Classroom Assessment Techniques
adapted from Angelo & Cross (1993)

The table below is designed to be a quick introduction to a variety of Classroom Assessment Techniques available to you for assessing student learning. Classroom Assessment Techniques (CATs) are very powerful because they allow you to measure, in the classroom, students' performance related to specific learning objectives. Many teachers find that embedding assessment into their courses provides them useful information about student learning while minimizing the amount of time needed for assessment.

If you would like to learn more about CATs, you may check out Angelo and Cross' book from Reinert Alumni Library (call # LB2822.75 A584C) or contact the Office for Academic Excellence and Assessment.

If you want to assess	**Try using . . .**	**In this way**
Students' accumulation of knowledge into already established structures	Background knowledge probes	Collect specific and useful information on students' prior learning, focusing on specific information or concepts that must be known to succeed in subsequent assignments. This can be done in dialogue with the students or in writing.
	Focused listing	Ask students to produce a list of related terms (words or phrases) important to understanding that topic.
	Misperception/preconception	Learn students' prior knowledge or beliefs that may hinder or block further learning. Ask for the information in dialogue or in writing.
	Empty outlines	The teacher provides students with an empty/partially completed outline and gives them a limited amount of time to fill in the blank spaces. Students can work alone or in groups, depending on what is being assessed.
	Memory matrix	The teacher builds, alone or with prior student input, a matrix of key ideas, in which each cell represents particular relationships across two dimensions (and their sub-dimensions). The teacher provides the matrix, asking student to relate ideas from different parts of the matrix.
	Minute paper	Ask students to write, in one minute, the answer to either of these questions: "What was the most important thing you learned during this class?" "What important question remains to be answered?"
	Muddiest point	Ask students to write their answer to this question: "What was the muddiest point in the _____?" (e.g., in the lecture, in the book, in the discussion, in the film) This works great using 3 x 5 cards, email, or even e-chat.

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Students' Skill in Analysis and Critical Thinking (procedural learning, skills at breaking down)	Categorizing Grid	Students sort a teacher-provided scrambled list of terms, images, equations, or other items into one or another of the pre-defined categories.
	Defining Features Matrix	Students categorize concepts according to the presence or absence of important defining characteristics.
	Pro and Con Grid	Students identify pros and cons associated with a particular act, event, issue, etc.
	Content, Form, and Function Outlines	What? How? Why?
	Analytic Memos	Students write a one- or two-page analysis of a specific problem or issue, usually directed to a particular audience. Think briefing memo. Think white paper.
Students' Skill in Synthesis and Creative Thinking	One-Sentence Summary	Who does what to whom, when, where, how, and why?
	Word Journal	Two-part response—students summarize a short text in a single word (or metaphor); then, the students write a paragraph or two explaining why he or she chose that particular word (or metaphor) to summarize the text. This can be used for theories, ideas, constructs, etc. in addition to texts.
	Approximate Analogies	A is to B as . . . Can students "capture" the relationship?
	Concept Maps	Students construct drawings or diagrams showing the mental connections they make between a major concept and other concepts they have learned. Documenting and being able to explain the connections among concepts helps the students recognize their capacity to engage in complex thought processes. Teachers can trace the connections to understand errors in students' thinking processes.
	Invented Dialogues	Students synthesize their knowledge of issues, personalities, and

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		historical periods into the form of a carefully structured illustrative conversation. Can be written or enacted (live or recorded, possibly for later Web-streaming).
	Annotated Portfolios	Students construct a portfolio of a limited number of examples of their creative work, supplemented by their own commentary on the significance of these examples.
Students' Skill in Problem Solving (metacognition, types of problems, strategies for solving)	Problem Recognition Tasks	Students are asked to recognize and identify the particular type of problem each example represents.
	What's the Principle?	The teacher provides students with a few problems and asks them to state the principle that best applies to each problem.
	Documented Problem Solutions	The teacher asks students to keep track of steps they take in solving a problem—a kind of "show and tell". Students become aware of how they solved those problems and how they can adapt their problem-solving routines to deal with messy, real-world problems.
	Audio- and Videotaped Protocols	Students capture each other, individually or in groups, solving problems, then critique and provide feedback on what was displayed.
Students' Skill in Application and Performance	Directed Paraphrasing	Ask students to paraphrase theory, jargon, and other specialized language into "normal" language. This CAT provides visibility into students' ability to translate highly specialized information into everyday language.
	Application Cards	Students are asked to write one possible, real world application for what they have just learned.
	Student-Generated Test Questions	Students construct test questions and model answers. This allows the teacher to assess what students consider to be important, what they understand as fair and useful test questions, and how well they can answer the questions they have posed.

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	Human Tableau or Class Modeling	Groups of students create "living" scenes or model processes to show what they know.
	Paper or Project Prospectus	Students provide a brief, structured first-draft plan for a term paper or project.

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Thomas Angelo and Patricia Cross' book Classroom Assessment Techniques: A Handbook for College Teachers (2nd) is considered by many to be the quintessential text on Classroom Assessment Techniques (CATs). The CATs provided on this handout have been adapted from their text. In the text, each CAT is listed along with the following additional information:

- The estimated amount of time and energy required for faculty to prepare and use the CAT.
- The estimated amount of time and energy required for students to respond to the assessment.
- The estimated amount of time and energy required for faculty to analyze the data collected.
- A description of the CAT.
- The designed purpose of the CAT.
- Teaching goals related to the CAT.
- Suggestions for using the CAT.
- Examples (linked to specific academic disciplines).
- Step-by-step procedures.
- Suggestions for turning the data collected into useful information.
- Ideas for adapting and extending the CAT.
- Pros related to using the CAT.
- Cons related to using the CAT.
- Caveats to using the CAT.
- References and resources.

The text also provides an overview of assessment, extended examples, and a summary of six years (in 1993) of use of the CATs.