OCEAN:

Designing an Online Accounting Course

Examples in Canvas and Blackboard

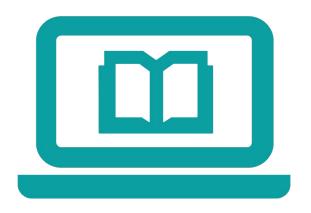
Jill Mitchell, MS, MEd, CIA, Professor Northern Virginia Community College George Mason University (adjunct)

Tom Marsh, MS, CPA, Associate Professor Northern Virginia Community College



Online Course









Northern Virginia Community College

Community College

• Financial/Managerial

Bb with WileyPLUS

Bb with Connect

Canvas with WileyPLUS

Canvas with Connect



Undergrad

- Financial for Accounting/Finance Majors
- Accounting for Non-Business Majors

Bb with WileyPLUS

Bb with Connect

MBA

Financial

Bb with Connect

Designed by Instructional Designers

66

"Thank you for making accounting exciting and easy to learn...
even during these hard times."



O	OUTCOMES	 Backward design Course roadmap for students
С	COMMUNICATION	 LMS Tools: Announcements (active course links), Orientation Video, Discussion Boards, Calendar, Message Students Who, Assignment Feedback Social media
Е	ENGAGEMENT	 Student: Content Student: Instructor Student: Peers
A	ASSESSMENT	 Proctoring technology Assessment design to maintain integrity Alternate forms of assessment
N	NAVIGATION	 Cognitive load theory Program control vs. Learner control Modules

Outcomes

Drive the course design & provide a road map for students

Learning Outcomes



BACKWARD DESIGN

Let the outcomes drive the course design



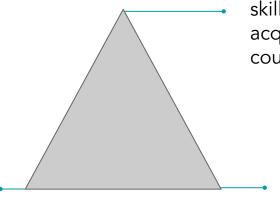
COURSE ROADMAP FOR STUDENTS

Let the outcomes guide the students

Alignment

INSTRUCTIONAL ACTIVITIES

are selected to foster student learning towards meeting the objectives



LEARNING OUTCOMES

articulate the knowledge and skills you want students to acquire by the end of the course

ASSESSMENTS

allow the instructor to check the degree to which the students are meeting the learning objectives



C

Communication

Connects you to your students



Course Orientation Video

"The pretraining principle is relevant in situations when trying to process the essential material in the lesson would overwhelm the learner's cognitive system." **TECH TOOLS**

Screencast-O-Matic QuickTimePlayer (Mac) ExplainEverything Canvas Studio Kaltura

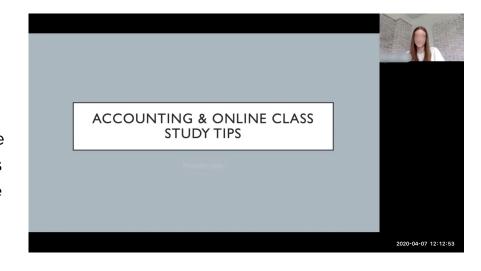
BEGIN.

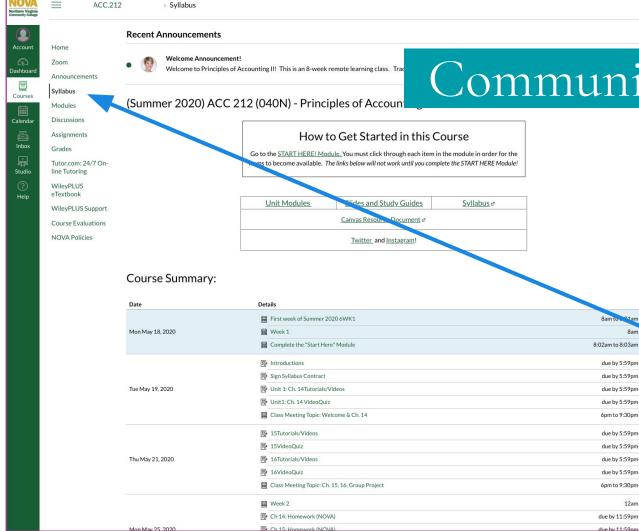
(Clark & Mayer 2016)

Share Advice from Former Students

"The key is sufficient repetition. Accounting is a class learned by doing, not by listening."

"Familiarize yourself with the material *before* class. Having an idea of what the chapter is about and then learning it in class AGAIN will really help you understand. Always acquaint yourself with the concepts, definitions and formulas. Make use of the tools and resources provided to you (e.g. WileyPlus & Adaptive Learning) they really help you apply the concepts which will really deepen your understanding."







lm View Course Stream

Welcome Announcement!

First week of Summer 202... X

■ Complete the "Start Here" ... ×

Apr 30 at 8:57pm |

May 18 at 8am

May 18 at 8am

May 18 at 8:02am |

May 19 at 5:59pm | Sign Syllabus Contract

May 19 at 5:59pm |

Course assignments are not

May 2020

27 28 29 30

[Introductions 10 points

5 points May 19 at 5:59pm | W Unit 1: Ch. 14Tutorials/Vid... X

1 points

31 1

weighted.

