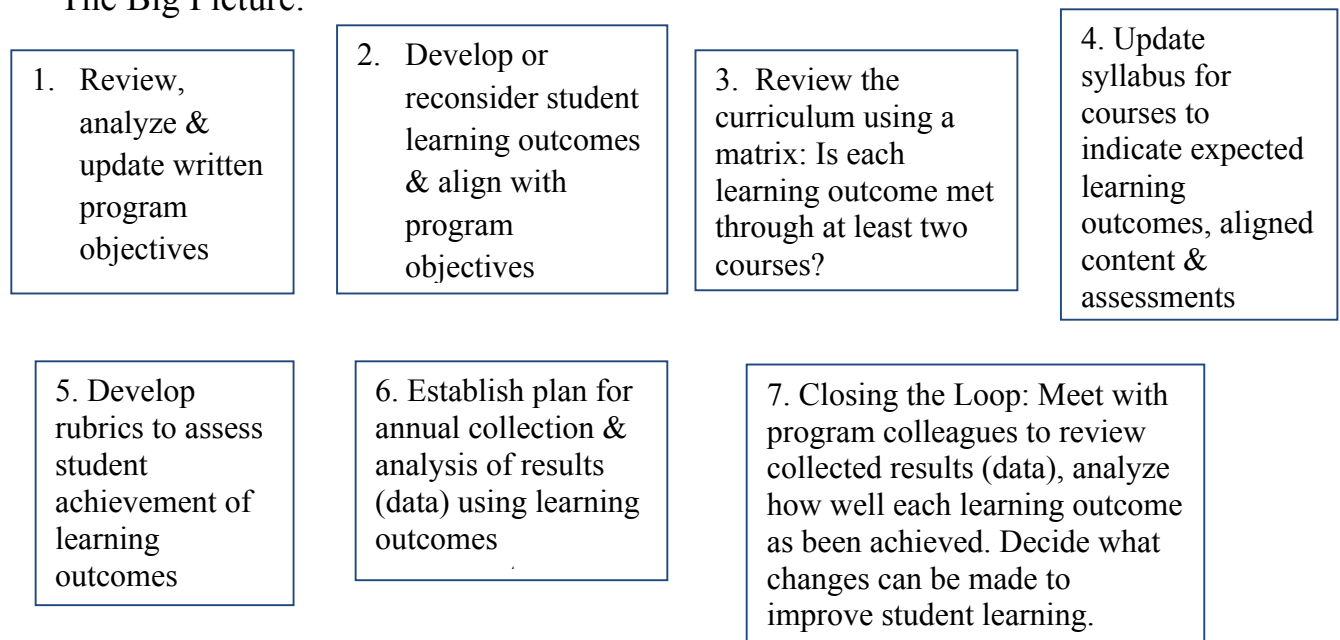**UDC Assessment Initiative**
5.11.2012

Guide for Programs:
Developing Learning Outcomes Assessment Structures & Practices

UDC is striving to further enrich teaching and learning at UDC through its learning outcomes assessment practices.

At the Provost's request, we are engaging in a university-wide process to strengthen academic programs and improve student learning through the development of an assessment system that includes program objectives, student learning outcomes, curriculum maps (matrices) updated syllabi, rubrics, annual assessment plans, and "closing the loop:" data collection, analysis of student performance, and the development of action steps for raising the level of student achievement..

This guide, prepared by UDC's Leadership Group on Assessment, is designed to help department chairs, program directors, and faculty members through the initial phases of this process. The first steps toward creating a thorough structure for assessment are to develop Program Objectives and Student Learning Outcomes (SLOs).

The Big Picture:

1. Review, analyze & update written program objectives	2. Develop or reconsider student learning outcomes & align with program objectives	3. Review the curriculum using a matrix: Is each learning outcome met through at least two courses?	4. Update syllabus for courses to indicate expected learning outcomes, aligned content & assessments
5. Develop rubrics to assess student achievement of learning outcomes	6. Establish plan for annual collection & analysis of results (data) using learning outcomes	7. Closing the Loop: Meet with program colleagues to review collected results (data), analyze how well each learning outcome as been achieved. Decide what changes can be made to improve student learning.	

