Day 2: Backwards Design and Course Maps

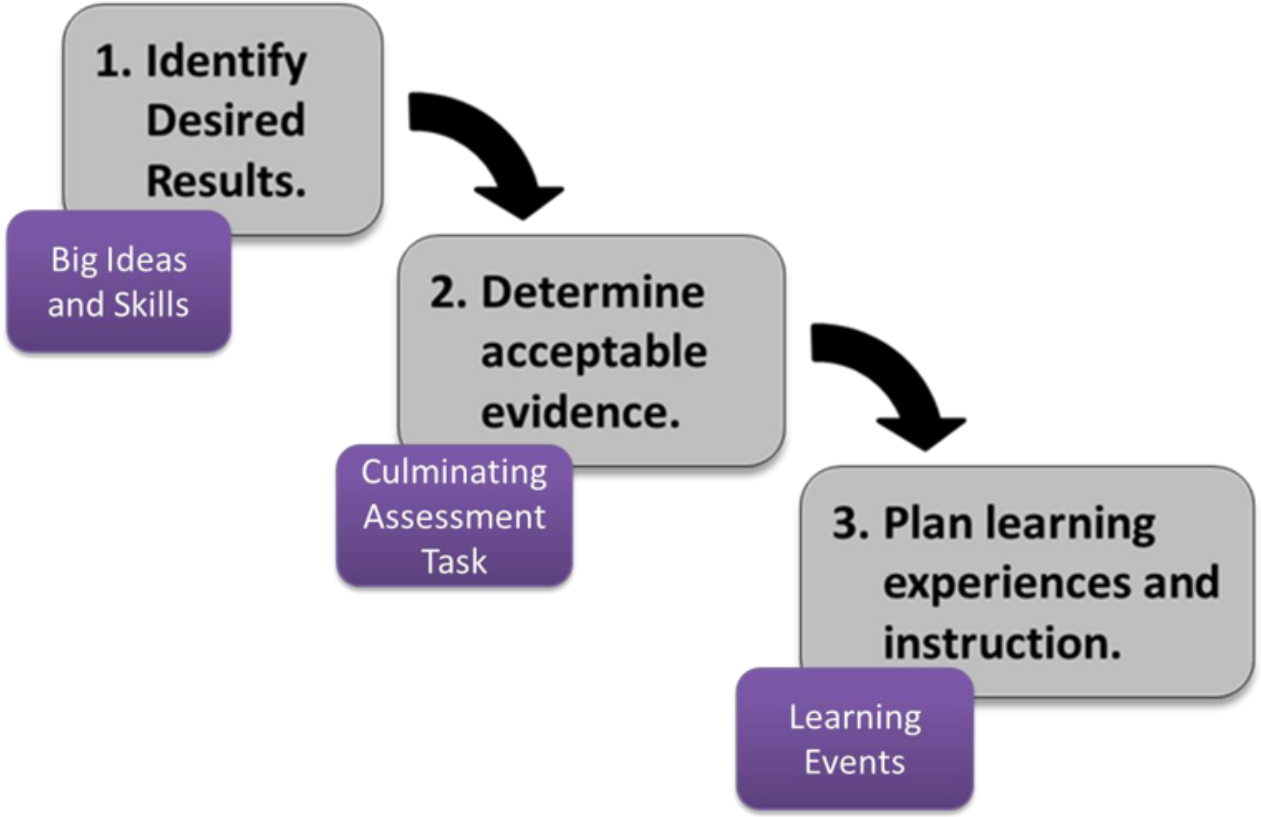
Office of Instructional Innovation

Patton College of Education

Recap and Agenda

Day 1

- Basic introduction to backwards design
- Writing learning outcomes



Wiggins, G. P., & McTighe, J. (2005). *Understanding by design*. Association for Supervision & Curriculum Development.

Day 2

- Breaking course outcomes into module level outcomes
- Starting to map your course
- Determining acceptable evidence
- Planning learning experiences and instruction

Planning your course

A process to plan your activities and assessments in a scaffolded, organized way.