Week 1

Communication Tools

- - Calendar

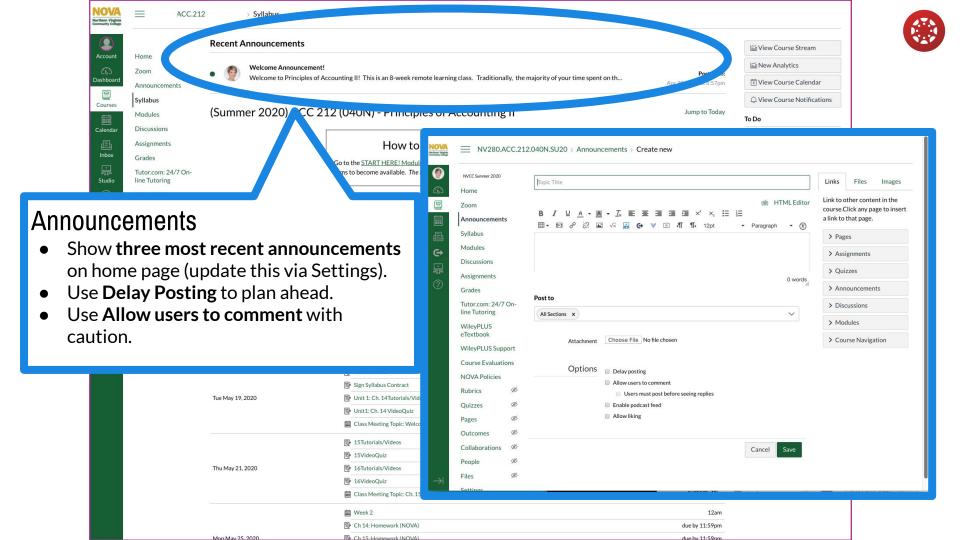
 - Discussion Board

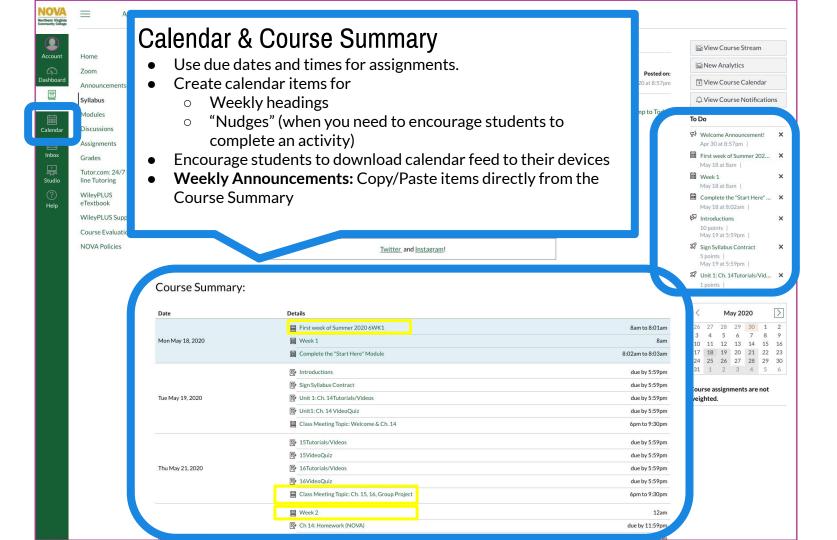
1. Announcements with

- "Message those who..."
- Feedback

links

Set your homepage to your SYLLABUS to add Course Summary here!





Links

 Add links to course components in your announcements (and throughout Canvas on pages, assignments, etc.)

Embed videos

End of Week 2 Announcement
Jill Mitchell

All Sections

Hi Students!

Sun Jan 26, 2020

We are approaching the end of Week 2. By now, you should be close to completing the following assignments due on Sunday evening



Please review "Additional Resources" for the memory trick for the rules of debits and credits and walkthrough videos related to journalizing and adjusting entries.



Minimize Video

If you have any questions, please post them in the Q&A Discussion Board. You're doing a great job in this course so far! Have a great weekend!

Take care,

Professor Mitchell





> Discussions > Ask your questions here!





NVCC Summer 2020



Home



Zoom



Announcements



Syllabus Modules



Discussions



?

Assignments



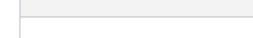
Tutor.com: 24/7 Online Tutoring

WileyPLUS eTextbook

WileyPLUS Support

Course Evaluations

NOVA Policies



Ask your questions here!

All Sections

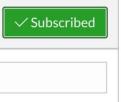
As we work together this semester, please use this forum to ask course-related questions as they arise. You may also use this forum to share relevant tips and resources that you think will be beneficial to your classmates. As your instructor, I will respond to course-related questions or concerns within 24 hours. Meanwhile, I encourage you to respond to your classmates' posts if you newer or have a tip/resource to share. I recommend that you subscribe to this forum so that you will.

Search entries

← Reply

Discussion Board: Q&A

- Students to post all course questions here.
- Other students may answer before instructor!
- Students can subscribe to forum.



™ Edit

Published









ACC.212.

