</p>
<p>Discipline Specific Knowledge and Skills</p>	<p>Program Outcomes</p>	<ul style="list-style-type: none"> • Employer survey (I) • Alumni survey (I) • Placement survey (I) • Internship evaluation (I) • Pre-post tests • Portfolio • Course-based assessments • Research projects • Group projects • Capstone course • Labs • Demonstrations/displays • Applied projects • Case Studies • Simulations • Certifications • Journals 	<p>VCAA/AC/program managers responsible for setting up feedback process to review various assessment activities.</p> <p>AC responsible for coordinating administration of surveys, data analysis and reporting.</p> <p>Center directors/program managers responsible for review of institutional assessment data and utilizing it for program improvement.</p> <p>Program managers/faculty responsible for reviewing program assessment data to see if program outcomes are being met and making changes as appropriate.</p> <p>Center directors/program managers responsible for communications with PIAC's and other external constituencies to maintain industry connections and feedback on students/programs.</p>
	<p>Learning Outcomes</p>		<p>Program managers/faculty responsible for reviewing program assessment data to see if learning outcomes are being met and making</p>

	Course Objectives		changes as appropriate.
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An example of the types of feedback processes that need to be created and institutionalized is visually depicted below. This diagram illustrates the flow of activities and information for one piece of the assessment plan as it is implemented, analyzed and reported for use in decision-making. Using critical thinking as an example, the diagram shows the two levels at which assessment needs to be addressed – at the program level and at the institutional level. In this situation, the assessment committee is responsible at the institutional level for the campus-wide administration of the CCTST, getting the test scored and results analyzed. Most importantly, the committee is responsible for reporting the results to the UMC administration and program managers and faculty. (Students will also need to be informed of the results – but in another feedback loop.)

Assessment Feedback Process – Connections to Decision-Making

Core Component – Critical thinking



A fundamental feature of the feedback process described is that information from both levels is shared and discussed within the larger UMC community. It is especially important for data to be presented to the UMC administration in a format that can be used in the decision-making process.

At this time the faculty has moved to incorporate assessment activities into their processes for evaluating their teaching. The Vice Chancellor for Academic Affairs has assumed overall coordination of assessment activities utilizing an assessment coordinator, a campus assessment committee and outside consultants. The next step in further development of the assessment plan is to follow a similar process for each assessment activity.

MONITORING ASSESSMENT AT UMC

To assist with monitoring its progress in assessment, UMC uses NCA's "Assessment of Student Academic Achievement: Levels of Implementation" guidelines provided in the March 2001 "Addendum to the Handbook of Accreditation-Second Edition." It includes the following components:

- I. Institutional Culture:
 - a. Collective/Shared Values
 - b. Mission
- II. Shared Responsibility:
 - a. Faculty
 - b. Administration and Board
 - c. Students
- III. Institutional Support:
 - a. Resources
 - b. Structures
- IV. Efficacy of Assessment