1. Organize your outcomes
2. Create units/modules
3. Write unit/module level outcomes
4. Map the course into **weekly** modules

Introduction to course mapping

Modules can be one week, or modules can also span weeks (units) .
Each row of the course map should cover one week.

Example
Module 1 – week 1
Module 1 – week 2
Module 2 – week 3

Course Level Learning Outcome	Module Learning Outcomes	Supporting Learning Activities	Assessment of Mastery	Grading Method	Notes
Use this column to indicate the Module Title, Module Overview, and which course level outcome(s) are addressed.	*Us this column to write module level learning outcomes that support the course level outcome and topic.*	*Use this column to list the specific learning activities that teach the objectives listed. This could include graded work.*	*Use this column to identify the specific assessment(s) within this module assess mastery of an objective.*	*Identify how you will grade the assessment; Rubric, check list, none...*	*Use this column to provide notes; future assessments that need to be mentioned, ideas, alignment*
Module 1 Topic(s): Module Overview: Course Outcomes:	•	•	•		
Module 2 Topic: Module Overview: Course Outcomes:	•	•	•		

Breaking course outcomes into modules

Course Name: ZOO 3115, Human Systems Physiology (Draft example, adapted from UW course)
Course Level Learning Outcomes: At the end of this course, students who are fully engaged with all aspects of the course will be able to:

- 1. Compare and contrast the physiology of skeletal muscle and smooth muscle
- 2. Describe the cardiovascular system and use the application of this knowledge to evaluate physiological scenarios
- 3. Describe the pulmonary system and use the application of this knowledge to evaluate physiological scenarios
- 4. Describe the renal system and use the application of this knowledge to evaluate physiological scenarios
- 5: Describe the digestive system and use the application of this knowledge to evaluate physiological scenarios
- 6: Describe the central nervous system and use the application of this knowledge to evaluate physiological scenarios
- 7: Synthesize this knowledge and evaluate complex clinical presentations