Grades





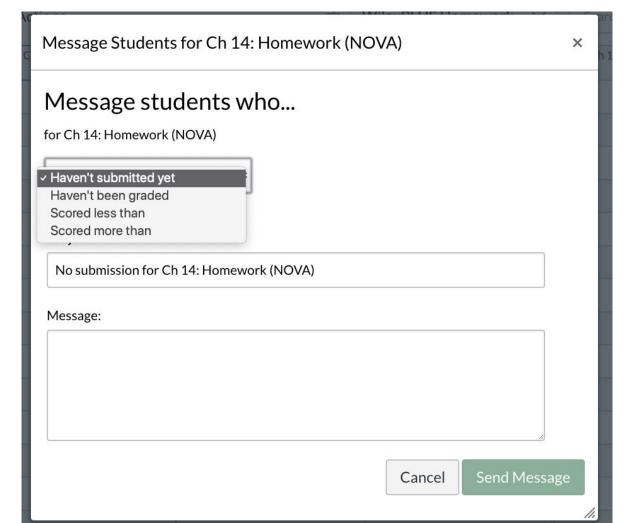




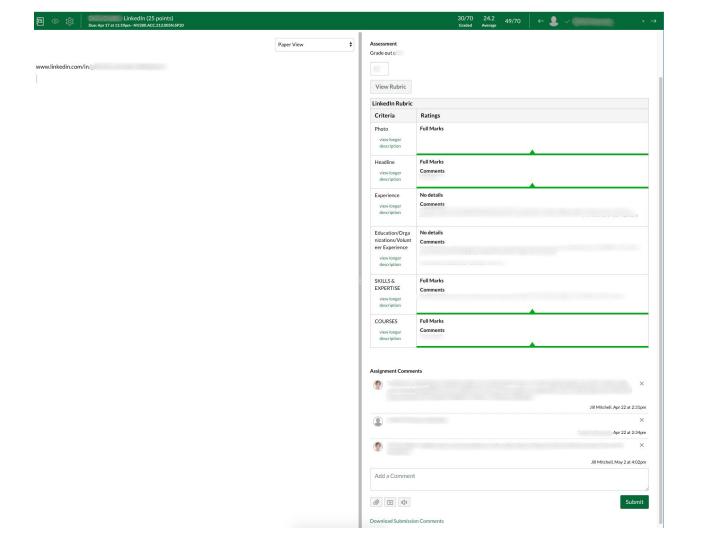


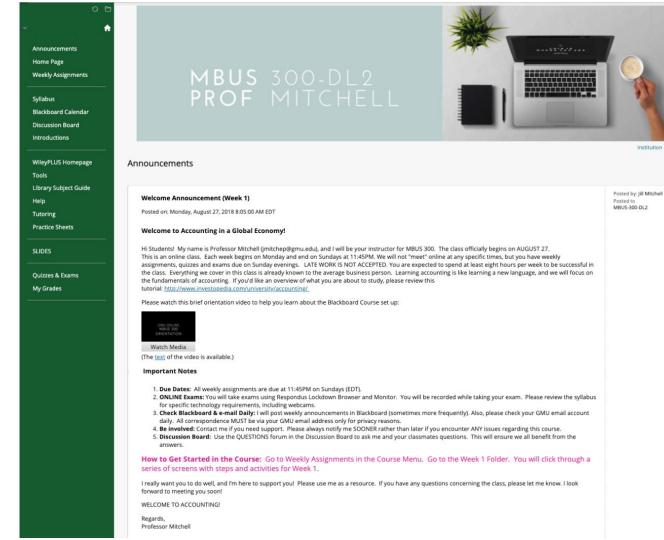


Student Name	Ch 14: Homework (N Ch 1:		mework (N t of 12	Ch 16: Homework (N Out of 12	Ch 17: Homework (N Out of 12	Ch 18 and 19: Hom Out of 12
	Sort by	>	-	-	-	-
	SpeedGrader		-	-	-	-
	Message Stude	ents Who	-	-	-	-
	Curve Grades				-	-
	Set Default Grade No grades to post No grades to hide Enter Grades as Grade Posting Policy		Message Students Who		Vho = -	-
			-	-	-	-
		928	-	-	-	-
		Policy	-	-	-	-
	-		-	-	-	_
	_		_	_	_	_











Social Media

LinkedIn

- Private LinkedIn group of current and former students
- Share ideas and opportunities
- Alumni help and give back

Instagram

- Share posts from professional organizations
- Use "Stories" to interact with students and ask them questions
- "Accounting in Real Life"

E

Engagement

Creates community through student interaction with the content, peers, and instructor

