



Canvas Design for Universal Accessibility and Individual Creativity

Tufts University-Wide Teaching Conference 2025

Department of Rehabilitation Sciences, TUSM

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Objectives

1. Learn strategies for creating and sustaining a program-wide Canvas template for individual course content and needs while allowing efficiencies for student learning.
2. Integrate the learning sciences in Canvas development for effective online learning



Department of Rehabilitation Sciences

Physical Therapy Programs



DPT-Boston

Offered in Boston, MA, and the program starts in the summer.

[DPT-Boston Admissions](#)



DPT-Phoenix

Offered in Phoenix, AZ, and the program starts in the summer.

[DPT-Phoenix Admissions](#)



DPT-Seattle

Offered in Seattle, WA, and the program starts in the fall.

[DPT-Seattle Admissions](#)

Overview of the Template



Course Design with Canvas Template

Course Overview

Welcome



 [Start Here](#)

 [A. TRUNK w1-4](#)

- ▶ [w1. Introduction to Anatomy and ...](#)
- ▶ [w2. Up and down the Spine: Joint...](#)
- ▶ [w3. The Thorax, Lungs, Diaphrag...](#)
- ▶ [w4. Abdominal Region](#)

 [B. LOWER EXTREMITY w5-8](#)

- ▶ [w5. Pelvis, Hip Joints, and Gluteal...](#)
- ▶ [w6. Thigh and Adductor Canal](#)
- ▶ [w7. Knee, Popliteal Fossa, Leg](#)










▶ [w8. Foot and Ankle](#)

 [C. UPPER EXTREMITY w 9-12](#)

- ▶ [w9. Shoulder and Pectoral Region](#)
- ▶ [w10. Axilla and Brachial Plexus](#)
- ▶ [w11. Arm and Elbow](#)
- ▶ [w12. Forearm, Wrist and Hand](#)
- ▶ [w13. Neck, Head, and TMJ](#)
- ▶ [w14 and w15. Clinical Skills](#)
- ▶ [w16. Final Exam](#)

Course Design with Canvas Template

Weekly Modules

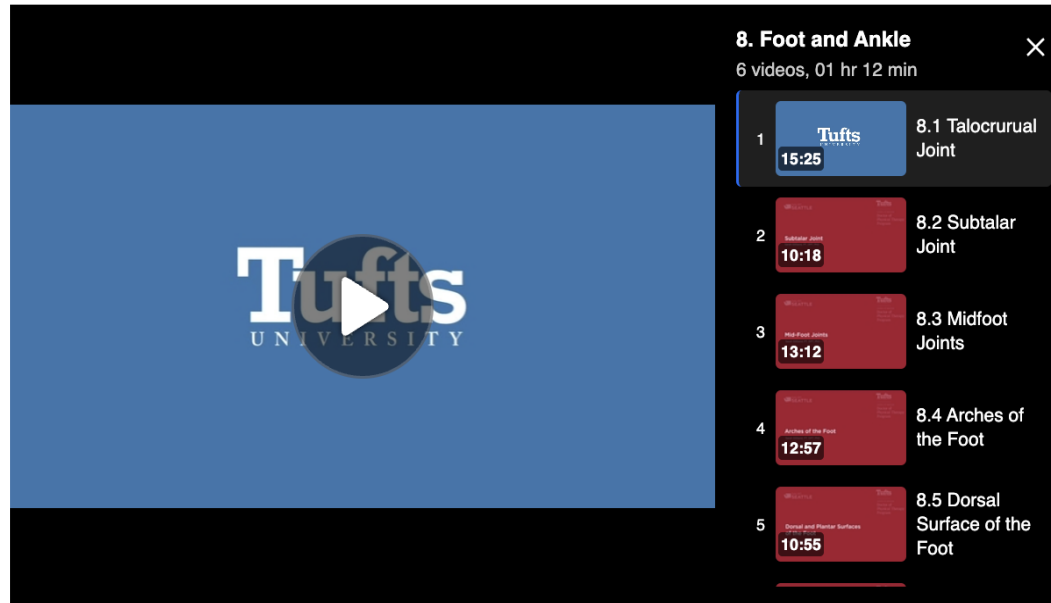
▼ w8. Foot and Ankle		
	Preview. Week 8	
	Watch Lecture 8. Foot and Ankle	
	Complete Content 8 Activities	
	Watch and Apply Imaging 8. Ankle and Foot Anatomy Identification	
	Post. Your Week 8 Questions	
	Join Live Session 8: Foot and Ankle	
	Read. Moore et al. pp. 816-825; 778-794	
	Check your knowledge 8: The Foot and Ankle	
	Oct 24, 2024 15 pts	