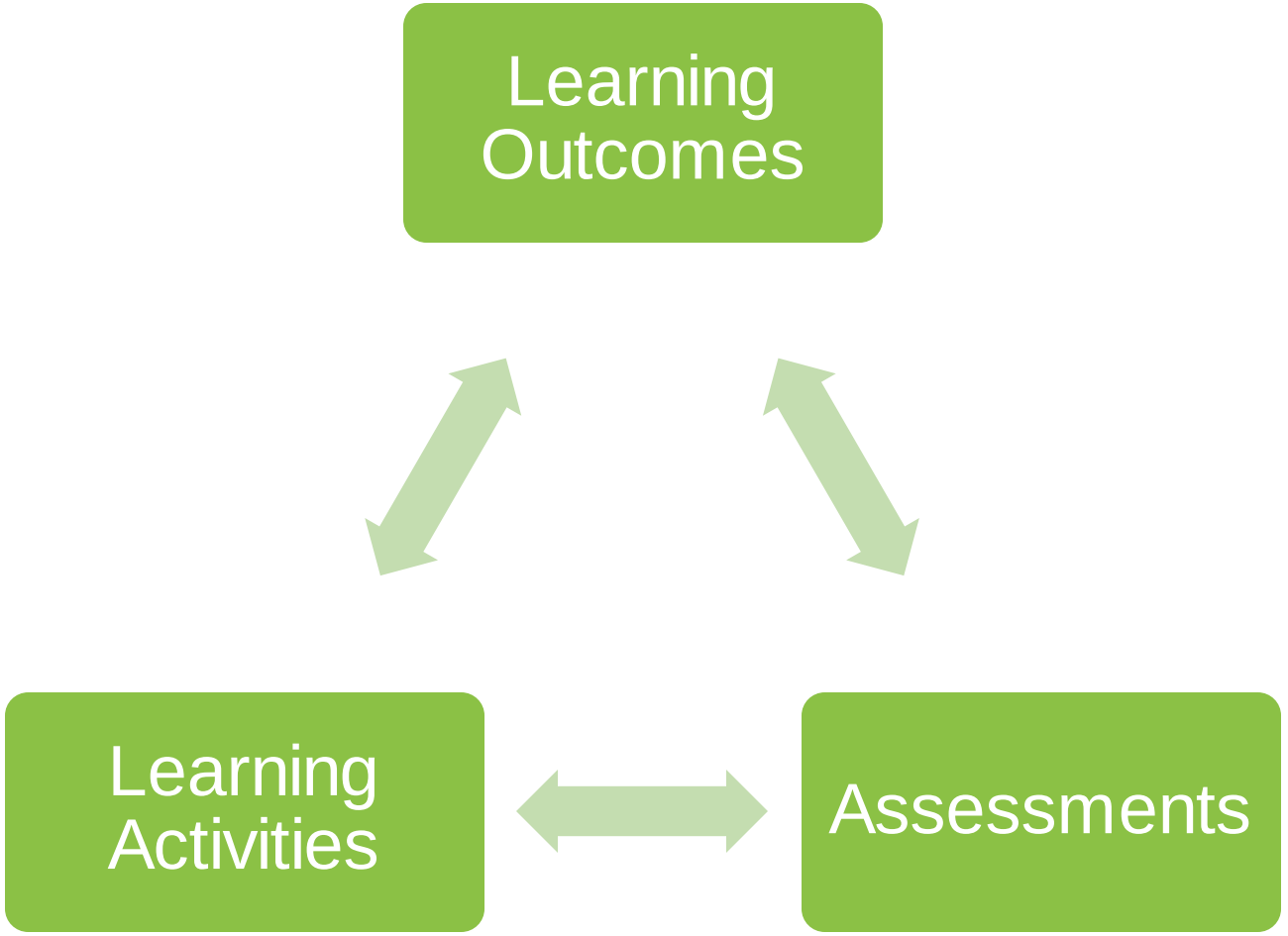
Course Level Learning Outcome	Module Learning Outcomes	Supporting Learning Activities	Assessment of Mastery	Grading Method	Notes
Module/Unit 2 **Week 2 and 3** **Topic**: The Cardiovascular System **Module Overview:** Describe the cardiovascular system and use the application of this knowledge to evaluate physiological scenario **Course Outcomes**: 2	1) List and describe the components of a cardiac cell (Remembering and understanding) 2) Describe cardiac muscle cell contraction (Understanding) 3) Describe how cardiac muscle cells work together to eject blood into the arteries (Understanding) 4) Calculate cardiac output and blood pressure (Application) 5) Analyze the Wiggers Diagram and identify the related pathology (Analysis) 6) Evaluate clinical case scenarios and suggest a treatment (Evaluation)				

- Take some time to think about how you will break down one or two learning outcome into module/unit level outcomes
- Consider how many weeks the module/unit might take.