Instructor



ZOOM Lecture

Office Hours



ONLINE

Discussion Email/Text

Timely feedback in LMS



ZOOM

Breakout Rooms Think-Pair-Share

Group Quiz

Peer Instruction



ONLINE

Discussion

Board

Blogs

VoiceThread

Study Groups

Tie each activity to a learning outcome

ZOOM Polls

> Kahoot **Padlet**

Reflections





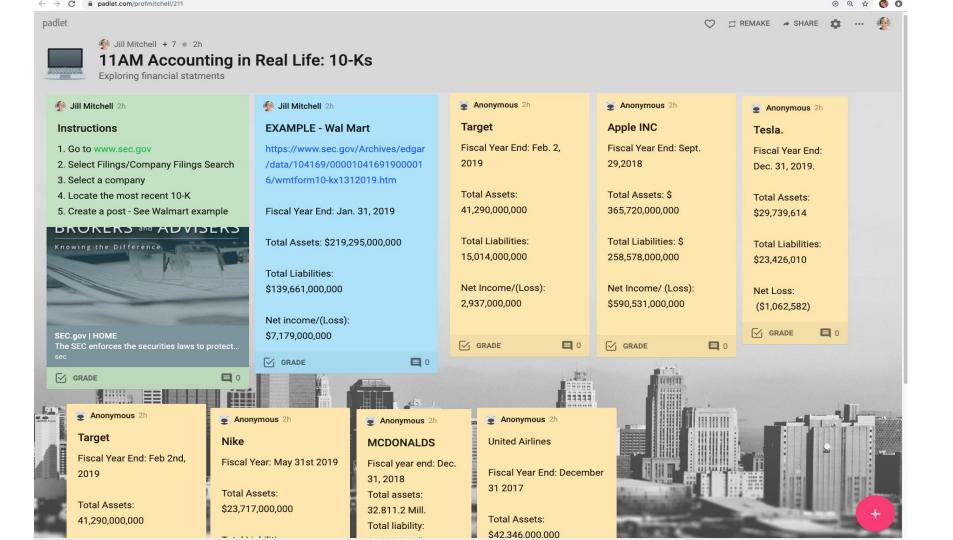
Content

ONLINE

AICPA Virtual Field Trips CAQ Discover Audit Videos MyPath to CPA Videos

Pre-Class Executive Summary Writing

Micro-lecture



https://padlet.com/profmitchell/211

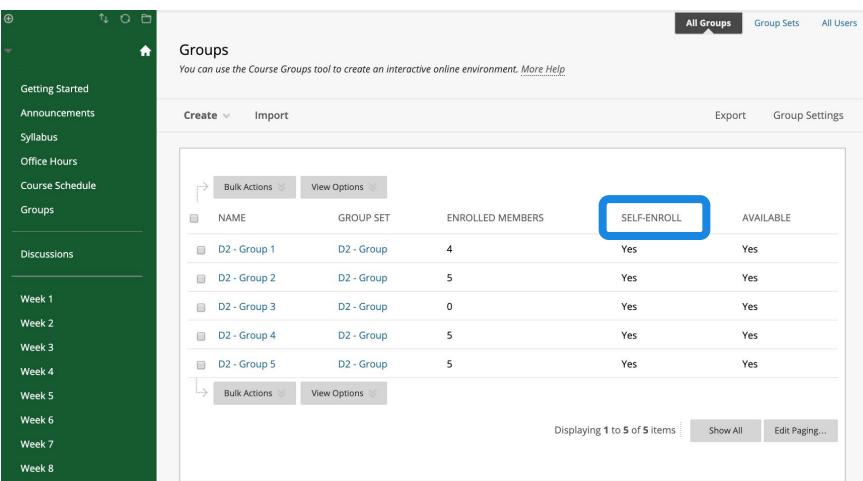


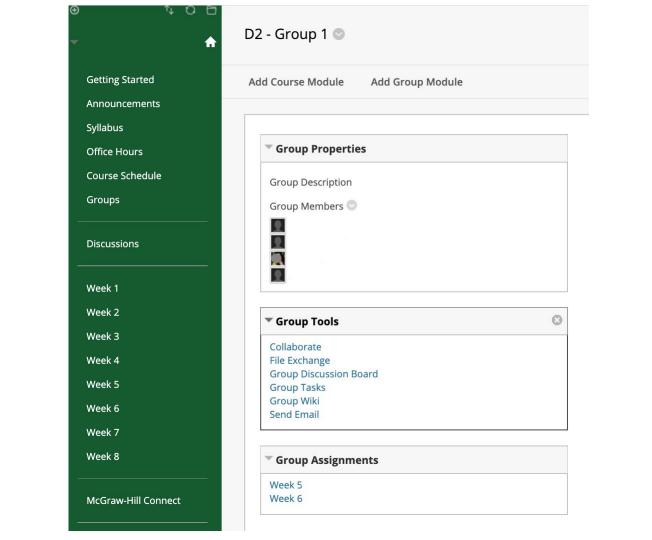


Groups

- Use Groups tools to organize students into groups
- Students have dedicated space to work
 - Discussion board
 - File Share
 - Wiki (Bb)







Blackboard

A

Assessment

Provide students the opportunity to demonstrate their learning

Online Exams (proctored)

For privacy purposes, use the software your institution provides

- ProctorU
- Respondus Monitor
- Zoom

Online Exams (unproctored)

Use Design Features to Maintain Integrity

- ✓ Question Pools by Learning Outcome: Creates a unique exam for each student
- ✓ Time Limit & Limited Range of Availability: Limits ability to google questions
- ✓ Unique, Algorithmic Questions: Change company names/dollar amounts if using publishers' test banks
- ✓ Delayed Feedback: Limits access to correct answers until all students have completed exam
- ✓ Honor Pledge: "I have neither given nor received help on this exam."

Alternate Forms of Assessment

- Review learning outcomes
- Creative assessment design
- More frequent, low stakes assessments
- Higher level skills

USE RUBRICS to communicate expectations for students and to assist with feedback & grading

N

Navigation

Guides students through the learning journey

Cognitive Load

- Working memory is limited; people can only think about a few items at any given time (Miller, 1956)
- Separate channels for processing visual material and auditory material (Clark & Mayer, 2016)
- Schemas organize elements to help process multiple elements as a single element
- New material is first processed by working memory, then through active processing the material is organized into a structure and integrated with prior knowledge

Cognitive Load Theory

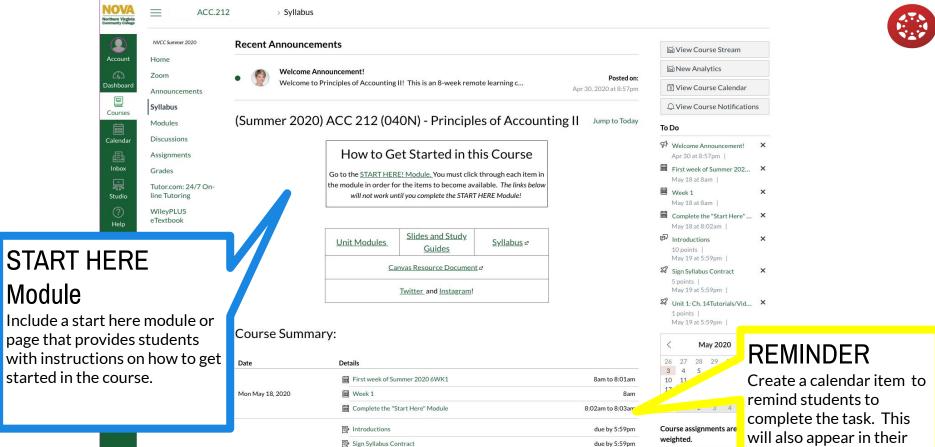
When designing, consider the limitations of working memory to prevent cognitive load and deterioration of learning (Sweller, 2005)

Cognitive Load & Course Design

PROGRAM CONTROL	LEARNER CONTROL
Instructor led	Learners select topics
Linear sequence	Learners control pace
	Learners bypass elements
When	to use?
 Learners are novices and a high level of proficiency is required Content is linear and skipping topics risks degrading learning 	 Topics are not interdependent Course is advanced and therefore learners have prior knowledge

Modules

- Start Here!
- Unit Modules or Weekly Modules
- Pre-requisites (Canvas)
- Sequential Learning (Blackboard)



Unit 1: Ch. 14Tutorials/Videos

Class Meeting Topic: Welcome & Ch. 14

Unit1: Ch. 14 VideoQuiz

15Tutorials/Videos

16Tutorials/Videos

15VideoQuiz

Tue May 19, 2020

Thu May 21, 2020

will also appear in their

"To Do" list.

weighted.

