



Competency Tracking with Canvas Outcomes: A tool for assessment and accreditation

Nancy Hamler, DMSc, MPA, RDN, PA-C
Assistant Professor - Departments of Physician Assistant and
Clinical Nutrition

Kris Himmerick, Ph.D., PA-C
SHS Director of Assessment and Accreditation

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Competency-Based Education

What is a competency?

Integration of:

Knowledge

Skills

Professionalism

Attitudes

Competency-Based Education (CBE)

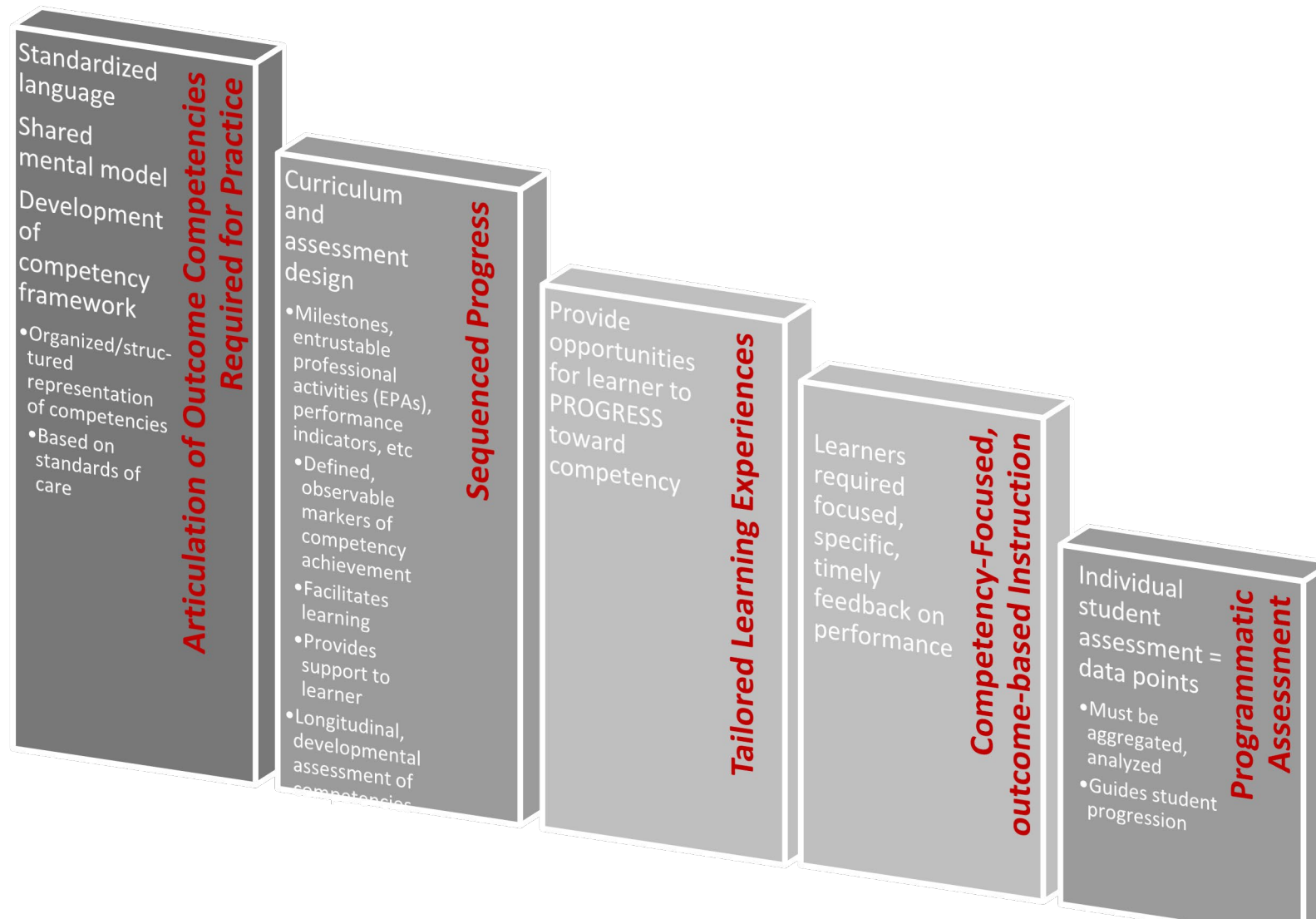
- Student-centeredness
 - Meets learner, patient and societal needs¹
- Holistic approach for students to practice/achieve competencies²
 - Assessment (formative, summative) through continuum of learning
- Outcome-based education and mastery of learning³



