POWERFUL ASSESSMENT

What should students learn?

How should they learn it?

How will we know that they're learning?
BACKWARDS DESIGN

1. Goals and outcomes
2. Assessments
3. Curriculum and materials
4. How to deliver (learning activities)
Process of Mapping a Course

- Course Goals
  - Course Objectives
    - Topic/Module 1 Objectives
      - Materials
      - Activities
    - Topic/Module 2 Objectives
      - Materials
      - Activities
    - Topic/Module 3 Objectives
      - Materials
      - Activities
<table>
<thead>
<tr>
<th>Course Goals</th>
<th>Learning Objectives</th>
<th>Formative Assessments</th>
<th>Summative Assessments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Course Goal 1</strong>: Upon successful completion of the course, students will <strong>know</strong> basic terminology related to A) human anatomy and B) mechanical principles.</td>
<td>1a. Upon completion of the course, students will be able to <strong>identify and label</strong> musculoskeletal components in the upper and lower extremities.</td>
<td>Active learning activities (worksheets, labeling, discussions) Exit tickets/Reflections</td>
<td>Exam 3</td>
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<td>1b. Upon completion of the course, students will be able to <strong>define</strong> mechanical terminology and principles.</td>
<td>Quizzes</td>
<td>Exams 1 &amp; 2</td>
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<td>1c. Upon completion of the course, students will be able to <strong>quantify</strong> mechanical measures.</td>
<td>Problems to know Video solution views Exit tickets/Reflections Quizzes</td>
<td>Exams 1, 2, &amp; 4</td>
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<td>1d. Upon completion of the course, students will be able to <strong>apply</strong> mechanical principles by calculating mechanical measures through problem solving.</td>
<td>Problems to know Video solution views Exit tickets/Reflections Quizzes</td>
<td>Exams 1, 2, &amp; 4</td>
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<td><strong>Course Goal 2</strong>: Upon successful completion of the course, students will better <strong>understand</strong> human movement using anatomy and mechanical principles.</td>
<td>2a. Upon successful completion of the course, students will be able to <strong>explain</strong> various types of movement using their knowledge of anatomy and mechanical theories learned in class.</td>
<td>Baseball Bat Article – Guided reading activity PBS Family Who Walks on All Fours – Gallery Walk Activity</td>
<td>Exam 3</td>
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<td>2b. Upon successful completion of the course, students will be able to <strong>analyze and evaluate</strong> movement based on calculated empirical evidence obtained using kinematic and kinetic methodologies.</td>
<td>Vertical Jump Lab Giant Swing Lab Gait Lab</td>
<td>Exam 4</td>
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<td><strong>Course Goal 3</strong>: Upon successful completion of the course, students will better <strong>understand</strong> how to generally think and reason with numbers (numeracy).</td>
<td>3a. Upon successful completion of the course, students will be able to <strong>describe</strong> and illustrate phenomena using numbers.</td>
<td>Evaluation of posture Evaluation of gait</td>
<td>Exams 1, 2, 3, &amp; 4</td>
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<td></td>
<td>3b. Upon successful completion of the course, students will be able <strong>hypothesize, test, and assess</strong> using numbers.</td>
<td>Evaluation of posture Evaluation of gait</td>
<td>Exams 1, 2, 3, &amp; 4</td>
</tr>
</tbody>
</table>

**Biomechanics**

Study of human movement.

By means of mechanical principles

Or physics (Newton’s 3 Laws of Motion)
1a. Upon completion of the course, students will be able to **identify and label** musculoskeletal components in the upper and lower extremities.

1b. Upon completion of the course, students will be able to **define** mechanical terminology and principles.

1c. Upon completion of the course, students will be able to **quantify** mechanical measures.

1d. Upon completion of the course, students will be able to **apply** mechanical principles by calculating mechanical measures through problem solving.
SOCIALIZE INTO COURSES

• Use **METACOGNITION**

• Bring **ATTENTION** to help students understand the level of attention required (cues)

• **EMBED** assessments into the syllabus, class discussion, lectures, curriculum, LMS

• **SCHEDULE** check ins to ensure communication about the content & learners’ progress
SUMMATIVE & FORMATIVE ASSESSMENT

- **Align** teaching and assessment (When to use)
- Allow learners to think, digest, and *do*

*What are the points in your course where students always have difficulty with the same concepts or ideas, every time you teach the course?* Offer one alternative method of presenting that information, engaging learners, or increasing their choices on assessments.
FORMATIVE ASSESSMENT STRATEGIES

• Polling: Equates to i-clickers (Zoom feature)
• Discussion blogs
• Peer reviews/responses
• Reflections

• Guide instruction and learning
• Gauge misconceptions, gaps & confusion
SUPPLIED RESPONSE ITEMS

- Quizzes
- Exams
- True/False
- Multiple Choice
CONSTRUCTED RESPONSE ASSESSMENTS

- Rubrics
- Short answer
- Essay
- Completion items
- Problem solving items
- Portfolios: Power point, Sway, Adobe Spark
ADDRESSING ACADEMIC INTEGRITY CONCERNS

Create open note assessments
Create higher ordered thinking assessments
Time limits
Different versions of assessments/alternative
Student choice of assessments
Weight supplied response assessments differently
ALTERNATIVE ASSESSMENTS

- The role of student choice
- Large forums
- Quantitative reasoning assessment

- Alternative Assessment Guide
ONLINE ASSESSMENT BEST PRACTICES

• Use methods that provide the best evidence of student learning aligned to your learning objectives
• Change the stakes of your assessments/balance is key
• Design assignments that ask students to examine, summarize and/or apply course concepts
• Minimize opportunities for academic dishonesty
• Do not overhaul…one assessment at a time
UNM ONLINE COURSE PEER REVIEWS

Are the purposes, policies, and performance expectations clearly outlined in the materials reviewed? If you were a student in the course, would you understand what is expected of you? Evidence in: syllabus, course map, assignments, and introduction to a module.
ONLINE COURSE PEER REVIEWS

• Are the main learning objectives clearly defined and communicated for the course as a whole or within modules that you reviewed?

• Is there a clear connection between assignments and learning outcomes of the course?
ONLINE CLASSROOM ASSESSMENT RESOURCES

https://cdl.unm.edu/instru-spprt/research.html

https://www.chronicle.com/article/7-ways-to-assess-students-online-and-minimize-cheating

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THANK YOU!