Course Design with Canvas Template

Playlist Structure

Watch Lecture 8. Foot and Ankle



The screenshot shows a Canvas LMS playlist interface. On the left is a large video player with a blue background and the Tufts University logo. On the right is a playlist titled '8. Foot and Ankle' with a close button (X). Below the title, it says '6 videos, 01 hr 12 min'. The playlist contains five items, each with a number, a video thumbnail, a duration, and a title:

Number	Thumbnail	Duration	Title
1	Tufts University logo	15:25	8.1 Talocrural Joint
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Slides

[8.1 Talocrural Joint](#) ↓ | [Quiz 8.1](#) ➞

[8.2 Subtalar Joint](#) ↓ |

[8.3 Midfoot Joints](#) ↓ | [Quiz 8.3](#) ➞

[8.4 Arches of the Foot](#) ↓ | [Quiz 8.4](#) ➞

[8.5 Dorsal Surface of the Foot](#) ↓ |

[8.6 Plantar Muscles](#) ↓ | [Quiz 8.6](#) ➞



Course Design with Canvas Template

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Course Design with Canvas Template

“Hands-on” Skills

Complete Content 8 Activities

You can work on these activities as you go through the lecture (all sections of lecture 8) or after you finish it.

These activities will help you to learn the material and apply the content to your clinical learning.

Foot and Ankle Virtual Lab

Download the lab as a Word document

Open Complete Anatomy and follow the activities in the lab

[PT 500 Foot and Ankle Lab](#) ↓

Foot and Ankle Review Questions

Download the questions as a Word document and answer them to review the content

Use these open ended questions for additional applied review

[PT 500 Foot and Ankle Review Questions](#) ↓

Complete your work on the following organizers based on content covered so far:

[PT 0500 Lower Extremity Compartments Graphic Organizer](#) ↓

[PT 0500 Lower Extremity Joints Graphic Organizer](#) ↓

[PT 0500 Lower Extremity Nerves Graphic Organizer](#) ↓

[PT 0500 Lower Extremity Spaces Graphic Organizer](#) ↓



Learning Principles/UD

- 'Reach everyone, Teach everyone'
- Framework that removes barriers and maximizes learning for ALL students
- Foundational understanding that every learner is highly variable



Learning Principles/UD

- Instead of a one size fits all approach, focus is on diversity of student needs from the beginning
 - One more way to access
 - Demonstrate what they know
 - Connect to the “Why”



Universal Design Learning Guiding Principles



udlguidelines.cast.org | © CAST, Inc. 2018 | Suggested Citation: CAST (2018). Universal design for learning guidelines version 2.2 [graphic organizer]. Wakefield, MA: Author.

Provide multiple means of Engagement

Affective Networks
The "WHY" of Learning



Access

Provide options for Recruiting Interest

- Optimize individual choice and autonomy
- Optimize relevance, value, and authenticity
- Minimize threats and distractions

Build

Provide options for Sustaining Effort & Persistence

- Heighten salience of goals and objectives
- Vary demands and resources to optimize challenge
- Foster collaboration and community
- Increase mastery-oriented feedback

Internalize

Provide options for Self Regulation

- Promote expectations and beliefs that optimize motivation
- Facilitate personal coping skills and strategies
- Develop self-assessment and reflection

Goal

Expert learners who are...

Purposeful & Motivated

WHY am I learning?

Having a "why" helps students stay engaged



Providing choice helps increase student motivation and engagement



Agency in learning



Self-regulation (self assessment and reflection)

WHAT am I learning?

