El Sílabo del Curso: La Planificación de Cursos con Enfoque de Enseñanza Centrada en el Estudiante
(The Course Syllabus: Planning Student-Centered Courses)

Día 4: Contenido y Resultados de Aprendizaje
(Day 4: Content and Learning Outcomes)

Universidad Católica de la Santisima Concepción

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UNIVERSIDAD CATOLICA
DE LA SANTISIMA CONCEPCION

LASPAU
Affiliated with Harvard University

Objetivos

- Definir el contenido del curso de tal manera que se enfoque in conceptos claves

- Identificar características de los estudiantes que influyen en el contenido y resultados del curso

- Evaluar y revisar los resultados de aprendizaje deseados de cursos enseñados por los participantes del taller
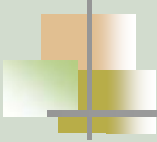
Your Questions and Expectations

- As we begin the workshop, what **questions** do you hope the workshop will answer? Write each question on a separate Post-It note.

- What are your **expectations** for this workshop? In other words, what do you hope to learn about, or learn how to do, or form an opinion about. Write 2 or 3 expectations on a index card.

- If time permits, share your questions and expectations with the person sitting next to you.

Course Planning Model
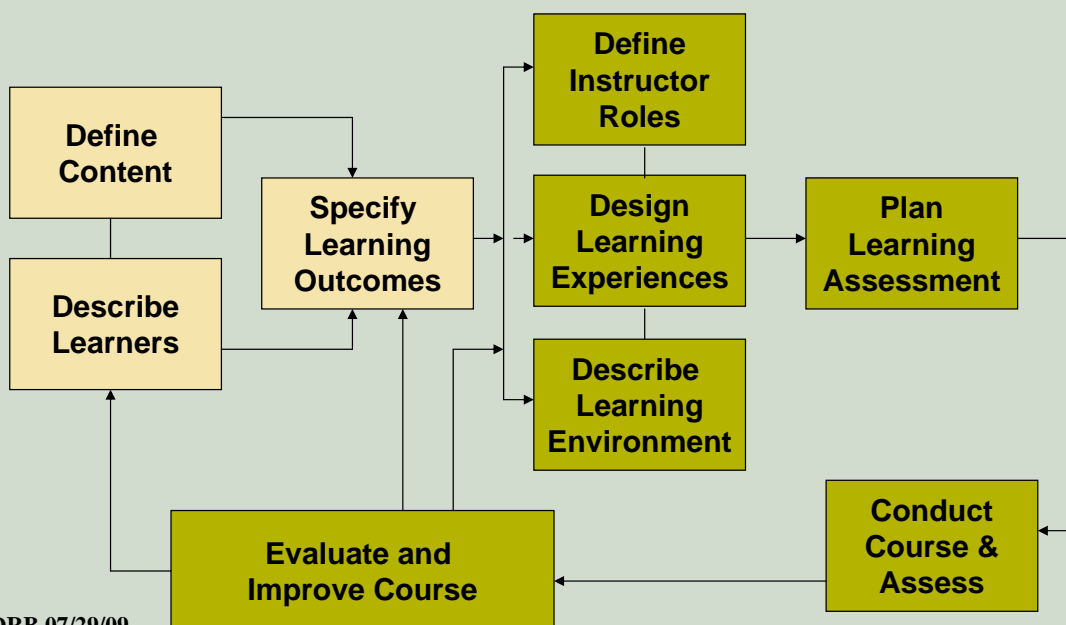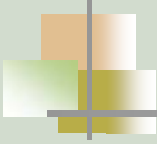
Describing the Course

Description

- What is the context related to professional practice?
- What is the overall goal or purpose of the course?
- Who is the target audience?
- Where does this course fit in the curriculum or program?

Intended Learning Outcomes

- What concepts and principles will students know as a result?
- Which skills, processes, and procedures will they be able to do?
- What attitudes and attributes will students deepen or come to value?