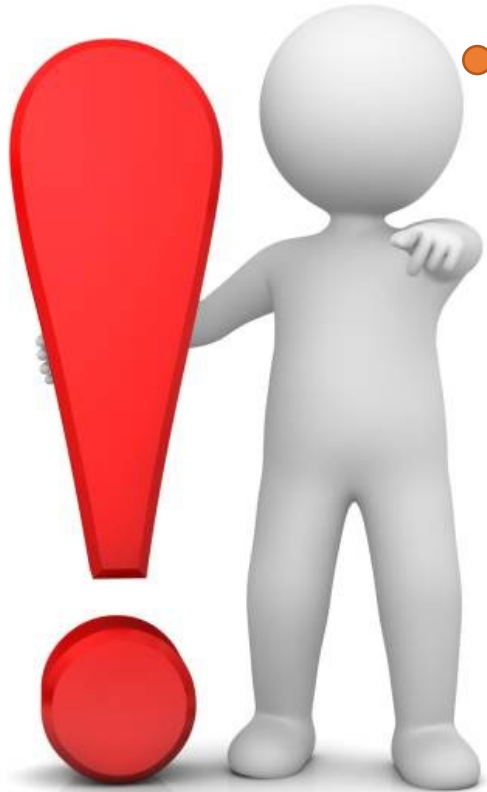
Competency-Based Education (CBE)

- Frameworks in Professional and Graduate Education
 - Medical School: Accreditation Council of Graduate Medical Education from the US (ACGME)
 - Nutrition: Accreditation Council for Education in Nutrition and Dietetics
 - Social Work: Council on Social Work Education (CSWE)
 - Others:

Core Components of Competency-Based Education (CBE)



Competency Tracking



Competencies must be diligently tracked and monitored throughout didactic and clinical training of students

Canvas “Outcomes” Tool

- Means for effective student learning assessment across an institution of higher education (Burrack)
- Assesses student learning of the core competencies (Grady)
- Supports outcomes-based continuous program improvement (aka accreditation) using rubrics embedded in assignments and quizzes (Kaupp, Shepard, Espinoza)
- Fosters equity, agency, and transparency in assessment (Winkelmes)
- Allows advisors to identify underperforming students and intervene early

Canvas OUTCOME Tool – *Course specific*

The screenshot displays the Canvas dashboard interface. On the left is a vertical navigation sidebar with icons and labels for Account, Admin, Dashboard, Courses, Calendar, Inbox, History, Commons, Follett Discover, Help, Student Resources, and Library. The 'Dashboard' label in the sidebar is circled in red. The main content area is titled 'Dashboard' (also circled in red) and features three course cards:

- Health Professions IPE Event- Jan ...**
Health 21,
2 notifications
- Behavioral and Health Sciences (...)**
MPAS-221- Behavioral and H...
Trimester/Pharmacy Spring 2022
- ACS Spring 2022**
MPAS-241- Clinical Skills I
Trimester/Pharmacy Spring 2022
1 notification

Below these is a featured card for **Pharmacology** (MPAS-211- Pharmacology an... Trimester/Pharmacy Spring 2022) with 2 notifications. Underneath is a section titled 'Unpublished Courses (3)' containing three unpublished course cards:

- Martha Playground** (Martha)
- Nancy playground** (Nancy) - includes a diagram with 'Best Research Evidence', 'EBP', and 'Patient Values & Preferences'.
- Nancy Template** (Nancy)