due by 5:59pm

due by 5:59pm

6pm to 9:30pm

due by 5:59pm

due by 5:59pm

due by 5:59pm

NVCC Summer 2020

Home

Zoom

Announcements

Syllabus

Modules

Discussions

Assignments

Grades

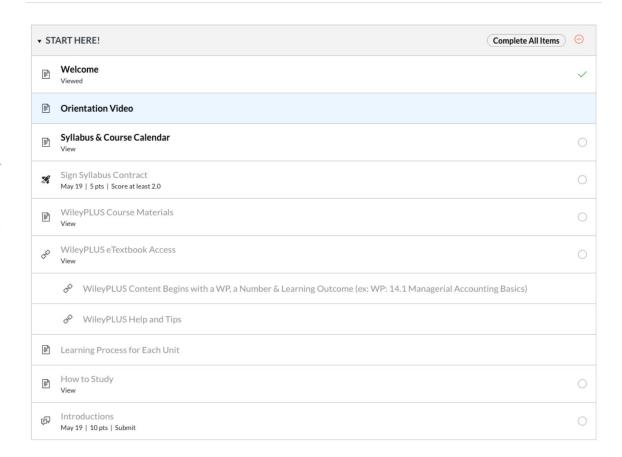
Tutor.com: 24/7 Online Tutoring

WileyPLUS eTextbook

WileyPLUS Support

Course Evaluations

NOVA Policies





Edit Module Settings				×
START HERE!				
Lock until				
 Requirements Students must complete ✓ Students must move Student must complete 	through requireme	ents in seque	ntial order	
Welcome \$	view the item	•		×
Syllabus & Course Caleni 🕏	view the item	•		×
Sign Syllabus Contract 💠	score at least	\$ 5.0	/5	×
WileyPLUS Course Mate \$	view the item	\$		×
WileyPLUS eTextbook A₁ \$	view the item	•		×

Home
Zoom
Announcements

Syllabus

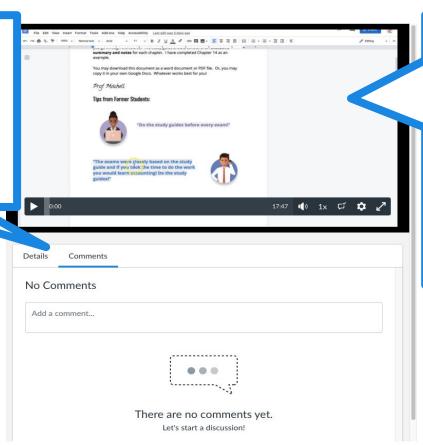
Orientation Video

You may pause the video at any point and comment/ask a question. Please use this feature so I can answer your questions

Modules that arise while you're watching this orientation video. Thanks!

Comments During Video

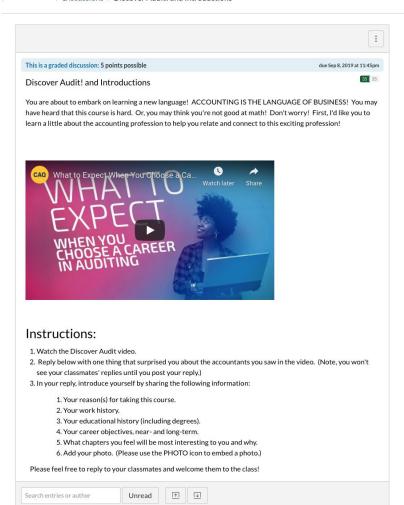
Students can post comments at any point in the video



Video Quiz

- Canvas Studio allows instructor to insert questions at any point in an uploaded video
- Kaltura permits similar function in Bb







Introductory Accounting Student Discussion Board Post

"I admit I had a preconceived notion, which I believe the majority of others share, that accountants sat in a cubicle all day toiling away at numbers. Knowing that accountants do so many different things and cover so much ground definitely gave me a whole new view on that job as a future career possibility."

OUTCOME #1 MANAGERIAL ACCOUNTING (CH. 14)

- 1.1 Explain the purpose and nature of managerial accounting (to include differences between financial and managerial accounting).
- 1.2 Define product and period costs and explain how they impact financial statements.
- 1.3 Prepare a cost of goods manufactured schedule.

OUTCOME #2: JOB ORDER COSTING (CH. 15)

- 2.1 Describe important features of job order cost accounting.
- 2.2 Describe and record the flow of costs in a job order cost system.
- 2.3 Calculate predetermined overhead rates and over and under applied overhead.

OUTCOME #3: PROCESS COSTING (CH. 16)

- 3.1 Explain the similarities and differences between job order and process cost systems.
- 3.2 Explain the flow of costs in a process cost system.
- 3.3 Make the journal entries to assign manufacturing costs in a process cost system.

Unit 1: Learning Outcomes Unit 1: Ch. 14Tutorials/Videos

Unit 1: Chapters 14, 15, 16

Unit1: Ch. 14 VideoQuiz May 19 | 3 pts

WP: 14.1 Managerial Accounting Basics

14.2 Managerial Cost Concepts

14.3 Manufacturing Costs in Financial Statemer

15Tutorials/Videos May 21 | 1 pts

15VideoQuiz

16Tutorials/Videos May 21 | 1 pts

> 16VideoQuiz May 21 | 3 pts

Ch 15: Homework (NOVA)

Ch 14: Homework (NOVA)

May 25 | 12 pts

May 25 | 12 pts

May 21 | 3 pts 15.1 Cost Accounting Systems

15.2 Assigning Manufacturing Costs

15.5 Applied Manufacturing Overhead

Ch 16: Homework (NOVA)

May 25 | 12 pts

15.3 Predetermined Overhead Rates

Ch 14: Adaptive May 26 | 0 pts

15.4 Entries for Jobs Completed and Sold

Ch 15: Adaptive

May 26 | 0 pts

Ch 16: Adaptive

May 26 | 0 pts

Exam 1 (Ch. 14, 15, 16) ONLINI May 26 | 200 pts

16.2 Process Cost Flow and Assigning Costs

16.1 Overview of Process Cost Systems

◆ Previous

Next ▶

Learning Process for Each Unit

Learning Process for Each Unit

This course has four units. All of these activities/assignments are located in each of the Unit Modules.

1 | Interactive Tutorials and Applied Skills Videos

- · Complete the Interactive Tutorial.
- Watch the Applied Skills Videos.
- Take notes using your <u>Study Guide</u>
 as an outline.
- · Prepare questions to ask during our online class meeting.
- Post question in the "Ask the Prof" discussion board.

Benefit: This is your first introduction to the content. By actively completing the tutorials and taking your own notes, you are beginning to make connections with the content. You will be ready to learn deeply and interact with your classmates during our time together in Zoom.



