

Course Assessment Guide

RIT

Division of
Academic Affairs

**Office of
Educational
Effectiveness
Assessment**

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Course Assessment Overview

Course assessment refers to methods of assessing student learning within the classroom environment to gauge the extent to which specific learning outcomes are being met. Effective teaching and learning includes integrated course goals and student learning outcomes, curricular alignment, and embedded assessments.

Three Key Elements to Successful Course Level Assessment

- ★ Establishing course goals and student learning outcomes that map to program goals for the course
- ★ Measuring whether goals and learning outcomes have been met
- ★ Using the results to improve teaching and learning in the course

Key Questions

How do I define meaningful, measurable course learning goals and student learning outcomes?

How do I align program/course goals and outcomes to course syllabi?

What assessment methods do I already use? How can I improve my methods?

How can I be more deliberate and transparent about the assessment in my courses?

How can I use the data to improve curriculum, instruction, and assessment?

I. Course Goals and Student Learning Outcomes (SLOs)

❖ Start with a Course Analysis Inventory

- Determine what you want to accomplish in your course. What are the overall goals for the program, and how does your course contribute to those program goals?
- Be explicit about student learning goals. **Use a Planning Worksheet (Attachment A) to get started.**

❖ Establish or Revise Learning Goals/SLOs

- Goals describe broad learning outcomes in terms of skills and concepts. Learning outcomes describe what we want students to know and be able to do and are expressed in measurable terms (e.g., demonstrating writing skills).
- Goals state what your course and program aim to achieve, and SLOs indicate the observable and measurable ways to demonstrate that the goals are met.

What major learning goals do you want students to achieve in the course? Goal statements can be slightly broad and theoretical, but you should be specific when you develop the course SLOs.

If you have trouble identifying course goals, try answering these questions:

Questions	Responses = Concepts for Course Goals
What are the most important things a student will achieve in the course?	
What knowledge, skills, qualities, and capabilities do you strive to foster in your students?	
What is the most important knowledge that your students will acquire from the course?	
Why do you use current readings, activities, and assignments, and what do you want students to learn through these course elements?	
Where do students have difficulty in the course; what do they consistently not get?	

❖ **Establish or Revise Learning Goals/SLOs**

Developing Course Goals

Use concepts identified in the chart above to develop or revise course goals. Course goals come first; student learning outcomes flow from these goals.

How do You Connect Course Goals to SLOs?

SLOs describe specific learning behaviors that students should demonstrate in the course. Course SLOs transform goal generalizations into specific student performance and behaviors that demonstrate student learning and skill development. Measurable SLOs must begin with an active verb.

Sample Course Goals and SLOs

- Too vague:** Demonstrate information literacy skills (so many skills – which ones?)
- Too specific:** Use the college’s online services to retrieve information (only one skill is too narrow)
- Better:** Locate information and evaluate it critically for its validity and appropriateness

To help identify course SLOs, answer the following questions:

1. For each stated goal, what specific student knowledge, skills, or abilities would indicate the goal is being achieved?

2. What evidence is needed to confirm students are achieving the established major goals?
3. What evidence indicates students have met the goals – how do you know they “get” it?

Course Goals	SLOs
Sample Goal for Biology: Demonstrate use of the scientific method for original scientific research	❖ Conduct an experiment including: use of an hypothesis, controlling variables, operationally defining terms, and interpreting data
	❖ Produce a scientific report for an in-class experiment

II. Assessment Methods - Identify/Review Existing Assessment Techniques

Answer the following questions to clarify what methods (direct and indirect method descriptions/examples follow) are currently used to gather information on students and their performance in the course:

1. What information on student learning/performance is collected (e.g., surveys, class assignments, tests, capstones, or other projects)?
2. Are the assessments aligned to the learning goals and SLOs?
3. Is there a benchmark or standard for achievement (e.g. percentage, statement of student success)?
4. Are there gaps between the information collected, course goals, and SLOs?
5. What other information will help clarify if students are meeting the SLOs?