Canvas OUTCOME Tool – *Course specific*

Nancy

68 Student View

Home

Announcements

Assignments

Discussions

Grades

People

Pages

Files

Syllabus

Outcomes

Rubrics

Quizzes

Modules

BigBlueButton

Collaborations

Attendance

Chat

Item Banks

Follett Discover

UDOIT

RPNow Faculty

RPNow Students

Nancy Template

Edit

Course Status

Unpublished Publish

Import Existing Content

Import from Commons

Choose Home Page

View Course Stream

Course Setup Checklist

New Announcement

View Course Notifications

Coming Up [View Calendar](#)

Nothing for the next week

WELCOME To Clinical & Medical Nutrition Therapy I

This course builds on scientific foundations of nutrient metabolism (macro and micro), biochemistry, anatomy, physiology for the application of nutrition and diet to the health and disease and individuals and populations. Pathophysiology of cardiometabolic, malnutrition, obesity, liver, pancreas and gastrointestinal tract diseases and surgeries for these diseases are covered along with appropriate medical nutrition therapies to prevent and manage these conditions. Using the Nutrition Care Process (NCP) the principles of nutrition assessment, diagnosis, intervention and monitoring for the diseases are covered. This course prepares students for their supervised practice experiences.

Click the buttons below to navigate to course content.

Announcements

Course Syllabus

Course Modules

Canvas OUTCOME Tool – *Course specific*

You can manually set outcomes = competencies and milestones
Or import program/admin-set outcomes

The screenshot displays the Canvas Outcomes tool interface. On the left is a vertical navigation sidebar with icons and labels for Account, Admin, Dashboard, Courses, Calendar, Inbox, History, Commons, Follett Discover, Help, and Student Resources. The main content area is titled "Setting up Outcomes" and contains the following text:

Outcomes are created here to track mastery in a course. To get started, checkout the menu bar along the top. Click on the New Outcome button to create a new outcome, or the New Group button to create a new group to organize your outcomes into. The Find button will allow you to use outcomes that have been created by your state or institution. As you create and use outcomes you will be able to use the panel to the left to navigate through your outcomes. You can drag and drop outcomes between the different levels to create structure.

In order to import a large quantity of Outcomes at once, or to update your existing outcomes, please [follow the CSV format](#).

More importantly, Canvas allows you to add outcomes to your grading rubrics so that you can evaluate mastery as you grade assignments. Once you've set up outcomes, click Manage Rubrics to start using your outcomes for grading.

The top menu bar includes buttons for "+ Outcome" (circled in red), "+ Group", "Import", and "Find". A folder icon labeled "FEMG" is visible in the left panel of the main content area.

Canvas OUTCOME Tool – *Course specific*

Nancy > Outcomes

Home
Announcements
Syllabus
Modules
Assignments
Rubrics
Grades
Discussions
Chat
Zoom
Grade Passback
People
Outcomes
Files
Quizzes
BigBlueButton
Pages
Collaborations
Settings

Back + Outcome + Group Import Find

- Competency 1.1
 - PI 1.1.1 Does
 - PI 1.1.1 Knows
 - PI 1.1.1 Shows
- Competency 1.2
 - PI 1.1.2 Does
 - PI 1.1.2 Knows
 - PI 1.1.2 Shows
- Competency 1.3
 - PI 1.1.3 Does
 - PI 1.1.3 Knows
 - PI 1.1.3 Shows
- Competency 1.4
 - PI 1.1.4 Does
 - PI 1.1.4 Knows
 - PI 1.1.4 Shows
- Competency 1.5
 - PI 1.1.5 Does
 - PI 1.1.5 Knows
 - PI 1.1.5 Shows
- Competency 1.6
- Competency 1.7
- Competency 1.8
- Competency 1.9
- Competency 1.10
- Competency 1.11
- Competency 1.12
- Competency 1.13
- Competency 1.14
- Competency 1.15
- Competency 1.16
- Competency 2.1

Competency 1.1

"Applies an understanding of environmental, molecular factors (e.g. genes, proteins, metabolites) and food in the development and management of disease."