-

2 | Video Quiz

- Watch the Wiley Managerial Accounting video.
- Take a brief quiz about the video.

Benefit: These videos show you real-life applications of the concepts we are learning through companies are you are familiar with (like Starbucks, Southwest Airlines, etc.).



3 | Class Meeting (online via Zoom)

- Go to Canvas Calendar or Course Summary in Syllabus to access link to for Zoom meeting.
- Listen to professor and follow along with Google Slides.
- Interact! Share your video! Chat with classmates! Ask questions!

Benefit: During class, I will reinforce the what you have been introduced to via the Interactive Tutorials, Applied Skills Videos, and Videos. Then, we will engage in breakout group discussions and activities to further enhance your learning. In class, you are taking your understanding to a deeper level and also practicing communication skills (which are SO critical to succeed in business!).



4 | Homework

- Complete your homework in WileyPLUS.
 - You have three attempts.
- Click "Send to Gradebook" frequently.
- Use the Resources to help you, like Solution Walkthrough videos.

Benefit: This assessment helps you apply and what you learned and identify any gaps in your knowledge.



5 Practice/Prepare for Exam

- Use the "ADAPTIVE PRACTICE" to practice multiple choice questions.
- . Use the Practice Exam for additional practice.

Benefit: Practicing helps you solidify your knowledge so that then you can demonstrate what you have learned!

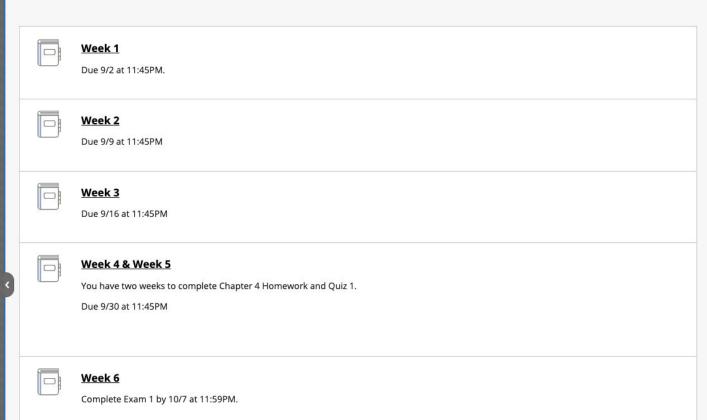




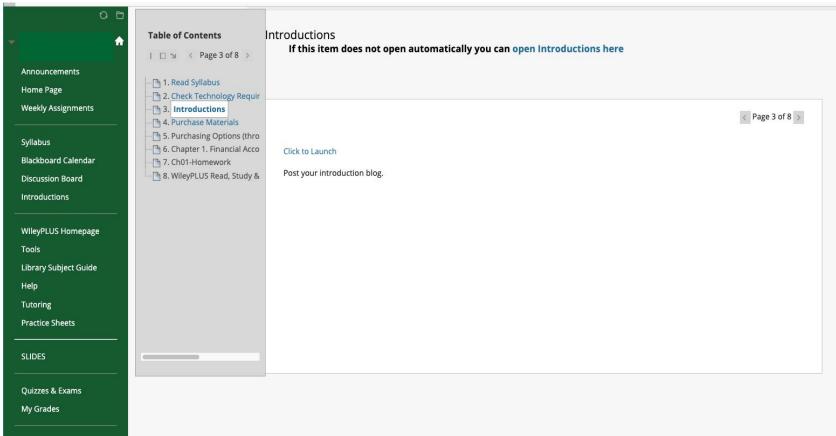
Announcements Home Page Weekly Assignments Syllabus Blackboard Calendar **Discussion Board** Introductions WIleyPLUS Homepage Tools Library Subject Guide Help Tutoring Practice Sheets SLIDES Quizzes & Exams

My Grades

Weekly Assignments









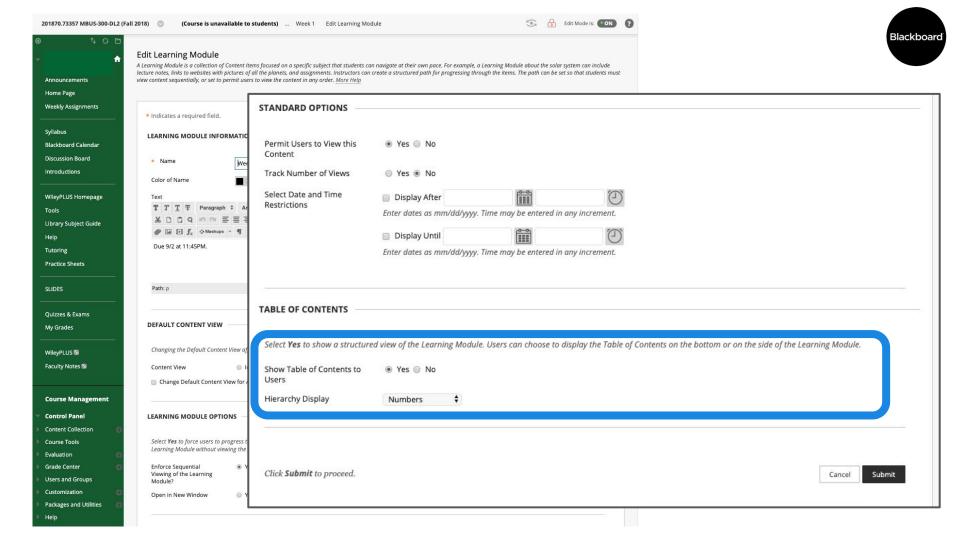
Evaluation
Grade Center
Users and Groups
Customization
Packages and Utilities

Edit Learning Module

A Learning Module is a collection of Content Items focused on a specific subject that students can navigate at their own pace. For example, a Learning Module about the solar system can include lecture notes, links to websites with pictures of all the planets, and assignments. Instructors can create a structured path for progressing through the Items. The path can be set so that students must view content sequentially, or set to permit users to view the content in any order. More Help