Massachusetts Institute of Technology
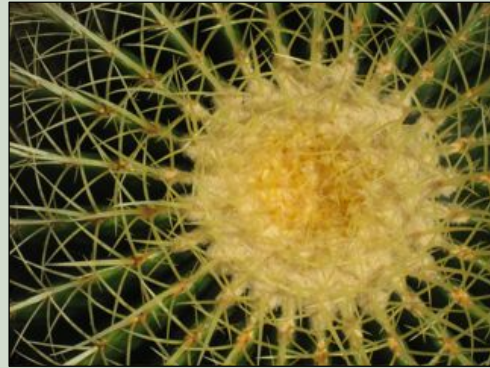

Conceptos

A set of specific objects, symbols, or events that are *grouped together on the basis of shared characteristics* and can be referenced with a particular name or symbols

- **Concrete concepts**: ideas of common objects or object qualities, *e.g.,* water, papaya, elliptical, smooth

- **Abstract concepts:** rules that classify objects or events, *e.g.,* function, genre, epoch, acceleration
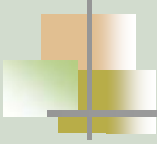
Activity: Identifying Concepts

- Write two examples of **concepts** from your teaching area

- Say if the concept is **concrete** or **abstract**

- Share your concepts with others seated near you, explaining why you think the word or phrase represents a concept.

Conceptual Understanding (Entendimiento)

Worth being familiar with

Important to know and do

Enduring conceptual understanding
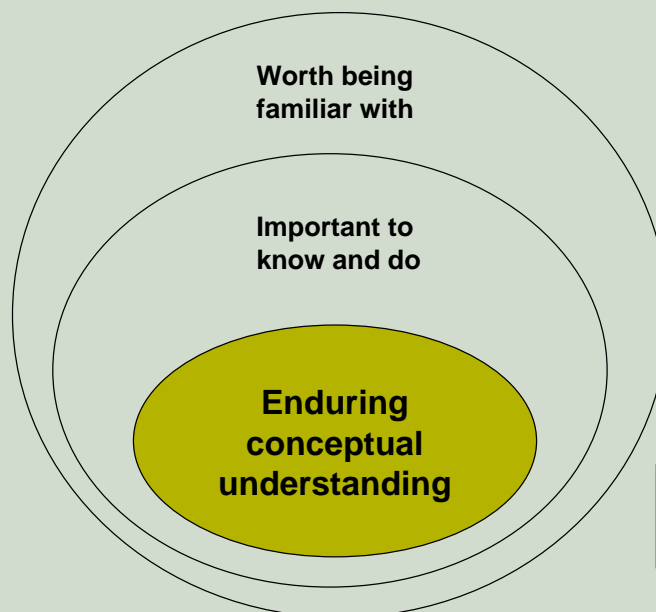
Adapted from
Wiggins &
McTighe, 1998
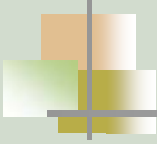
Enduring Conceptual Understanding

Understanding is considered **enduring** if the concept:

- Represents a "big idea" having lasting value beyond the classroom
- Resides at the heart of the discipline
- Requires "uncoverage" of misconceptions
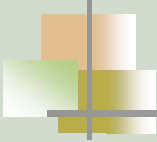- Offers potential for engaging students

Milwaukee Art Museum

Activity:
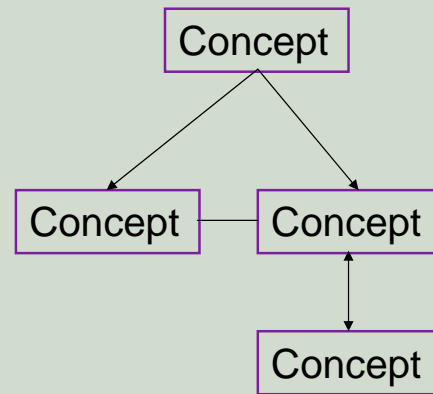# Enduring Conceptual Understanding

- Using the four criteria on the previous slide, identify 4 or 5 concepts from your course, which are worthy of **enduring conceptual understanding**