Move Edit Delete

OUTCOME-Based Assessment - *Assignment Rubrics*

Nancy > Rubrics

- Home
- Announcements
- Assignments
- Discussions
- Grades
- People
- Pages
- Files
- Syllabus
- Outcomes
- Rubrics**
- Quizzes
- Modules
- BigBlueButton
- Collaborations
- Attendance
- Chat
- Item Banks
- Follett Discover
- UDOIT

Case Study (1)
31 criteria
75 points possible

Discussion Board Rubric (1)
7 criteria
35 points possible

Research Paper Rubric
6 criteria
250 points possible

Title:

Criteria	Ratings	Pts
Description of criterion Range <input type="checkbox"/>	5 pts Full Marks	0 pts No Marks
+ Criterion <input type="text" value="Find Outcome"/>		Total Points: 5

OUTCOME-Based Assessment - *Assignment Rubrics*

Find Outcomes

- PI 1.1.5 Knows
- PI 1.2.1 Shows
- PI 1.2.2 Shows
- PI 1.4.2 Shows
- PI 1.5.2 Shows
- PI 1.5.3 Shows
- PI 1.9.1 Shows
- PI 1.10.3 Shows
- PI 1.11.2 Shows
- PI 1.15.1 Shows
- PI 1.15.3 Shows
- PI 1.15.5 Shows
- PI 2.2.1 Shows
- PI 2.2.2 Shows
- PI 2.3.1 Shows
- PI 2.3.6 Does
- PI 2.3.7 Does
- PI 2.3.10 Shows
- PI 2.3.12 Does

PI 1.1.5 Knows
Identifies the influence of food consumption on the development of diseases.

Exceeded Expectations	Met Expectations	Approaching Expectations	Below Expectations	Did not Meet Expectations	Total Points
5 Points	4 Points	3 Points	2 Points	0 Points	5 Points

Use this criterion for scoring
Calculation Method: n Number of Times

Items: 5
Between 1 and 5

Calculation Method: Achieve mastery 5 times
Example: Must achieve mastery at least 5 times. Scores above mastery will be averaged to calculate final score.
1- Item scores: 1, 4, 2, 3, 5, 3, 6
2- Final score: N/A

Cancel Import

OUTCOME-Based Assessment - *Assignment Rubrics*

Nancy > Rubrics

Case Study (1)
31 criteria
75 points possible

Discussion Board Rubric (1)
7 criteria
35 points possible

Research Paper Rubric
6 criteria
250 points possible

Title: Test

Criteria	Ratings					Pts
test Range <input type="checkbox"/>	0 pts No Marks					5 pts
PI 1.1.5 Knows threshold: 4 pts	5 pts Exceeded Expectations	4 pts Met Expectations	3 pts Approaching Expectations	2 pts Below Expectations	0 pts Did not Meet Expectations	5 pts

+ Criterion Find Outcome Total Points: 10

Cancel **Update Rubric**

OUTCOME-Based Assessment - *Quizzes*

The screenshot displays the Canvas LMS interface for a course named 'Nancy'. The left-hand navigation menu is visible, with the 'Quizzes' option highlighted by a red circle. The main content area shows a search bar for quizzes and a list of 'Course Quizzes'. A modal dialog box titled 'Choose a Quiz Engine' is open, providing information about the two available quiz engines. The 'New Quizzes' option is selected and also circled in red. The dialog box includes a 'Remember my choice for this course' checkbox and 'Cancel' and 'Submit' buttons.

Canvas now has two quiz engines. Please choose which you'd like to use. [Learn more about the differences.](#)

- Classic Quizzes**
For the time being, if you need security from 3rd-party tools, Speedgrader, or CSVs for student response analysis, this is the better choice.
- New Quizzes**
This has more question types like hotspot, categorization, matching, and ordering. It also has more moderation and accommodation features.