3 minutes – Individual work time

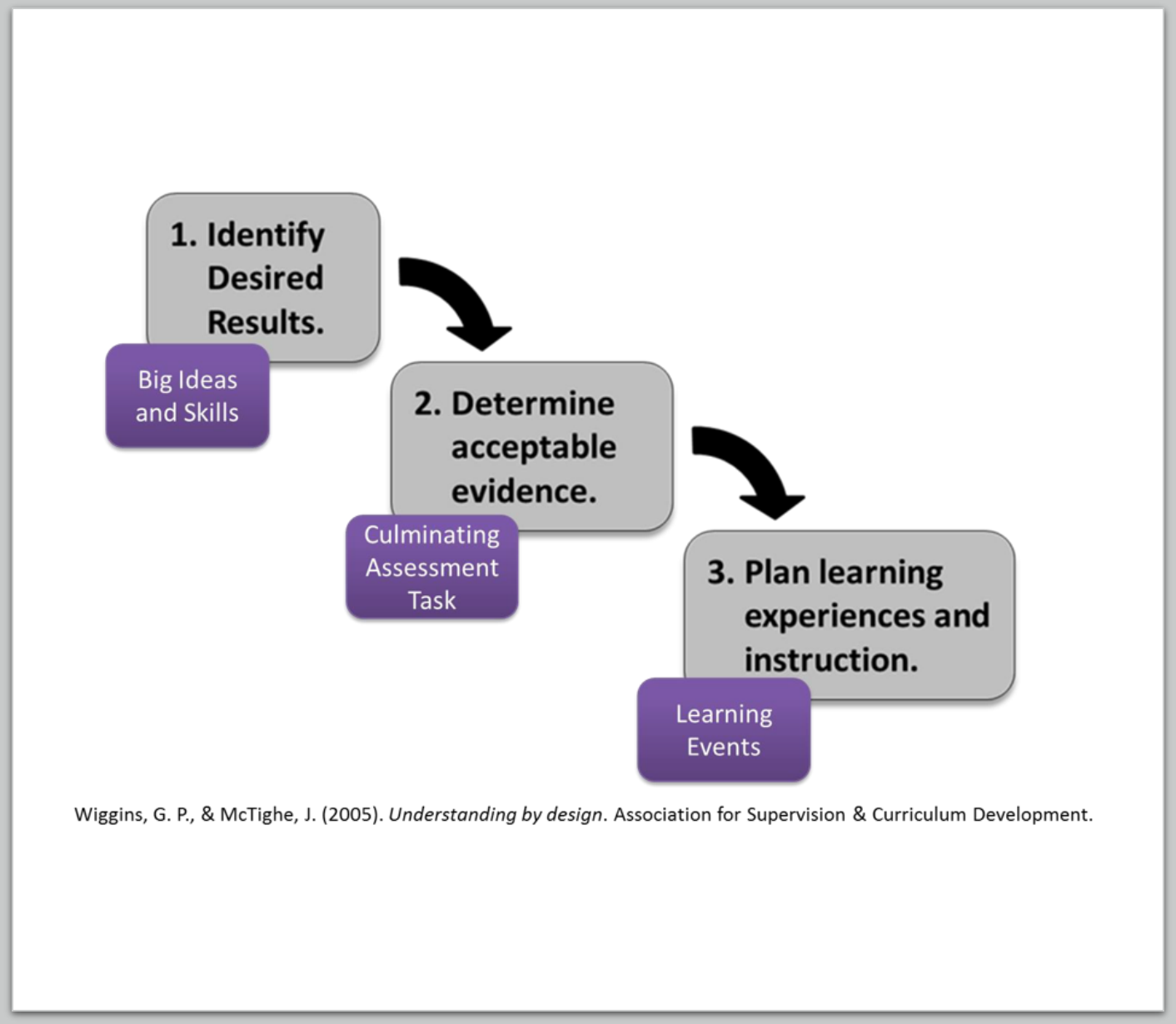
Break down one or two learning outcomes into module level outcomes

Alignment



Module Level Assignments/ Assessments

- Assessments need to be aligned with your learning outcome(s)
- Remember that learning outcomes must be measurable
- Low stakes to high stakes
- Consider grading strategy



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Course Name: ZOO 3115, Human Systems Physiology (Draft example, adapted from UW course)
Course Level Learning Outcomes: At the end of this course, students who are fully engaged with all aspects of the course will be able to:
•2. Describe the cardiovascular system and use the application of this knowledge to evaluate physiological scenarios