Provide multiple means of Representation

Recognition Networks
The "WHAT" of Learning



Provide options for Perception

- Offer ways of customizing the display of information
- Offer alternatives for auditory information
- Offer alternatives for visual information

Provide options for Language & Symbols

- Clarify vocabulary and symbols
- Clarify syntax and structure
- Support decoding of text, mathematical notation, and symbols
- Promote understanding across languages
- Illustrate through multiple media

Provide options for Comprehension

- Activate or supply background knowledge
- Highlight patterns, critical features, big ideas, and relationships
- Guide information processing and visualization
- Maximize transfer and generalization

Resourceful & Knowledgeable



Students learn and engage with content in different ways



Many ways of accessing content and materials



Students choose where/how they are going to get that info

Diversity of Perspectives

Diversity of Guest Lecturers

Provide multiple means of
Action & Expression

Strategic Networks
The "HOW" of Learning



Provide options for
Physical Action

- Vary the methods for response and navigation
- Optimize access to tools and assistive technologies

Provide options for
Expression & Communication

- Use multiple media for communication
- Use multiple tools for construction and composition
- Build fluencies with graduated levels of support for practice and performance

Provide options for
Executive Functions

- Guide appropriate goal-setting
- Support planning and strategy development
- Facilitate managing information and resources
- Enhance capacity for monitoring progress

Strategic & Goal-Directed

HOW am I learning?

Students can show their learning in different ways



Allows flexibility to express knowledge



Multiple means of action and expression

Exams (iRAT, gRAT)	Oral Presentations	Written assignments	Visual Representations
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Learning Principles/UD



Not meant to be
“Prescriptive”



Reflective



Intentional



Challenging and
Accessible learning
for ALL



Individualization within the Template





Interactive Syllabus



Individuality within Course Design

Syllabus



Syllabus sets the tone



Linked with students' perception of instructor and course

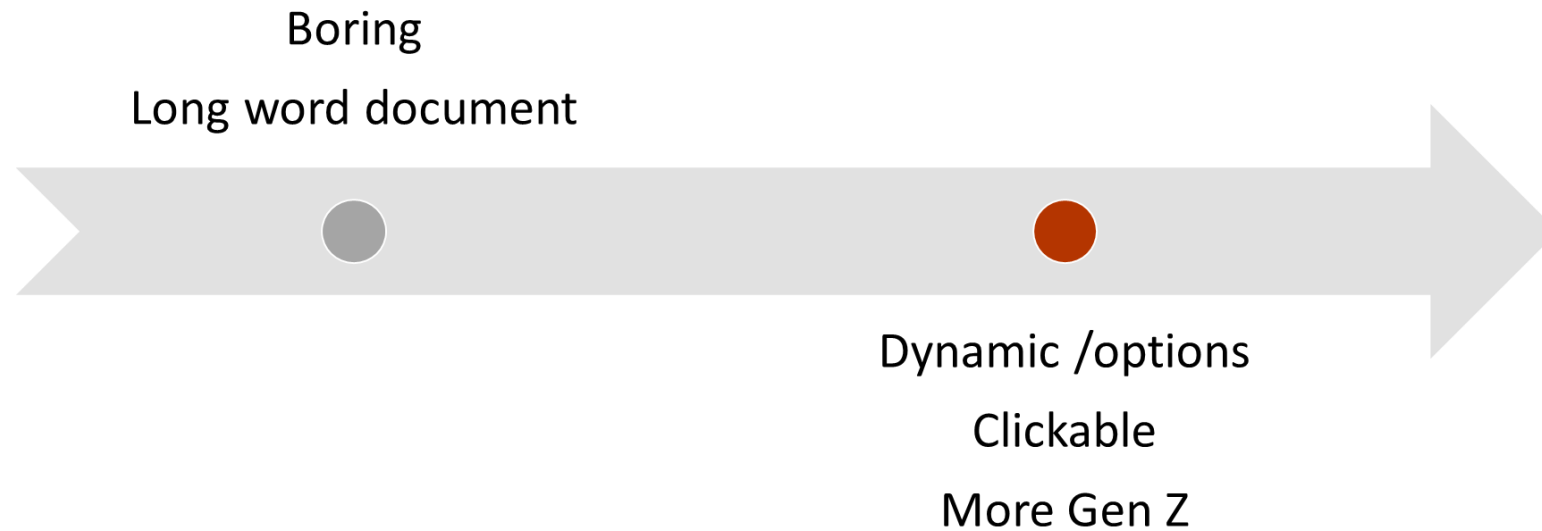


Create a welcoming environment for ALL learners



Individuality within Course Design

Syllabus



Individuality within Course Design

Course Syllabus

Syllabus
Learning
Objectives

Mandatory
Resources

Evaluation

Schedule

[The full syllabus](#) ↓ covers course policies, requirements, assignments, assessment, grading, and more.