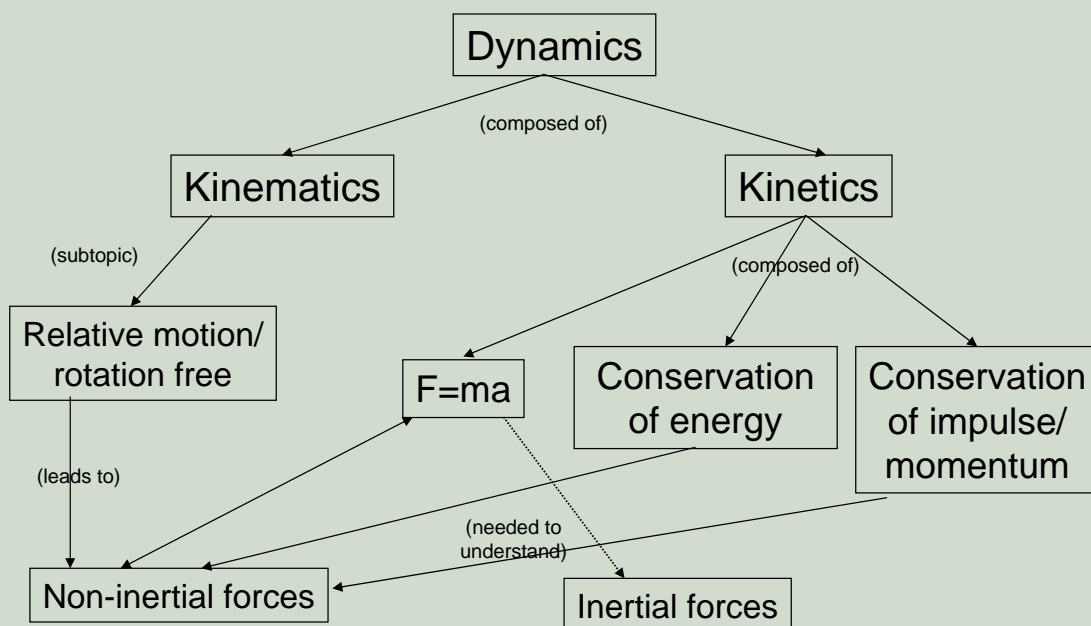- Discuss your choices with a person sitting near you

Concept Maps

- Two-dimensional, hierarchical diagrams that show the structure of knowledge within a discipline

- Composed of *concept labels*, each in a box or oval; a series of linking lines labeled with the *relationship* between the concepts; and *general-to-specific* organization

```
            Concept
           /       \
      Concept —— Concept
                    |
                 Concept
```

Concept Map: *Dynamics*

```
                    Dynamics
                (composed of)
              /              \
        Kinematics          Kinetics
   (subtopic)         (composed of)
         |            /      |       \
  Relative motion/  F=ma  Conservation  Conservation
  rotation free           of energy     of impulse/
         |                               momentum
  (leads to)
         |
  Non-inertial forces        Inertial forces
                (needed to understand)
```

Concept Map: *Signals and Systems*

| Superposition | ← **Need to know in order to understand** | **Linear Systems** |

Useful for application to ↓

Circuit Elements ↔ **Circuit Analysis** ← **Subset of** — **Kirchoff's Laws**

R Networks

Methods of performing circuit analysis

Energy Storage

Thevinin & Norton Equivalent Networks → **Loop Method** | **Node Method**

Fundamental to — **Types of**

State Space — **Inductors**

Capacitors

Better way to analyze

Sets up knowledge for understanding

Are less complex than

RLC Circuits ← **Another way to analyze** — **Impedance Methods**

## *Activity:*
Constructing a Concept Map

- Select up to 12 concepts from the disciplinary content of your course.
- Write each concept on a separate card and lay the cards on a large sheet of paper. (*Post-It* notes are useful for this.)
- Rank the concepts from *most general and inclusive* to *least general and inclusive.*
- Write the *most general* or *most important* concept near the top of the page and enclose it in a rectangle or oval.
- Arrange the other concepts in a hierarchy.
- Connect the concepts, one pair at a time, with directional links, and label the linking lines to show the relationship.
- Look for many opportunities to cross-link concepts from one area to another.
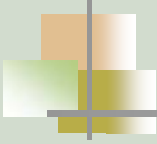
Organizing Course Content

- Using the concept map you have created, organize the concepts into manageable "chunks" to fit the number of class sessions in a term
- Resist the temptation to add more content to fill up the time!
- If you have more *concepts* than *time*, go back to the exercise on identifying concepts for enduring understanding.
- Validate your content outline with colleagues and other experts in your disciplinary area, as well as those disciplines with which you collaborate
- Next, begin to think about what you want students to
  - know
  - be able to do
  - have an attitude about

  the disciplinary content you have defined -----> *intended learning outcomes*

Describing Learners

	STUDENT	TEACHER	EXAMPLES
Stage 4	Self-directed	Consultant, Delegator	Internship, dissertation, individual work or self-directed study group.
Stage 3	Involved	Facilitator	Discussion facilitated by teacher who participates as equal. Seminar. Group projects.
Stage 2	Interested	Motivator, Guide	Inspiring lecture plus guided discussion. Goal-setting and learning strategies.
Stage 1	Dependent	Authority, Coach	Coaching with immediate feedback. Drill. Informational lecture. Overcoming deficiencies and resistance.

