

**WORKSHEET FOR IDENTIFYING OR DEVELOPING COURSE OBJECTIVES, STRATEGIES, AND OUTCOMES  
UNIVERSITY OF WISCONSIN-MADISON COLLEGE OF ENGINEERING**

COURSE # AND NAME: \_\_\_\_\_ INSTRUCTOR: \_\_\_\_\_

<b>OBJECTIVES</b> This <u>course</u> will develop students' knowledge of . . .	<b>STRATEGIES</b> The <u>instructor</u> will achieve each of these objectives by (having students) . . .	<b>OUTCOMES</b> Upon successfully completing this course, <u>students</u> will be able to . . .
<p><i>Tips on objectives:</i></p> <ul style="list-style-type: none"> <li>• The UW COE defines course objectives as: Broad statements describing how a course will fulfill the program objectives and thereby satisfy constituency needs.</li> <li>• Objectives should identify the main topics to be covered by the course. Some, but not necessarily all, of these objectives are likely to align with ABET's outcomes.</li> <li>• Aim for 3-5 objectives per course.</li> <li>• All objectives should be graded. A course grade should reflect a student's progress toward all of the objectives</li> </ul>	<p><i>Tips on strategies:</i></p> <ul style="list-style-type: none"> <li>• Strategies are the things that you do to help students learn the subject.</li> <li>• A common strategy is to have students practice the skills listed as course outcomes (see next column). Strategies typically include specific examples of the types of in-class activities, homework, and projects that will be required.</li> <li>• Each objective will probably require at least 2-3 strategies, but each strategy might help students achieve more than one objective.</li> </ul>	<p><i>Tips on outcomes:</i></p> <ul style="list-style-type: none"> <li>• The UW COE defines course outcomes as: Statements describing the specific knowledge and skills students are expected to acquire as a result of the course.</li> <li>• These statements should be "measurable." That is, they should indicate how students could demonstrate to the instructor that they have mastered the material in the course.</li> <li>• There might be as few as 3-5 outcomes per objective, or there might be as many as 3-5 outcomes for each week in the semester.</li> <li>• These are the things that will need to be assessed for ABET purposes, so fewer, broader outcomes will probably be more manageable.</li> </ul>

**SAMPLE VERBS FOR DESCRIBING STUDENT OUTCOMES:**

To accept

To adjust

To adopt

To advocate

To arrange

To assemble

To catalogue

To categorize

To challenge

To chart

To classify

To compare

To cooperate

To defend

To define

To demonstrate

To describe

To detect

To endorse

To evaluate

To express

To forecast

To formulate

To identify

To install

To investigate

To isolate

To judge

To list

To locate

To modify

To operate

To organize

To prepare

To produce

To question

To recall

To reflect

To state

To apply

To calculate

To measure

To estimate

To explain

To verify

To design

To transfer

To manufacture

To plan

To implement

**SAMPLE OBJECTIVES, STRATEGIES, AND OUTCOMES**

**FOR CEE 698, LECTURE 6: ENGINEERING ETHICS**

<b>OBJECTIVES</b> This <u>course</u> will develop students' knowledge of ...	<b>STRATEGIES</b> The <u>instructor</u> will achieve each of these objectives by (having students) ...	<b>OUTCOMES</b> Upon successfully completing this course, <u>students</u> will be able to ...
... the <b>nature</b> of engineering ethics (legal, professional, historical, and personal definitions of "engineering ethics").	<ul style="list-style-type: none"> <li>• ... locate and read copies of at least one statute dealing with engineering ethics (liability law, e.g.) and at least one professional engineering society's code of ethics/conduct.</li> <li>• ... explore the development of legal and professional definitions of ethics.</li> <li>• ... analyze research explaining why a personal code of ethics is the most frequently used code.</li> <li>• ... read at least one example of a personal code and will write their own personal code of ethics.</li> <li>• ... apply sample codes and laws to a variety of case studies.</li> </ul>	<ul style="list-style-type: none"> <li>• locate, describe, and apply the content of at least one example of a law (state, national, or international) dealing with engineering ethics.</li> <li>• locate, describe, and apply the content of the code of ethics/conduct of at least one professional society.</li> <li>• prepare, describe, and defend their own personal definition of what makes for an ethical engineer.</li> </ul>
... the <b>value</b> of engineering ethics (varied contemporary and historical legal, professional, and personal reasons why an engineer should be ethical).	<ul style="list-style-type: none"> <li>• ... review the history and development of engineering licensing laws, liability laws, and codes of ethics.</li> <li>• ... read about, discuss, and debate the pros and cons of: being [un]ethical, having a code of ethics, and being responsible for "the public safety."</li> </ul>	<ul style="list-style-type: none"> <li>• describe and explain historical, legal, professional, and personal reasons why legal and professional definitions of ethics exist.</li> <li>• describe the benefits that are expected to arise from acting ethically.</li> <li>• describe the specific consequences of acting unethically (according to any of the definitions provided above).</li> </ul>
... the <b>resolution</b> of ethical dilemmas (using common ethical dilemmas, identify possible actions to be taken in response, and probable consequences of those actions).	<ul style="list-style-type: none"> <li>• ... practice identifying ethical dilemmas in newspapers, magazines, journals, etc.</li> <li>• ... read and discuss case studies describing how others have responded to ethical dilemmas and what consequences ensued.</li> <li>• ... search out, locate, and employ a variety of resources for dealing with ethical dilemmas, including regulations, hotlines, advisors, philosophical rules and models, etc.</li> <li>• ... brainstorm and discuss possible responses to a wide variety of ethical dilemmas.</li> <li>• ... apply professional, legal, philosophical, and personal codes to case studies to identify options and limits on their reactions.</li> </ul>	<ul style="list-style-type: none"> <li>• identify the ethical dilemmas implicit in a newspaper article or similarly general document.</li> <li>• name at least two possible actions that could be taken in response to a given ethical dilemma.</li> <li>• describe and evaluate the probable consequences of these actions.</li> </ul>