Individuality within Course Design

Syllabus : Student Perspectives



More visual



Less overwhelming



Improve student
engagement





Case Based Modules



Individuality within Course Design

Case-based Modules

Management Across
the Lifespan
Aging



Individuality within Course Design

Case-based Modules

Preview Week 1. Juan Sabio Anos




Juan is a 78-year-old Hispanic male referred to home health physical therapy with spinal stenosis, weakness, and recurrent urinary tract infections. His past medical history includes L4-L5 microlaminectomy 2 years ago for radicular LE pain with minimal resolution of symptoms and currently presenting with post-op saddle paresthesia, left foot drop, and neurogenic bladder. Other diagnoses include multi-level degenerative disc disease, dementia with behavioral disturbances, osteoarthritis, diabetes mellitus Type 2 with peripheral neuropathy, congestive heart failure, and macular degeneration.

Juan lives alone in a second floor, 1-level apartment with elevator access but requires increased help from his sister-in-law who lives out of town and is unable to meet his growing demands. He has required multiple rehabilitation stays with history of falls and his goals are to remain at home and return to his community level of mobility.

[Week 1 Study Guide](#) ↓

Preview Week 5. Alina M'ya



Meet Alina, a 72-year-old refugee with progressive decreasing function who cares for her three grandchildren.

Alina, a 72 year old Ukrainian refugee, has been referred to physical therapy by her primary care physician for lower extremity weakness. She reports difficulty with walking that has progressed over the past couple of years and recently falling frequently due to fatigue. ADLs have become more challenging and she has been less able to care and play for her grandchildren. She has limited her activity level, leaving the home only once or twice a week to shop for short periods of time. Her medical history includes osteoporosis, hysterectomy, and obesity. Over the past year, she reports increased sleep disturbances and frequent need to pee both at night and throughout the day.

[Week 5 Study Guide](#) ↓

Individuality within Course Design

Case-based Modules

See them

Atticus Ataxia

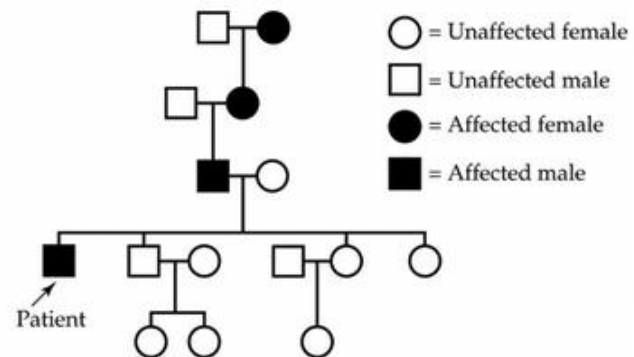
A 43 year-old man presents with progressive ataxia that started about 8 years ago. [Download a copy for your files.](#) ↓