❖ Assessing Student Learning – Direct and Indirect Methods

Direct Methods of assessing student learning (clear and compelling evidence)

- “Capstone” experiences (research projects, presentations, theses, dissertations, oral defenses, exhibitions, or performances) scored using a rubric
- Other written work, performances, or presentations, scored using a rubric
- Portfolios of student work
- Scores on locally designed multiple choice and/or essay tests (final examinations in key courses, qualifying examinations, and comprehensive examinations) accompanied by test “blueprints” describing what the tests assess
- Score gains between entry and exit on published or local tests or writing samples
- Summaries/analyses of discussion threads
- Classroom response systems (clickers)
- Knowledge maps

Indirect Methods of assessing student learning (signs that students are probably learning, but exactly what or how much they are learning is less clear)

- Course grades*
- Assignment grades, if not accompanied by a rubric or scoring guide
- Student ratings of their knowledge and skills, and reflections on what they have learned in the course or program
- Questions on end-of-course student evaluation forms that ask about the course rather than the instructor

* **Grades and Assessment**

There is a difference between grading and assessment, but a common characteristic is they both intend to identify what students have learned. Grades alone do not always give direct evidence because often grades don't identify which specific student learning outcomes students have acquired and at what levels. Some course grades also include student behaviors that are not related to student learning outcomes (e.g. attendance and participation). For example, a grade of B in a mathematics course indicates a student learned an acceptable level of math, but not the specific math knowledge or skills that the student mastered well or what areas need improvement.

A project or assignment grade is a better indicator of student learning, and a rubric for the project or assignment best provides direct evidence and shows the level the student achieved, making it an ideal source for assessment purposes. Grades are based on direct evidence of student learning (evaluations of tests, papers, and projects) but need to be clearly linked and aligned to learning goals and rubrics to suffice as direct evidence for assessment purposes.

III. Reviewing the Course Syllabus – Course Curriculum Map and Course Assessment Plan

Designing classroom-based assessment will be much easier once specific course goals for student learning have been developed to help measure knowledge, skills, and dispositions or habits of the mind. Current assessment techniques should also have been identified.

The course syllabus should explicitly state learning outcomes and tie course content and requirements to the outcomes. This will allow the use of the assessment process to improve communication with students. Students benefit from having clearly stated goals and SLOs that are linked to class content.

Putting it all Together – Curriculum Map for the Course

Using the **Course Curriculum Map (Attachment C)** and **Course Assessment Plan (Attachment D)** may help map goals, SLOs, and assessment methods.

IV. Design or Refine Rubrics/Scoring Guides

❖ Why Use Rubrics?

- Rubrics clarify criteria by which student work will be assessed. Students, faculty, and other university stakeholders all benefit from explicit expectations and assessment criteria.
- Rubrics can inform teaching, help faculty clarify expectations, and guide decisions about curriculum, course, and assignment design.
- Rubrics produce more detailed assessments than a single grade.
- Rubrics can make scoring easier and faster and focus on what is to be measured.
- Rubrics ensure accurate, consistent scoring criteria for all students.
- Rubrics provide concepts and vocabulary to support constructive discussions about learning and reflections on the learning process.
- Students can use rubrics to self-evaluate to see where they are and where they are headed.
- Rubrics give students a reference point for deeper engagement and peer assessment.
- Rubrics offer faculty a way to give students useful feedback and help track student performance.
- Rubrics help gather direct evidence about student learning.

In best practices, rubrics, like other forms of assessment, are part of a cycle of reflection; they evolve based on input from users and the on-going refinement of learning goals and course activities. See **Attachment E** for template and steps for designing analytical rubrics.

What are the different types of Rubrics?

- **Checklists** – a list of accomplishments or what is included in an assignment; better for self-assessment or observation.
- **Rating Scales** – a checklist with a scoring scale along a continuum that shows the degree to which the required elements are present in a completed assignment; quick and easy to create and score.
- **Descriptive Rubrics/Analytical Scoring Guides** – replaces check boxes; descriptors explicitly document standards and levels of performance expected at each level and breaks tasks into parts with levels of performance articulated for each criterion.
- **Holistic Scoring Guides** – includes short narrative descriptions to focus on the entire performance rather than components, and assesses performance across multiple criteria as a whole. Better for larger scale projects (150 essays or portfolios).
- **Structured Observation Guides** – a rubric without a rating scale, more subjective, qualitative, but still direct and valid.

V. Benchmarks and Standards – Measures of Success

❖ Statements of Student Success – How well are students learning?

Each student learning outcome should have an established baseline measure which indicates an acceptable level of student achievement for each outcome. Defining acceptability or unacceptability will depend upon the importance of the outcome and type of measure (direct/indirect).

For any score or average to have meaning, it needs to be compared to something. Setting benchmarks is a three step process to help explain how well students are learning: (1) choose the kind of standard or benchmark, (2) set the appropriate standard or benchmark, and (3) set targets for students' collective performance.