Initial Steps: Program Objectives and Student Learning Outcomes

Definitions

- *Program Objectives*: A description of the skills and knowledge all student majors in a discipline will have upon completion of the program.
- *Student Learning Outcomes*: The knowledge, skills, abilities, and habits of mind that students take with them from a learning experience (usually a course).

Well-developed Program Objectives and SLOs:

- Identify critical, overarching skills, abilities, knowledge, and/or habits of mind that signal mastery of discplinary program objectives
- Are written clearly, concretely, and succinctly, using verbs that express levels of achievement like those identified in Bloom's Taxonomy
- Are demonstrable and measurable
- Express what students will achieve, rather than what instructors or the program will deliver

Recommended Practices

- Consult the findings of your most recent academic program review and its ambitions for the program;
- Define the objectives and outcomes as a program (disciplinary) faculty to develop a cohesive vision for the program's curriculum;
- Consider how the program's curriculum integrates and builds upon the general education curriculum;
- Review model examples and resources, including those used by 3-4 aspirant institutions in your discipline that are aligned with yours;
- Reach out to members of the University-wide Leadership Group on Learning Outcomes Assessment, other departments/programs, and other university and community resources whenever needed.

Sample template for program objectives and SLOs:

Programs should develop three to seven (3-7) program objectives for formal assessment. Each of these program objectives will be assessed over an **X**-year cycle *[The length of the cycle is under discussion; current recommendations are 3-5 years]*. We recommend that programs assess 1-2 program objectives per academic year.

Program Objective (example from Biology)	Student Learning Outcomes
IV. Students will apply skills necessary to develop and conduct independent and collective research studies and to assimilate and apply biological and scientific knowledge, concepts, theories, and data to comprehensive research experiences (undergraduate research, capstone projects, and independent research.)	Students will: IV.1 Demonstrate the ability to apply the scientific method to scientific research. IV.2 Apply deductive and inductive reasoning methods in the development of research hypotheses. IV.3 Understand the ethics surrounding the use of human and animal subjects in biomedical research. IV.4 Demonstrate the ability to effectively search scientific databases for relevant information (examples: National Library of Medicine, GenBank, WormBase, MorphoBank, JSTOR, ScienceDirect). IV.5 Demonstrate the ability to create a scientific bibliography. IV.6 Develop novel, student-generated hypotheses to conduct independent research. IV.7 Collaborate with fellow students in the development of group projects.

General Education Curriculum: Example of Objectives and Outcomes

Program Objective	Student Learning Outcome
1. Critical Reading and Written Language: --Read and write with skill and ease. --Express ideas and thoughts using a range of written forms that consider content and audience and professional standards. --Comprehend a variety of graphic and textual material using multiple approaches to reading, interpretation, and comprehension.	a. Demonstrate a base level of understanding of written material by identification of text features. b. Demonstrate complex comprehension of written material by using inference and deduction (e.g. questioning, paraphrasing, cross-referencing, constructive argumentation). c. Demonstrate ability to shift reader perspective/register in response to type of material and reading task. d. Demonstrate ability to monitor reading behavior using deliberate and reflective analysis strategies to enhance one's comprehension and satisfaction. e. Demonstrate the ability to identify and develop content that responds to the writing task (e.g. audience and purpose). f. Demonstrate knowledge of genre conventions in writing. g. Demonstrate the ability to apply the rules of writing as dictated by the writing task and genre (e.g. formal and informal rules and discipline specific conventions, text type. h. Demonstrate the ability to supply adequate evidence to support ideas in text. Demonstrate the ability to cite sources used in research.
2. Effective Use of Technology: --Understand and demonstrate effective use of (basic and specialized) technologies to obtain, evaluate, organize, and present information.	a. Discuss, select, and apply appropriate technology for a given task. b. Locate, retrieve, and evaluate information obtained from a variety of sources. c. Articulate ethical concerns in the use of databases and data mining, and apply that knowledge in decision-making. d. Describe and apply strategies for secure and ethical use of the Internet. e. Select and apply technology to a major field of study. f. Use computer problem-solving for end-user solutions.
3. Environmental Consciousness: --Develop an awareness of the interrelationships of humanity and the natural world and the impact of those relationships on a sustainable planet.	a. Describe the relationship between humans and the natural environment. b. Describe the impact of recycling and failure to recycle on local and global environments. c. Identify specific potential actions one can take personally or collectively to favorably impact the environment.