Research

1. Watch [this](#) by Osmosis or read [this](#) by NIH on spinocerebellar ataxia.

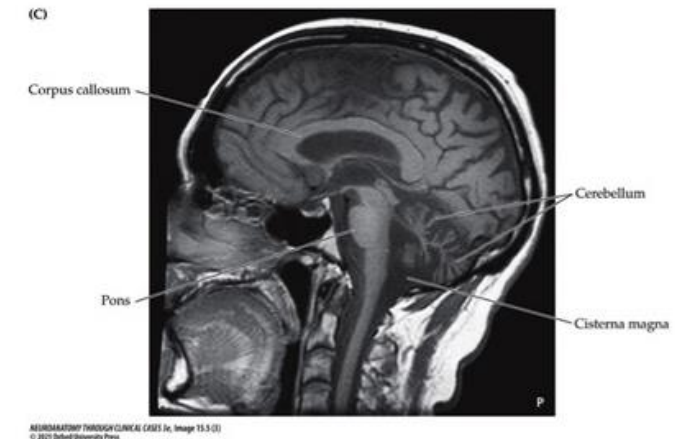
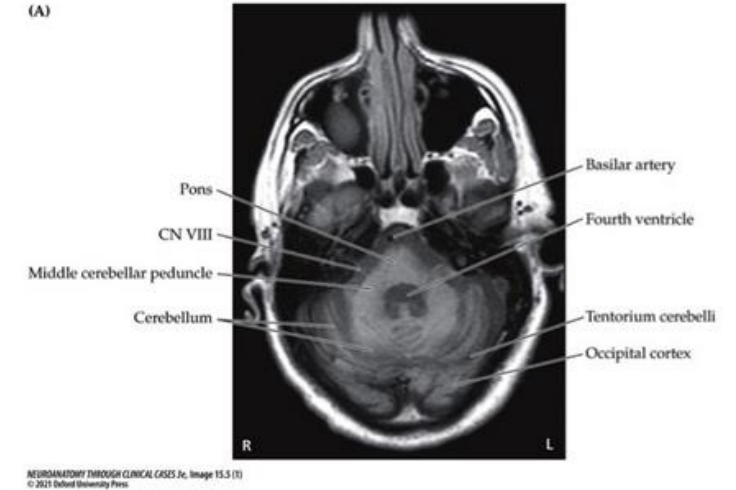
Hear them

Atticus is a single male with 3 younger siblings. He remembers that his father had unsteady gait and mood problems in his 30s, was a heavy drinker, and became estranged from the family. Further investigation into family history showed this:



Reflect

1. What does this family tree and pattern of disease inheritance tell you?



T1-weighted MRI images (A) Axial image with marked atrophy of cerebellum, pons, and middle cerebellar peduncle and (C) sagittal view showing marked atrophy of cerebellum

Reflect

1. Based on his presentation, what are the potential neuroanatomical structures that could be involved?
2. What are the likely functional and participation deficits?
3. What would your target clinical assessment include? What is your rationale?
4. What clinical tests would be useful in helping your differential diagnosis?

Individuality within Course Design

Case-based Modules

Watch them

Clinical Screening

Vitals	Blood Pressure: 118/70
	Respiratory Rate: 14
	Pulse: 72
	Pulse Oximetry (SpO2): 95%
Orientation/Cognition: alert and oriented x 4	
Communication: No issues noted except poor performance on serial 7's and delayed recall of 2/3; unable to copy drawing	
Respiratory Screen: Unremarkable	
Musculoskeletal Screen: nStrength B UE/LE 5/5	
Neuromuscular Screen: chorea-like movements noted in sitting; dysmetria B with finger to nose test, clumsy UE RAM testing.; Gait with wide base of support and staggering; loss of balance with tandem gait, but no falls	
Integumentary Screen: unremarkable	
Cranial Nerve testing: No issues noted except extra saccades during smooth pursuit eye movements in all directions	
Deep Tendon Reflexes (DTRs): 2+ except for 3+ in bilateral quads	
Sensory Testing: Intact to light touch, temperature, pin-prick, and joint position test	

Reflect

1. Summarize the abnormal findings based on the clinical screen findings below.
2. What neuroanatomical structures are involved based on the clinical findings?
3. Where is the lesion likely located?
4. How do you differentiate sensory ataxia from cerebellar ataxia in a clinical screen?

References

1. Blumenfeld, Hal. Neuroanatomy Through Clinical Cases. Case 15.5. 3rd ed., Sinauer Associates/Oxford University Press, 2021.