Course Level Learning Outcome	Module Learning Outcomes	Supporting Learning Activities	Assessment of Mastery	Grading Method	Notes
Module/Unit 2 **Week 2** **Topic**: The Cardiovascular System **Module Overview:** Describe the cardiovascular system and use the application of this knowledge to evaluate physiological scenario **Course Outcomes**: 2	1) List and describe the components of a cardiac cell (Remembering and understanding) 2) Describe cardiac muscle cell contraction (Understanding) 3) Describe how cardiac muscle cells work together to eject blood into the arteries (Understanding)		• Multiple Choice formative assessment questions • Data Analysis (DAQ)formative assessments • Summative Module 1-3 exam **Week 5**	Weekly tutorials (formative assessment): Peer graded following discussion of problem set Summative Assessment: 1) MCQ – machine reader of bubble sheet 2) DAQ – instructor/TA graded according to instructor model answer	TA training required
Module/Unit 2 **Week 3** **Topic**: The Cardiovascular System **Module Overview:** Describe the cardiovascular system and use the application of this knowledge to evaluate physiological scenario **Course Outcomes**: 2	4) Calculate cardiac output and blood pressure (Application) 5) Analyze the Wiggers Diagram and identify the related pathology (Analysis) 6) Evaluate clinical case scenarios and suggest a treatment (Evaluation)		• Multiple Choice formative assessment questions • Data Analysis (DAQ)formative assessments • Summative Module 1-3 exam **Week 5**	Weekly tutorials (formative assessment): Peer graded following discussion of problem set Summative Assessment: 1) MCQ – machine reader of bubble sheet 2) DAQ – instructor/TA graded according to instructor model answer	TA training required

Create aligned module level assignments/ assessments

- Take some time to think about how you will align an assessment/assignment with your learning outcome you worked on earlier.

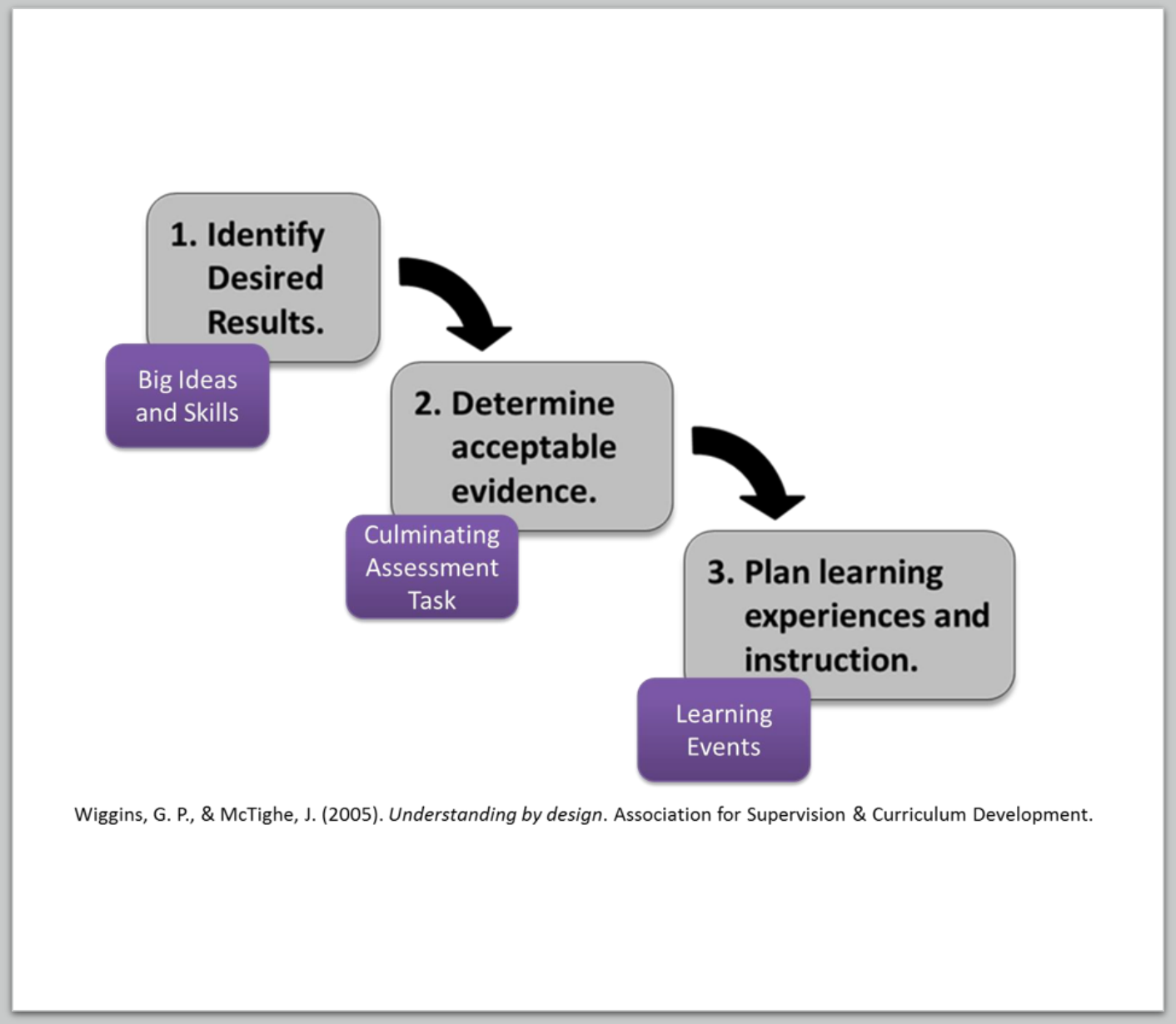
- This can be a previous assignment/ assessment you want to tweak to ensure alignment
- Think about your grading strategy