Remember my choice for this course

Cancel Submit

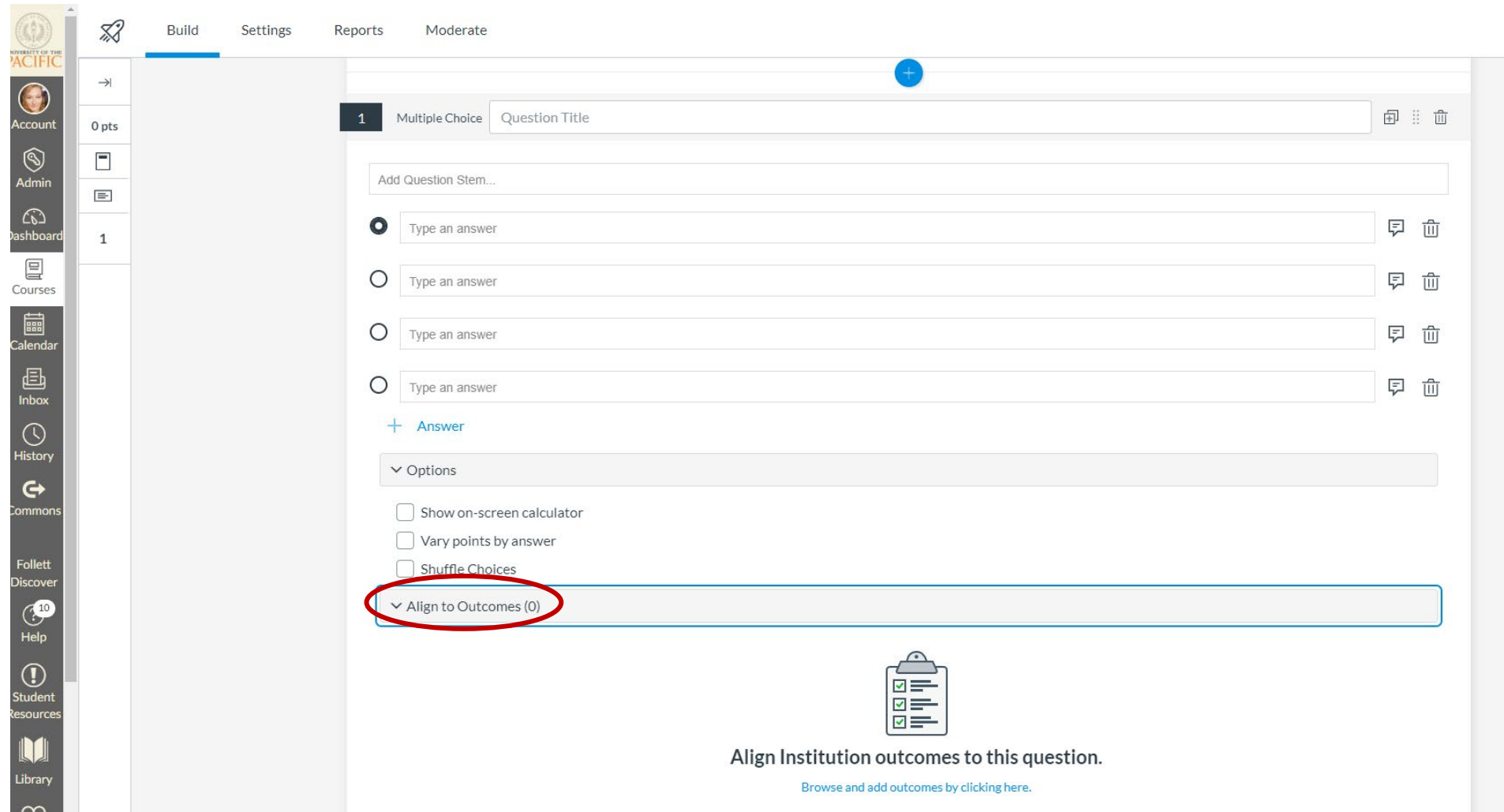
OUTCOME-Based Assessment - *Quizzes*

The screenshot shows a course management system interface. On the left is a vertical navigation menu with the University of the Pacific logo at the top. The menu items include: Home, Announcements, Assignments, Discussions, Grades, People, Pages, Files, Syllabus, Outcomes, Rubrics, **Quizzes** (circled in red), Modules, BigBlueButton, Collaborations, Attendance, Chat, Item Banks, Follett Discover, Follett Discover, UDOIT, RPNOW Faculty, RPNOW Students, Grade Passback, and Settings. The main content area is titled 'Points' and contains the following settings:

- Points: 0
- Assignment Group: Assignments
- Display Grade as: Points
- Do not count this assignment towards the final grade
- Submission Type: External Tool
- External Tool Options:
 - Enter or find an External Tool URL
 - URL: <https://pacific.quiz-lti-iad-prod.instruct>
 - Find button
- Assign to: Everyone
- Due: [calendar icon]
- Available from: [calendar icon]
- Until: [calendar icon]
- + Add button

At the bottom of the form, there is a checkbox for 'Notify users that this content has changed' and a row of buttons: Cancel, Save & Publish, Save, and **Build** (circled in red).

OUTCOME-Based Assessment - *Quizzes*



Build Settings Reports Moderate

1 Multiple Choice Question Title

Add Question Stem...

- Type an answer
- Type an answer
- Type an answer
- Type an answer

+ Answer

Options

- Show on-screen calculator
- Vary points by answer
- Shuffle Choices
- Align to Outcomes (0)

Align Institution outcomes to this question.
[Browse and add outcomes by clicking here.](#)

OUTCOME-Based Assessment - *Quizzes*

Attached Outcomes

No Outcomes are currently selected

Search Outcomes

Nancy Template
27 Outcomes

Nancy Template
27 Outcomes

- Select all
- [PI 1.1.5 Knows](#)
Identifies the influence of food consumption on the development of diseases.
- [PI 1.10.3 Shows](#)
Applies math skills to perform food and nutrition calculations.
- [PI 1.11.2 Shows](#)
Uses acceptable medical abbreviations and appropriate medical terminology in all forms of communication.
- [PI 1.15.1 Shows](#)
Recognizes and communicates the cause of disease and nutrition risks.
- [PI 1.15.3 Shows](#)
Examines the influence of the determinants of health on health and wellness.
- [PI 1.15.5 Shows](#)
Applies behavior change theories for nutritional health promotion and disease prevention.
- [PI 1.2.1 Shows](#)
Analyzes the impact of food and nutrition on physiological processes.
- [PI 1.2.2 Shows](#)
"Integrates knowledge of anatomy, physiology, and biochemistry to make decisions related to nutrition care."
- [PI 1.4.2 Shows](#)
Integrates nutritional biochemistry knowledge to make informed food and nutrition decisions for optimal health.
- [PI 1.5.2 Shows](#)
"Interprets and analyzes the effect of diet, fluids, electrolytes and nutritional status on the development and progress of the disease process."
- [PI 1.5.3 Shows](#)