Adapted from Grow, 1991

# Reasons for Specifying Course Learning Outcomes
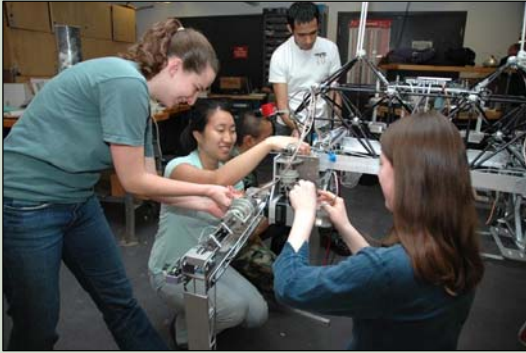
Massachusetts Institute of Technology

- To provide a focus for instruction
- To provide guidelines for learning
- To provide targets for assessment
- To communicate expectations to learners
- To convey instructional intent to others
- To provide for evaluation of instruction

Effective Learning Outcomes...

- Focus on skills and abilities central to the discipline and based on professional standards
- Are general enough to capture important learning, but clear and specific enough to be measurable
- Focus on aspects of learning that will develop and endure but that can be assessed in some form now
- Are student-focused
- Focus on the learning resulting from an activity, or course, or program
- Reflect the institution's mission and the values it represents
- Are in alignment at course, academic program, and institutional levels
- Focus on important, non-trivial aspects of learning that are credible to the program's stakeholders
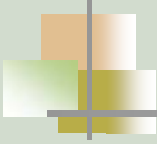
Activity: Evaluating Learning Outcomes

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are needed to see this picture.
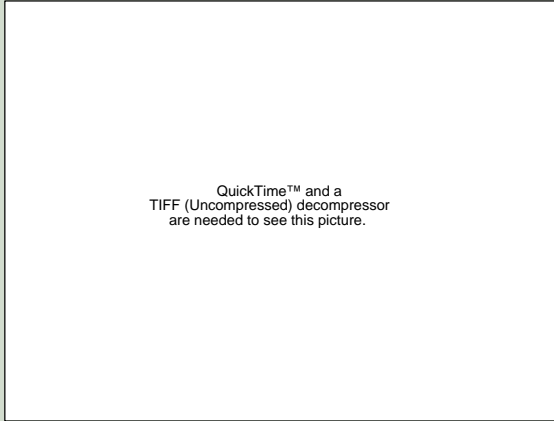
Lakehead University, Ontario

- Use the 8 criteria on the previous slide to evaluate the learning outcomes for your course

- Give an example of an outcome that meets most of the criteria

- Share your learning outcomes with someone seated near you

Writing Learning Outcomes

- **The skill or behavior** -- what the learner will be able to know, do, have an opinion about, etc. -- always written from the student's perspective

- **The condition(s)** -- the environment, tools, situation in which the learner will perform -- include this when it makes a difference to the performance

- **The criteria** -- the limits or range of an acceptable response, *i.e.*, how well the student has to perform -- usually related to time or the number of allowable errors

Categories of Learning Outcomes

- Disciplinary Knowledge
  - Mastery of content; "knowing what"

- Reasoning
  - Use of knowledge to solve problems

- Skill/Process/ Procedure
  - "Knowing how" to do something

- Creativity/ Synthesis
  - Synthesis of knowledge and skills to produce something new

- Attitude
  - Disposition; opinion; affective domain

Adapted from Stiggins, 2007

Activity:
Specifying Learning Outcomes

- Write 5 learning outcomes for a course that you teach
- Evaluate each outcome using the criteria for "effective statements of educational outcomes"
- Identify the skill or behavior in each learning outcome
- Classify each outcome using the five suggested categories

Summary: *How much progress are you making toward the workshop objectives?*

	Little or no progress	Some progress	Very good progress
Can identify concepts in my course that are worthy of enduring understanding			
Can use concept maps to organize the disciplinary content of my course			
Can identify characteristics of students that influence course planning			
Can specify learning outcomes for my course			