CURRICULUM	MAP						
(MATRIX)							
Program Objective	Student Learning Objective	Course #	Course #	Course #	Course #	Course #	Course #
1	1-1	x		x			x
	1-2				x		
	1-3			x		x	x
	1-4	x				x	
	1-5			x			
2	2-1				x		x
	2-2		x			x	
	2-3	x	x		x		x
	2-4		x	x		x	
	2-5	x	x		x		
	2-6						x
	2-7				x		
3	3-1			x			
	3-2	x		x			x
	3-3	x		x		x	
	3-4	x					

Curriculum Map (Matrix):

- Prepare a matrix showing how student learning outcomes are distributed throughout the entire program curriculum. Student learning outcomes should be listed on the first column, with courses listed across the top row (see matrix template).

- Discuss as a group whether the program's student learning outcomes are adequately and appropriately addressed in courses to ensure that the program's curriculum and instructional practices are reflected in the courses and will achieve the program's desired goals.

- Students should have the opportunity to achieve any given SLO in 2-3 courses, so that they are not limited to one possible course that addresses the required outcomes during their years of study at UDC.

Syllabus:

- Carefully consider Provost Bain's example of a "Promising Syllabus." Materials on this approach are available online at
  http://www.bestteachersinstitute.org/promisingsyllabus.pdf.

- Review the UDC syllabus template (see Blackboard organization, "Learning Outcomes Assessment.") For the **purposes of assessment**, there are 3 critical elements for each syllabus. The steps are:

  o Make certain each syllabus presents clearly written, measurable **student learning outcomes** as the guides for the course. These outcomes should be transparent to students and professors, as they serve as a contract between them.

  o Ensure that the **course content** (readings, instruction, presentations, etc) are directly aligned with the student learning outcomes. This examination of course content may call for some adjustments in the way a course is presented.

  o Make certain to include **assessments** that directly, transparently gauge whether students have achieved the student learning outcomes. These assessments can be part of a test, essay, performance, internship or other tool. This tool may be graded or ungraded, as long as it clearly assesses the achievement of specific outcomes.

Rubrics: A Definition

A rubric is a scoring guide that "translates informed professional judgment into numerical ratings on a scale" (Barbara Walvoord, *Assessment Clear and Simple,* 2004). Sample rubrics are available on the UDC Blackboard site on the organization called "Learning Outcomes Assessment." Rubrics:

- Can speed up the grading process by making scoring easier.
- Help students understand professors' expectations and inspire better performance.
- Make scoring less biased and more consistent.
- Give students a clearer picture of their strengths and weaknesses

One Sample Format: A Descriptive Rubric Template for Course Assignments
Adapted from KSU Rubric Template -- http://edtech.kennesaw.edu/intech/rubrics.htm

Student Learning Objectives	**Beginning 1**	**Developing 2**	**Accomplished 3**	**Exemplary 4**	Score
SLOs aligned from Syllabus and Program Website	Description of identifiable performance characteristics reflecting a beginning level of performance. Description of identifiable deficits.	Description of identifiable performance characteristics reflecting development and movement toward mastery of performance. Description of identifiable deficits.	Description of identifiable performance characteristics reflecting mastery of performance. No identifiable deficits.	Description of identifiable performance characteristics reflecting the highest level of performance. Description of identifiable characteristics beyond competence.	
S.L.O. #____	1.	2.	3.	4.	
S.L.O. #____	1.	2.	3.	4.	
S.L.O. #____	1.	2.	3.	4.	