A few tips to help you get started:

- Do some research – appropriate disciplinary associations, web search for examples, colleagues, and peer programs.
- Benchmarks can be established from local (competency-based or criterion-referenced) or external (certification or licensure examinations) standards.
- Involve others in the standards-setting process – work with faculty, students, employers
- Use samples of student work to inform discussion – implement assessment on a small scale and gather work samples to help determine exemplary to inadequate work.

Benchmarking is a continuous process. Once initial standards and targets have been set, adjustments and modifications may be necessary based on implementation.

VI. Timelines and Assessment Cycles

Plan to collect student data throughout the course – beginning, middle, and end. Determine if data used to measure program learning outcomes will be collected annually or on a staggered schedule.

VII. Data Analysis and Use of Results

Analysis of assessment data provides evidence of student learning. Assessment data can distinguish patterns of consistency, provide evidence of learning within distinct student populations, and identify gaps in or achievement of program outcomes.

Answer the following questions to help summarize and analyze assessment results:

What questions are to be answered? Why was the assessment conducted?

Summarize results into overall scores and sub-scores, as appropriate.

Compare results to the established benchmarks. Are there any meaningful differences?

Identify meaningful (statistical and practical) differences.

❖ Closing the Loop

Course data should be used to improve curriculum, instruction, and assessment.

- Evaluate the quality of the assessment process and strategies.
- Identify areas of improvement or refinement.

For more information on using results see Attachment F.

Need Assistance? Contact EEA for Consultation, Resources, and Support

EEA Office: 585.475.4138

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rit.edu/outcomes

Attachment A: Planning Worksheet

Program Mission

(initial point of reference, concise statement of the general values and principles that guide the curriculum, statement of program vision)

Program Goals

(bridge to the mission, more concrete concepts, narrowed and focused to the discipline and key concepts and competencies)

- 1.
- 2.
- 3.
- 4.
- 5.

Program Student Learning Outcomes

(linked to program goals, student focused, goal oriented, measurable [action verbs], observable, emphasize knowledge, skills, and dispositions that all students in the program should demonstrate)

- 1.
- 2.
- 3.
- 4.
- 5.

Attachment B: Bloom's Taxonomy of Cognitive Skills with Action Verb List

			Critical Thinking		
Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation
Count	Associate	Add	Analyze	Categorize	Appraise
Define	Compute	Apply	Arrange	Combine	Assess
Describe	Convert	Calculate	Breakdown	Compile	Compare
Draw	Defend	Change	Combine	Compose	Conclude
Identify	Discuss	Classify	Design	Create	Contrast
Labels	Distinguish	Complete	Detect	Drive	Criticize
List	Estimate	Compute	Develop	Design	Critique
Match	Explain	Demonstrate	Diagram	Devise	Determine
Name	Extend	Discover	Differentiate	Explain	Grade
Outlines	Extrapolate	Divide	Discriminate	Generate	Interpret
Point	Generalize	Examine	Illustrate Infer	Group	Judge
Quote	Give	Graph	Outline	Integrate	Justify
Read	Give	Interpolate	Point out	Modify	Measure
Recall	examples	Manipulate	Relate	Order	Rank
Recite	Infer	Manipulate	Select	Organize	Rate
Recognize	Paraphrase	Modify	Separate	Plan	Support
Record	Predict	Operate	Separate	Plan	Support
Repeat	Rewrite	Prepare	Subdivide	Prescribe	Test
Reproduces	Summarize	Produce	Utilize	Propose	
Selects		Show		Rearrange	
State		Solve		Reconstruct	
Write		Subtract		Related	
		Translate		Reorganize	
		Use		Revise	
				Rewrite	
				Summarize	
				Transform	
				Specify	

Attachment C: Course Curriculum Map

Name of Course _____ Program/College _____

Program Goals _____

Course Goals	Student Learning Outcomes	Assessment
Overall goals for students in the course	Students will be able to:(task, capability, knowledge, skills, and dispositions)	Assessment opportunity and method (assignment and rubric)

Attachment D: Course Assessment Plan

Name of Course _____ Program/College _____

Program Goal(s) _____

Course Goals	Student Learning Outcomes	Performance Criteria/Benchmarks		Timeline		Use of Results		
		Standard, target, or achievement level	Assessment opportunity and method (assignment and rubric)	When collected during course	Data analysis	Major Findings	Recommendations	Actions and Follow-up
Overall goals for students in the course – key concepts in the discipline	Students will be able to: (task, capability, knowledge, skills, and dispositions)							

