The ABCs of Course and Lesson Design

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**Learning Outcomes:** By the end of this session, you will be able to:
- Identify the main components of backwards design
- Devise learning outcomes for your course
- Develop activities and assessments that align with your learning outcomes

**Course Design Steps**
1. Curriculum mapping
2. Classroom environment
3a. Learning outcomes
3b. Course content
4. Assessments
5. Activities
6. Lecture plans

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**Backwards Design**

**Stage 1. Learning Outcomes**
Identify Desired Results (i.e. Learning Outcomes)

**Stage 2. Assessment Design**
Determine Acceptable Evidence (i.e. What you want to measure and how)

**Stage 3. Learning Activities**
Plan Learning Experiences and Instruction (i.e. Activities… which are Assessments in disguise)

**Stage 4. Get Results and Improve**
Backwards Design

- **Worth Being Familiar With:**
  - What should students hear, read, view, explore, encounter?
- **Enduring Understanding:**
  - What are big ideas and important understandings students should retain?
  - What knowledge and skills should students master?
1. **Develop Learning Outcomes**
   - Learning outcomes “articulate the knowledge and skills you want students to acquire by the end of the course or after completing a particular assignment” (How Learning Works)
   - Learning Outcomes:
     - student-centered
     - break down task and focus on specific cognitive processes
     - use action verbs
     - measurable

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**Learning Outcomes Activity**

- **Target Group:** _____________
- **Level of Mastery:** _____________
- **Bloom’s Taxonomy Verb:** _____________
- **Targeted Learning (content or skill):** _____________

   *Combine the above to form a learning outcome: Target Group will be able to Bloom’s Taxonomy Verb + Targeted Learning.*

- **Learning Outcome:** *By the end of this course:*
  
  ______________________________________________________
  ______________________________________________________
2. **Assess Student Learning**
   - How will students and instructor know that students “got it?” What is acceptable evidence of understanding?
   - What tasks will support students in developing understanding?

   **Learning Happens With:**
   
   Practice -> Feedback -> Performance

3. **Develop Active Learning Activities**
   - How will students be engaged (e.g., through inquiry, research, problem solving, and experimentation)?
   - When will students have opportunities to revise, reflect and refine their work based on feedback?

   **Activity List**
   - Think-pair-share
   - Clickers
   - ABCD by fingers on chest
   - Group work
   - Quick write
   - 2 minute paper
   - Muddiest point
   - Debates
   - Problem solving at the board
   - Student teaching
   - Presentations

   **Pedagogical Steps to Implementing Activities**
   1) Determine your learning outcomes (skills / knowledge)
   2) Think about what you want to use the activity for (participation, feedback, peer work, individual response)
   3) Introduce your class to the activity (get buy-in)
   4) Follow up (reporting out, submit something)

**Want to Learn More?**
- Course Design Short Course for Grad Students / Post-Docs, October-November
- One-on-One CTLO consultations and observations jweaver@caltech.edu
- Resources:
  - [www.teachlearn.caltech.edu/resources/courses](http://www.teachlearn.caltech.edu/resources/courses)
  - [omerad.msu.edu/chmeducator/documents/Yelon-Syllabus_Checklist.pdf](http://omerad.msu.edu/chmeducator/documents/Yelon-Syllabus_Checklist.pdf)