Annual Assessment Plan:

What goes into an Annual Assessment Plan?

1. Planning. Set an initial meeting in August of each new Academic Year. During this meeting you will:
    a. Select program objective(s) to assess by end of spring semester.
    b. Identify courses in which those program objectives are addressed (capstone or other comprehensive courses or experiences are suggested).
    c. Ensure that benchmarks for achievement on the learning outcomes are in place.
    d. Review assessment tools that will be used and create a list of them by course.
    e. Set dates for the activities described below (2 &3).

2. Data collection and analysis. January and May activities include:
    a. Collection of assessment results and
    b. Analysis of results by the instructors involved and submitted to the chair.

3. Closing the Loop. Meeting 2 takes place in May of the same Academic Year. It involves:
    a. Discussion among program's/department's faculty to discuss analysis of data;
    b. Decision-making about what went well, what could be improved, and what measures will be taken to ensure that the changes are made; and
    c. A written report to deans and the Office of Assessment.

Elements of a Successful Assessment System

Program Objectives and Student Learning Outcomes
- A clearly written, measurable set of program objectives that reflect faculty members' vision for the program for the next five years or more. These will be worded in terms of **student** achievement in the overall program.
- Linked to each program objective, a set of student learning outcomes that describe what a student will be able to do or will know at the end of a course. The full group of these outcomes allows the program to fulfill the program objectives.

Curriculum Map (matrix), Syllabus, and Closing the Loop
- A matrix that displays all of a program's student learning outcomes and indicates which courses offer the content, assignments and assessments that allow students to achieve the outcomes;
- A syllabus that (1) offers an invitation to creative, engaging learning that, for assessment purposes, presents student learning outcomes in clear, direct language and indicates that students are expected to demonstrate knowledge, skills, ability or habits of mind, and aligns outcomes, assignments, and assessments;

- A plan for "closing the loop."

Checklist

1. Do all Student Learning Outcomes appear in the program's courses?
2. Are your Student Learning Outcomes (SLOs) addressed in 2-3 courses, so that students have more than one opportunity to achieve each one?
3. Do any courses need to be adapted to ensure that the course content and assessments are clearly aligned with the SLOs and offer up-to-date approaches to teaching and learning the content?
4. What kinds of experiential, research, and community engagement opportunities are (and should be) available to students that may help address the program's Student Learning Outcomes?
5. Do your course syllabi transparently present an alignment between Student Learning Outcomes, course content, and assessments?
6. Are rubrics employed to convey effective feedback in an objective manner?
7. Are the assessment plan, schedule, assessment results, discussions, and decisions clearly documented?

UDC University-Wide Assessment Leadership Group as of 5.11.12

- College of Agriculture, Urban Sustainability, and Environmental Sciences: Clarence Pearson
- College of Arts and Sciences: Abdi Darai, William Hanff, Helene Krauthamer, April Massey
- Office of the Provost: Ansar Ahmed, Holly Madsen (chair)
- Learning Resources Division: Suzan Harkness, Rachel Jorgensen
- School of Business and Public Administration: Nedra Mahone, Chigbo Ofong, Bill White
- School of Engineering and Applied Sciences: Abiose Adebayo, Gail Finley
- School of Law: Laurie Morin
- Student Affairs: Serena Butler-Johnson

Essential Resources on Learning Outcomes Assessment

- *Assessment Clear and Simple,* Barbara Walvoord
- *Assessing Student Learning,* Linda Suskie
- *Introduction to Rubrics: An Assessment Tool to Save Grading Time, Convey Effective Feedback, and Promote Student Learning*
- Videos on specific aspects of Assessment in the UDC Library
- *See Dr. Rachel Jorgensen in the library for specialized assistance: many more resources are available.*

- **Blackboard site titled *Learning Outcomes Assessment***

- Templates, Guides, Rubrics
- Other University Models for Assessment (Comparison Universities)
- General Education Reform Manual

- AAC&U nationally-developed Student Learning Outcomes examples