3 minutes – Individual work time

Volunteers may be called upon after

Learning Activities

- Learning activities need to align with learning outcomes and assessments.
- Materials and content
- Formative assessment
- Low stakes (typically)



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Module/Unit 2 **Week 2** **Topic**: The Cardiovascular System **Module Overview:** Describe the cardiovascular system and use the application of this knowledge to evaluate physiological scenario **Course Outcomes**: 2	1) List and describe the components of a cardiac cell (Remembering and understanding) 2) Describe cardiac muscle cell contraction (Understanding) 3) Describe how cardiac muscle cells work together to eject blood into the arteries (Understanding)	• Lecture • Read Vander's Chapter 12 • PDF – TBD • SLO1: pp 368-369, • SLO2: pp 377-381 • SLO3: pp 381-381 • FOR ALL OUTCOMES: • WEEKLY TUTORIALS (problem sets given) & DISCUSSIONS	• Multiple Choice formative assessment questions • Data Analysis (DAQ)formative assessments • Summative Module 1-3 exam **Week 5**	Weekly tutorials (formative assessment): Peer graded following discussion of problem set Summative Assessment: 1) MCQ – machine reader of bubble sheet 2) DAQ – instructor/TA graded according to instructor model answer	TA training required
Module/Unit 2 **Week 3** **Topic**: The Cardiovascular System **Module Overview:** Describe the cardiovascular system and use the application of this knowledge to evaluate physiological scenario **Course Outcomes**: 2	4) Calculate cardiac output and blood pressure (Application) 5) Analyze the Wiggers Diagram and identify the related pathology (Analysis) 6) Evaluate clinical case scenarios and suggest a treatment (Evaluation)	• SLO4: pp387-390 • SLO5: PDF • SLO6: Case studies • FOR ALL OUTCOMES: • WEEKLY TUTORIALS (problem sets given) & DISCUSSIONS	• Multiple Choice formative assessment questions • Data Analysis (DAQ)formative assessments • Summative Module 1-3 exam **Week 5**	Weekly tutorials (formative assessment): Peer graded following discussion of problem set Summative Assessment: 1) MCQ – machine reader of bubble sheet 2) DAQ – instructor/TA graded according to instructor model answer	TA training required

Create aligned module level learning activities

- Take some time to think about how you will align learning activities with the module level learning outcomes you worked on earlier.
- This can include a topic for readings you might find later, an idea for an activity, etc.

3 minutes – Individual work time

Volunteers may be called upon after

Homework

Come prepared with a summative assignment that is aligned with one or two of your learning outcomes for Friday.