Indicates a required field.	
murates a required field.	
EARNING MODULE INFORMATION	
5	
Name Week 1	
Color of Name Black	
Text	
T T T T Paragraph \$ Arial \$ 3 (12pt) \$ \equiv \equi	□ 1 # *
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	
Due 9/2 at 11:45PM.	0
Path: p	Words:4
EFAULT CONTENT VIEW	
Changing the Default Content View affects new Content Areas only. To change the Default Content View for all ne	ew and existing Content Areas, select the check box.
Content View	
Change Default Content View for All New and Existing Sub-folders and Items	
EARNING MODULE OPTIONS	
Select Yes to force users to progress through the content in the order that is set by the number next to each Con Learning Module without viewing the previous page.	otent Item. Users are unable to advance to a page within the
Enforce Sequential Yes No Viewing of the Learning Module?	
Open in New Window	



Announcements

Home Page
Weekly Assignments

Syllabus

Blackboard Calendar Discussion Board

Introductions

WileyPLUS Homepage Tools

Library Subject Guide Help

Tutoring

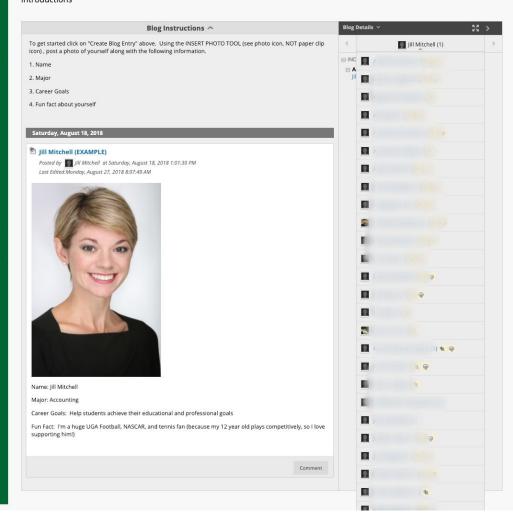
Practice Sheets

Practice S

SLIDES

Quizzes & Exams My Grades

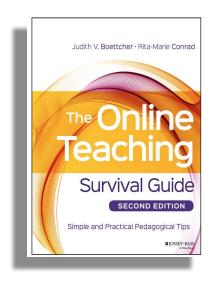
Introductions

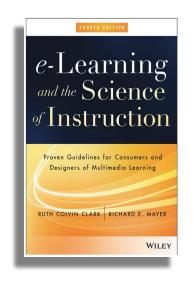


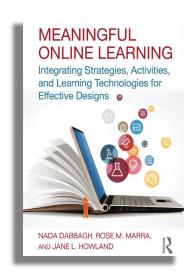


O	OUTCOMES	 Backward design Course roadmap for students
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A	ASSESSMENT	 Proctoring technology Assessment design to maintain integrity Alternate forms of assessment
N	NAVIGATION	 Cognitive load theory Program control vs. Learner control Modules

Recommended Reading







Boettcher, J.V., & Conrad, R. (2016). The Online Teaching Survival Guide: Simple and Practical Pedagogical Tips. San Francisco, CA: Jossey-Bass.

Clark, R. C., & Mayer, R. E. (2016). *E-Learning and the science of instruction: Proven guidelines for consumers and designers of multimedia learning.* Hoboken, NJ: Wiley.

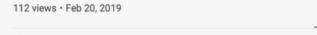
Dabbagh, N., Marra, R. M., & Howland, J. L. (2019). Meaningful online learning: Integrating strategies, activities, and learning technologies for effective designs. New York, NY: Routledge.

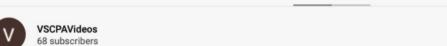
Accounting Videos for Discussions

- Discover Audit (Center for Audit Quality)
 https://www.discoveraudit.org/
- AICPA Virtual Field Trips
 https://www.startheregoplaces.com/students
 /games-tools/virtual-field-trips/
- My Path to CPA Videos
 https://www.vscpa.com/my-path-cpa-videos



Search





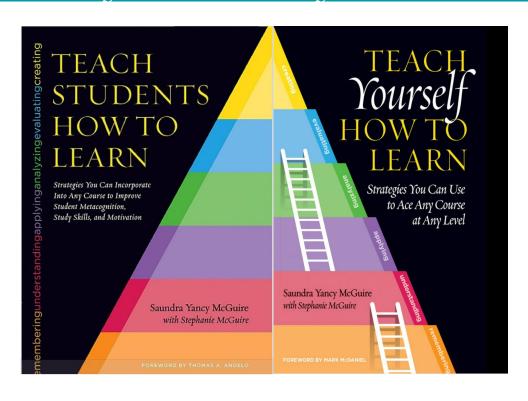
Wanna learn about different career paths in accounting? A Northern Virginia Community College student interviews a Senior Accountant at CDM Smith to learn about his path to CPA.

SUBSCRIBE

SHOW MORE

YouTube

Resources for you AND your students!



Questions?

O	OUTCOMES	 Backward design Course roadmap for students 	Technology Tools Shared OR Code Generator Professional Associations' Videos
С	COMMUNICATION	 LMS Tools: Announcements (active course links), Orientation Video, Discussion Boards, Calendar, Message Students Who, Assignment Feedback Social media 	AICPA Virtual Field Trips CAQ Discover Audit Videos MyPath to CPA Videos Synchronous Meetings Zoom Real Collaborators
Е	ENGAGEMENT	 Student: Content Student: Instructor Student: Peers 	Blackboard Collaborate Video Creation/Editing Canvas Studio Kaltura Engagement
Α	ASSESSMENT	 Proctoring technology Assessment design to maintain integrity Alternate forms of assessment 	Kahoot Padlet Voice Thread Screen Capture Explain Everything
N	NAVIGATION	 Cognitive load theory Program control vs. Learner control Modules 	Screen-Cast-o-Matic Proctoring Tools ProctorU Respondus Monitor

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Associate Professor of Accounting Northern Virginia Community College tmarsh@nvcc.edu



@proftmarsh



in <u>proftmarshcpa</u>

References

AICPA. Take a Virtual Field Trip. (2018) Retrieved from https://www.startheregoplaces.com/students/games-tools/virtual-field-trips/previous-destinations/chris-cobb/

Clark, R. C., & Mayer, R. E. (2016). E-Learning and the science of instruction: Proven guidelines for consumers and designers of multimedia learning. Hoboken, NJ: Wiley.