Integrated Self Quizzes



Individuality within Course Design

Interactive Quizzes within the Playlist

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Individuality within Course Design

Interactive Quizzes within the Playlist

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[8.6 Plantar Muscles](#) ↓ | [Quiz 8.6](#) ↗



Individuality within Course Design

Interactive Quizzes within the Playlist



The subtalar joint is the articulation between:

- ☐ The tibia and the trochlea of the talus
- ☐ The talus and the cuboid
- ☐ The talus and the navicular
- ☐ The talus and the calcaneus

Supination of the foot:

- ☐ Is the same as supination of the forearm
- ☐ Involves plantarflexion, inversion and adduction in open chain
- ☐ Involves plantarflexion, eversion, and adduction in open chain
- ☐ Involves dorsiflexion, inversion, and adduction in open chain

Individuality within Course Design

Learning Theories as the foundation

Cognitive Load

- Easy to access quizzes
- Reduces extraneous load

Constructivist Learning

- Ongoing self-assessment
- Builds metacognition



Tabbed Skills Technique Playlists



Individuality within Course Design

Tabbed Skills Technique Playlists

Watch. Cervicothoracic Intervention Skills I

Mobility Deficits Manual Therapy

Mobility Deficits Exercise

CG Headache Manual Therapy

CG Headache Exercise

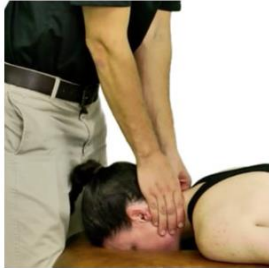
✓ Knowledge Checks

Please watch the following 9 videos surrounding neck pain with mobility deficits manual therapy interventions from PhysioU.

1. [Cervical CPA Accessory Mobilizations](#) ➞



2. [Cervical UPA Accessory Mobilizations](#) ➞



Watch. Upper Quarter MMT Skills

Cervical Spine MMT

Shoulder MMT

Scapular MMT

Elbow MMT

Wrist MMT

Thumb MMT

Finger MMT

✓ Knowledge Checks

Please watch the following 4 videos surrounding cervical spine manual muscle testing from PhysioU.

1. [Cervical Flexion MMT \(Grades 0-5\)](#) ➞



2. [Capital Flexion: Deep Neck Flexors MMT \(Grades 0-5\)](#) ➞



Individuality within Course Design

Tabbed Skills Technique Playlists

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Mobility Deficits Manual Therapy

Mobility Deficits Exercise

CG Headache Manual Therapy

CG Headache Exercise

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Cervicothoracic Intervention Skills Check Techniques

Neck Pain with Mobility Deficits

1. Manual Interventions

- [Cervical CPA Accessory Mobilizations](#)
- [Cervical UPA Accessory Mobilizations](#)
- [Thoracic CPA Accessory Mobilizations](#)
- [Cervical Lateral Glide Mobilizations](#)
- [Cervical Upglide Mobilizations](#)
- [Upper Trapezius Contract-Relax MET](#)
- [Levator Scapulae Contract-Relax MET](#)
- [Upper Trapezius Soft Tissue Mobilization](#)
- [Levator Scapulae Soft Tissue Mobilization](#)

2. Therapeutic Exercise

- [Neck AROM with Self-Overpressure](#)
- [Cervical Self-SNAG Mobilizations](#)
- [Supine Upper Thoracic Self-Mobilizations with Tennis Balls](#)
- [Supine Mid-Thoracic Extension Self-Mobilizations Over Foam Roll](#)
- [Seated Mid-Thoracic Extension Self-Mobilizations Over Chair](#)
- [Quadruped Mid-Thoracic Extension Stretch](#)
- [Quadruped Cat/Camel Thoracic Self-Mobilizations](#)
- [Seated Thoracic Flexion Barrel Hug Stretch](#)
- [Upper Trapezius Self-Stretch](#)
- [Levator Scapulae Self-Stretch](#)

Individuality within Course Design

Tabbed Skills Technique Playlists

Supports Multiple
Means of
Representation

Enhances
Cognitive
Organization

Promotes Student
Autonomy and
Navigation

Improves
Accessibility and
Inclusivity

Reinforces Skill
Transfer



Interactive Discussion



Consider Your Course

What challenges and opportunities have you had in your Canvas design within your program?

1. What challenges and opportunities have you had in your Canvas design within your program?
2. What challenges have students had in following course design across a program?
3. What opportunities for consistency have you found?
4. What challenges do you foresee in adopting a template for your program



Consider Your Course

How are you considering learning theories/ principles in design of your course in Canvas?

1. Cognitive load
2. Clear structure and scaffolding for learning
3. Active learning activities
4. Universal Design for Learning





Questions? Comments?



Acknowledgements

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