Attachment E: Template for Designing Analytic Rubrics

<i>Course/Assignment Title</i> _____					
<i>Course Goal/Learning Outcome</i> _____					
	Beginning 1	Developing 2	Accomplished 3	Exemplary 4	Rating
Criteria #1	Description reflecting beginning level of performance	Description reflecting movement toward mastery level of performance	Description reflecting achievement of mastery level of performance	Description reflecting highest level of performance	
Criteria #2	Description reflecting beginning level of performance	Description reflecting movement toward mastery level of performance	Description reflecting achievement of mastery level of performance	Description reflecting highest level of performance	
Criteria #3	Description reflecting beginning level of performance	Description reflecting movement toward mastery level of performance	Description reflecting achievement of mastery level of performance	Description reflecting highest level of performance	
Criteria #4	Description reflecting beginning level of performance	Description reflecting movement toward mastery level of performance	Description reflecting achievement of mastery level of performance	Description reflecting highest level of performance	
Overall Rating					

Attachment E cont'd: Template for Designing Analytic Rubrics

Steps in the Design of Scoring Rubrics – Analytical

Step 1	Re-examine the student learning outcomes/course goals to be addressed by the assignment. This allows you to match your rubric with your objectives and actual instruction.
Step 2	Identify specific observable attributes that you want to see (as well as those you don't want to see) your students demonstrate in their product, process, or performance. Specify the characteristics, skills, or behaviors that you will be looking for, as well as common mistakes you do not want to see.
Step 3	Brainstorm characteristics that describe each attribute. Identify ways to describe above average, average, and below average performance for each observable attribute identified in Step 2.
Step 4	For analytic rubrics, write thorough narrative descriptions for excellent work and poor work for <u>each individual attribute</u>. Describe the highest and lowest levels of performance using the descriptors for each attribute separately.
Step 5	For analytic rubrics, complete the rubric by describing other levels on the continuum that range from excellent to poor work <u>for each attribute</u>. Write descriptions for all intermediate levels of performance for each attribute separately.
Step 6	<i>Share rubric with students before the assignment and return a copy of the completed rubric with the assignment.</i> This will help students understand and clarify the expectations of the assignment.
Step 7	Collect samples of student work that exemplify each level. These will help you score in the future by serving as benchmarks.
Step 8	Revise the rubric, as necessary. Be prepared to reflect on the effectiveness of the rubric and revise it before its next implementation – usually revised a few times.

Attachment F: Collect, Analyze, and Use Data to Inform or Reform

Collection and Analysis of Data

Consider how you will collect course-embedded assessment data on a cycle that is established in your Course Assessment Plan. The easiest method is to collect the scoring guides or rubrics, aggregate the data, and create simple data tables using an organized system/spreadsheet/database. Once data are aggregated and analyzed, faculty can identify major findings, recommendations, actions, and follow-up. Consult with EEA for recommendations and strategies.

Assessment Reporting

1. Which outcomes and goals were you focusing on in the course?
2. What assessment methods did you use? Why did you select these? Are you planning on revising or modifying for the next year?
3. How well did students meet the benchmarks that you set?
4. What was the most valuable thing you learned?
5. Discuss your findings – what are the three most important things you would like to share with others about the results?
6. Using the Results – how will the results impact decisions on curriculum, instruction, or assessment in your course? Who will you share your findings with – students, faculty, chair, etc.?
7. Is your course/assignment part of the program-level assessment plan? What additional process is needed to report the findings?

Evaluating the Assessment Process

1. Did you have a positive or negative experience implementing your assessment methods?
2. What were your students' reactions to the assessment process?
3. What did you find especially effective in the assessment process?
4. What did you particularly dislike about the process?
5. What would you change about the process and why?
6. Were you able to “close the loop” and use the data for improvements to the course?

Sharing Results

You have collected and analyzed data – what can you do with the assessment findings? Here are some ways academic programs share findings from their assessments:

- Publicize results to combinations of faculty, students, alumni, prospective students, administrators, donors
- Department Websites – post summaries of relevant results related to course goals, program goals, current department or college initiatives
- Alumni or departmental newsletters
- Accreditation agencies
- Recruiting/admissions brochures
- Student orientation materials
- Awards ceremonies
- Publications or research forums