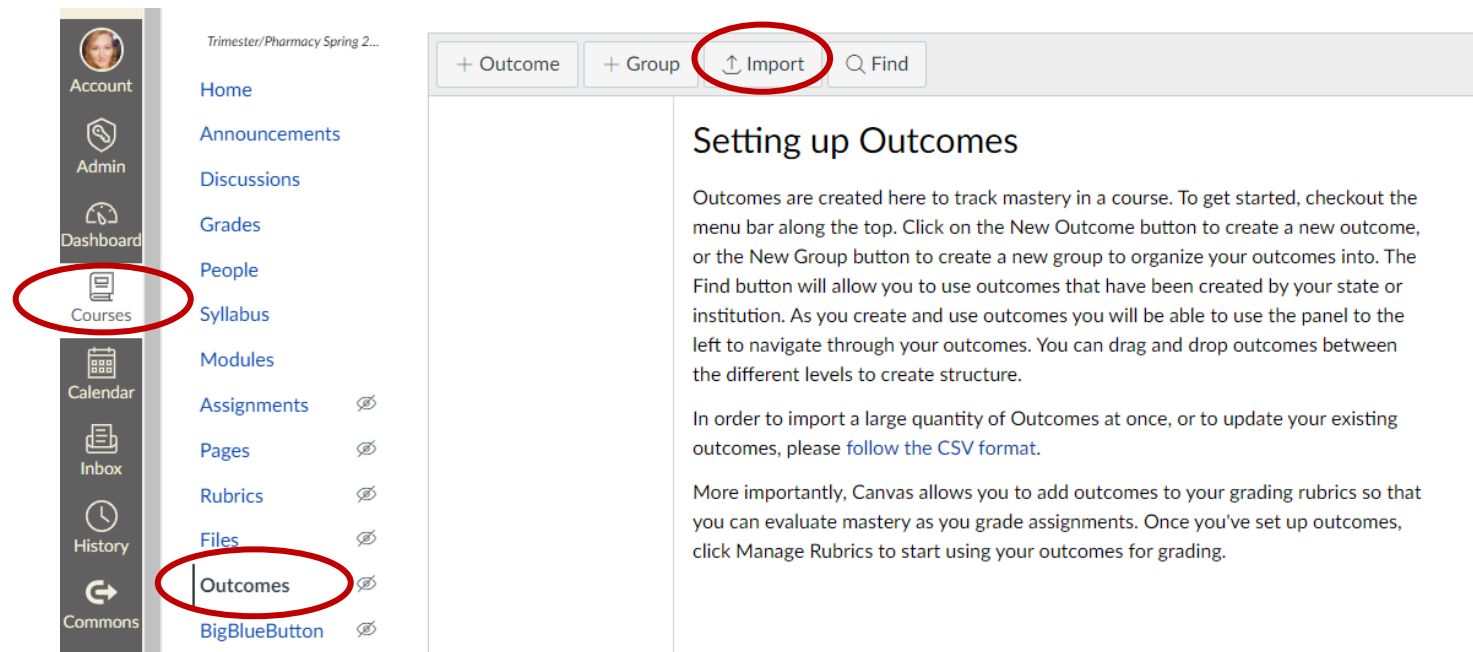
Canvas OUTCOME Tool – *Admin function*

- Department/Program leadership may have administrative function
- For Programmatic Assessment, it is best to set up outcomes in the ADMIN function and then import into applicable courses

The screenshot displays the Canvas Admin interface. On the left sidebar, the 'Admin' function is highlighted with a red circle. The main content area shows a 'Dashboard' with three course cards: 'Health Professions IPE Event- Jan ...', 'Behavioral and Health Sciences (...)', and 'ACS Spring 2022'. Below the dashboard is a card for 'Pharmacology' (MPAS-211). Underneath is a section for 'Unpublished Courses (3)', featuring three cards: 'Martha Playground', 'Nancy playground', and 'Nancy Template'. The 'Nancy playground' card includes a diagram with 'EBP' in the center, 'Best Research Evidence' on the left, 'Clinical Expertise' on the top, and 'Patient Values & Preferences' on the right, all connected by arrows.

Canvas OUTCOME Tool – *Admin function*

- CSV files with competencies (milestones, etc.) can be imported
- Outcomes can be imported from admin into each course



The screenshot displays the Canvas Admin interface. On the left, a vertical navigation menu includes options like Account, Admin, Dashboard, Courses, Calendar, Inbox, History, and Commons. The 'Courses' option is circled in red. To the right of this menu is a list of course-related items: Home, Announcements, Discussions, Grades, People, Syllabus, Modules, Assignments, Pages, Rubrics, Files, Outcomes, and BigBlueButton. The 'Outcomes' item is also circled in red. The main content area shows the 'Setting up Outcomes' page, which includes a top navigation bar with buttons for '+ Outcome', '+ Group', 'Import', and 'Find'. The 'Import' button is circled in red. The page content explains that outcomes are used to track mastery and provides instructions on how to import them, including a note about following the CSV format.

Canvas OUTCOME Tool – Admin function

- Canvas ADMIN can run outcome/competency reports for student and programmatic assessment
- Compliance vs accreditation