Dabbagh, N., Marra, R. M., & Howland, J. L. (2019). Meaningful online learning: Integrating strategies, activities, and learning technologies for effective designs. New York, NY: Routledge.

Design and Teach a Course. Retrieved from https://www.cmu.edu/teaching//designteach/design/learningobjectives.html, https://www.cmu.edu/teaching/resources/Teaching/CourseDesign/Objectives/CourseLearningObjectivesValue.pdf

EEB 96A. (2017). How to study [Video file]. Retrieved from https://vimeo.com/169193980

Flavell, J. (1979). Metacognition and cognitive monitoring: A new area of cognitive-developmental inquiry. American Psychologist, 34, 906-911.

McGuire, S.Y. (2018). Teach Yourself How to Learn: Strategies You Can Use to Ace Any Course at Any Level. Sterling, VA: Stylus.

McGuire, S.Y. (2015). Teach Students How to Learn: Strategies You Can Incorporate Into Any Course to Improve Student Metacognition, Study Skills, and Motivation. Sterling, VA: Stylus.

McTighe, J. Understanding by design. Retrieved from http://www.ascd.org/research-a-topic/understanding-by-design-resources.aspx

Wiggins, G. P., & McTighe, J. (2008). Understanding by design. Alexandria, VA: Association for Supervision and Curriculum Development.

My home set up

Just for Susan Crosson

- one large monitor
- iPad with Apple pencil for demonstrating problems in Zoom & recording walk through videos
- Lighting from behind camera
- Quality microphone
- Airpods



Q&A Follow-up

5.7.2020: In the Q&A during the webinar, there were some questions about hybrid courses. I am including some additional resources on the next slides for those are interested.



BEST OF BOTH WORLDS

Design a hybrid course to spark excitement and foster student success in accounting



courses

Jill E. Mitchell¹, DeAnna Martin²

¹ Northern Virginia Community College, Annandale, Virginia ² Santiago Canyon College, California

Correspondence: jmitchell@nvcc.edu, martin_deanna@scollege.edu







"Students in the hybrid sections did as well as students in the traditional sections in terms of pass rates and assessment scores—a finding that held across disciplines and subgroups of students. We found no evidence supporting the worry that disadvantaged or academically underprepared students were harmed by taking hybrid-format courses" (Chingos, Griffiths, Mulhern, & Spies, 2017, 214-215).

New to Hybrid Course Design?

What is a hybrid course?

- Combines face-to-face & online instruction in one course
- Traditional hybrid meets 50% of time onsite and 50% online (synchronous and/or asynchronous)
- · Flexible, except for the in-class meeting

Why blend?

- Today's students have many responsibilities including family and work commitments which can lead to distractions in the classroom
- Colleges often look for opportunities to offer flexible course schedules to help students manage all of their commitments
- Hybrid courses provide some of this flexibility needed for students

How to blend?

- Design onsite or face-to-face (F2F) activities and online activities
- Consider the lead time necessary to design the course
- · Develop your own online teaching skills
- · Rethink learning activities to consider which activities are best completed together onsite or online (in group or individually)



Tech Tools and Tips

Sharing with Screen Capture

Screencast-o-matic

OuickTime Player Screen Recording

Explain Everything

Connecting with Students

iClicker Twitter / Linkedin Poll Everywhere

Uberconference Socrative Voicethread TopHat

Padlet Turning technologies Kahoot

Staying Organized

Google Docs

Slides for active presentations Sheets for course calendar

Ready to Teach Hybrids?

The Three Es of Hybrids

Expectations (Outcomes)

Time Commitment: Communicate the time commitment expected of the students.

Orientation: Welcome the students with a personalized orientation video.

Learning Outcomes: Using backward design, let the outcomes drive the course design. Communicate the learning outcomes with the students so they have a roadmap of the course. Using learning outcomes also enhances student metacognition.

Former Students: Post statements or videos from former students sharing advice.

Engagement (Meaningful Learning)

Tie each activity to a learning outcome

Instructor

Lecture

Office Hours



ONLINE

Discussion

E-mail/Text

ONSITE Kahoot

Clickers

Stations

Reflections











Think-Pair-Share Group Quiz VoiceThread Peer Instruction Study Groups







AICPA Virtual Field Trips CAQ Discover Audit Videos Pre-Class Executive Summary Writing Financial Statement Project Micro-lecture Content

Execution (Design)

PROGRAM CONTROL	LEARNER CONTROL
Instructor led Linear sequence	Learners select topics Learners control pace Learners bypass elements

When to use?

- Learners are novices and a high level of proficiency is required
- Content is linear and skipping topics risks degrading learning
- Topics are not interdependent
- Course is advanced and therefore learners have prior knowledge

COMMUNICATION:

Detailed course calendar Weekly announcements

ecommended Resources abbagh, N., Marra, R. M., & Howland, J. L. (2019). Meaningful online learning: Integrating

strategies, activities, and learning technologies for effective designs, New York, NY:

ein, J., & Graham, C. R. (2014). Essentials for blended learning: A standards-based quide. New York, NY: Routledge.

ngos, M. M., Griffiths, R. J., Mulhern, C., & Spies, R. R. (2017). Interactive online learning on

campus: Comparing students' outcomes in hybrid and traditional courses in the University System of Maryland, Journal Of Higher Education, 88(2), 210-233. doi:10.1080/00221546.2016.1244409

lark, R. C., & Mayer, R. E. (2016). E-Learning and the science of instruction: Proven guidelines for consumers and designers of multimedia learning, Hoboken, NI: Wiley, Stein, J., & Graham, C. R. (2014). <u>Essentials for blended learning: A standards-based guide</u>. New York, NY: Routledge.