University of the Pacific > NUTR - Nutrition > Settings

Settings Quotas Admins Announcements **Reports** Apps Feature Options

Name	Last Run	
Course Storage ?	Never	Configure...
Eportfolio Report ?	Never	Configure...
Grade Export ?	Aug 24, 2021 at 7:41pm (Term: All Terms;) ↓	Configure...
LTI Report ?	Never	Configure...
Last Enrollment Activity ?	Never	Configure...
Last User Access ?	Never	Configure...
MGP Grade Export ?	Aug 24, 2021 at 7:44pm (Term: All Terms;) ↓	Configure...
Outcome Export ?	Dec 10, 2021 at 10:42am ↓	Run Report
Outcome Results ?	Jan 24 at 10:09am (Term: Trimester/Pharmacy Fall 2021; Order: outcomes Order: outcomes) ↓	Configure...
Provisioning ?	Never	Configure...
Public Courses ?	Never	Configure...
Recently Deleted Courses ?	Never	Configure...
SIS Export ?	Never	Configure...
Student Competency ?	Oct 15, 2021 at 12:59pm (Term: PHS Summer 2021;) ↓	Configure...
Students with no submissions ?	Never	Configure...
Unpublished Courses ?	Never	Configure...
Unused Courses ?	Never	Configure...
User Access Tokens ?	Never	Configure...
User Course Access Log ?	Never	Configure...

Student Feedback on Competency Progression

- Example of using Outcome Report data for visual student feedback on competency progression

Competency	PI	Description	201	203	205	207	209	211	213	215	217	219	221	Other	Well	FS	ACMI	AMB	WIC	ACMII-I	DIAL	ACMII-II
1.8 Applies knowledge of pharmacology to recommend, prescribe and administer medical nutrition therapy. (S)	1_8_1	Identifies the classifications of nutraceutical pharmacological agents and the action of the body. (K)						4														
	1_8_2	Demonstrates understanding of pharmacokinetics, absorption, clearance, drug metabolism, latency period, drug and supplement metabolism, accumulation, half-life, and routes of administration. (S)																				
	1_8_3	Identifies potential drug and food interactions based on physiological responses to pharmacological agents and takes appropriate actions. (S)						4										4			4	
1.9 Applies an understanding of the impact of complementary and integrative nutrition on drugs, disease, health and wellness. (S)	1_9_1	Critically evaluates evidence-based literature to inform decisions about use of complementary and integrative nutrition. (S)																				
	1_9_2	Applies an understanding of the impact of complementary and integrative nutrition on drugs, food, disease states and wellness.(S)													5		4	3			3	
	1_9_3	Identifies indications, use and contraindications of complimentary and integrative nutrition. (K)																				
1.10 Applies knowledge of math and statistics. (S)	1_10_1	Chooses appropriate statistical methods, performs statistical analysis and interprets results in various data analysis situations. (S)												3								
	1_10_2	Communicates information on statistical methods, results and interpretation, both orally and in writing. (S)																				
	1_10_3	Applies math skills to perform food and nutrition calculations. (S)					4															
1.11 Applies knowledge of medical terminology when communicating with individuals, groups and other	1_11_1	Interprets and communicates medical terminology to non-health professional audiences. (D)													4		4	4			4	
	1_11_2	Uses acceptable medical abbreviations and																				

Program Assessment

- Example of using Outcome Report data for visual programmatic evaluation of competencies
 - Compliance
 - Accreditation

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	Competency	Student A	Student B	Student C	Student D	Student E	Student F	Student G	Student H	Student I	Student J	Student K	Student L	Student M	Student N			
14	1.13 Demonstrates computer skills and uses nutrition informatics in the decision making process. (D)	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Required	Achieved	Achieved	Achieved			
15	1.14 Integrates knowledge of nutrition and physical activity in the provision of nutrition care across the life cycle. (D)	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Required	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved			
16	1.15 Applies knowledge of nutritional health promotion and disease prevention for individuals, groups and populations. (S)	Achieved	Achieved	Achieved	Required	Achieved	Required	Achieved	Achieved	Achieved	Achieved	Required	Achieved	Achieved	Achieved			
17	1.16 Gains a foundational knowledge on public and global health issues and nutritional needs. (K)	Required	Required	Required	Required	Required	Required	Required	Required	Required	Required	Required	Required	Required	Required			
18	2.1 Applies a framework to assess, develop, implement and evaluate products, programs and services. (D)	Required	Required	Required	Required	Required	Required	Required	Required	Required	Required	Required	Required	Required	Required			
	2.2 Selects, develops and/or implements nutritional screening	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved			

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