

Spring 2018

# Peer assisted study sessions for financial accounting

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Peer Assisted Study Sessions for Financial Accounting

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An Honors College Project Presented to  
the Faculty of the Undergraduate  
College of Business  
James Madison University

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by Caitlin Larrick and  
Laura Salt

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Accepted by the faculty of the College of Business, James Madison University, in partial fulfillment of the requirements for the Honors College.

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HONORS COLLEGE APPROVAL:

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## **Overview**

James Madison University (JMU) offers Peer Assisted Study Sessions (PASS) for a variety of courses throughout different disciplines. This past Spring semester PASS was offered for 15 courses across campus, including three courses in the College of Business (COB). PASS is administratively handled and financial supported by JMU. They are review sessions led by students who have successfully completed the same course with the same professor in order to help improve students' performance in that same course. Since we conducted similar review sessions, we adopted the same name, PASS, because many students were familiar with this term from other COB courses.

Our collaborative, creative Honors Capstone Project allowed us to engage in a creative endeavor in which we worked closely with Professor Shifflett and the rest of the Accounting department. The purpose of our project was to aid struggling College of Business students in the Financial Accounting (COB 241) class required for admission into COB 300.

Our primary objective for this semester was to help the students in COB 241 succeed by using our knowledge from our JMU accounting courses. Through achieving this objective we also benefited greatly from leading PASS. We were able to apply what we learned in accounting and become more confident in our knowledge of the subject. By continuously reviewing the basics of accounting through leading PASS we were able to keep our accounting knowledge fresh as we prepare to sit for the CPA exam. Finally, we were also able to develop lasting relationships with professors in the COB accounting program. These objectives were our guide for conducting PASS this semester.

## **What We Accomplished and Learned**

### *At the Beginning of the Semester*

Before we began conducting our weekly PASS, we had to figure out a way to best communicate with over 300 students in Financial Accounting (COB 241) throughout the semester. We discussed the best way to do this with our faculty advisor, Professor Shifflett and together we concluded that creating a canvas page specifically for PASS would be the best form of communication with the students (See Appendix A). Professor Shifflett created the canvas page and added all of the students enrolled in COB 241 and gave us full permission as teachers. The canvas site also allowed us to easily communicate with all COB 241 students. We then looked at all the syllabi for the five COB 241 teachers to begin creating a calendar for the chapters we would cover each week in the PASS sessions. We posted all the teachers' exams and quizzes on the canvas page so the students would have a second reminder. We then made a calendar for ourselves to determine what chapter we would cover each week. This was difficult because many of the teachers taught the course at different paces. In the end, we were able to

make a schedule that kept us on track with most of the professors' schedules. Once we had the canvas page and calendar set up, we were able to begin preparing for each weekly PASS session.

### *Each PASS*

We held our weekly PASS sessions every Tuesday from 7:30-8:30pm in an attempt to accommodate the most students' schedules. We began preparation for each PASS session at least one week in advance. We looked at the calendar we created before the semester began to determine what chapter we would be covering in the upcoming week. Once we determined what material we would be covering during our PASS session, we began creating the worksheet. Professor Shifflett provided us with the teacher's study guide supplement to the COB 241 textbook to reference for questions and problems. We used this as a tool to create the weekly worksheets (See Appendix B).

The weekly worksheets were a comprehensive review of the material covered in the chapters. They included true/false questions, short exercises, and long problems. The type of questions varied each week and were dependent on what we thought best taught the topic at hand. The length of each worksheet changed from week to week based on the type of questions we were asking. Professor Shifflett helped us by reviewing our worksheets to ensure we were covering the proper material. Since each professor is moving at a different pace, we aimed to tailor the PASS sessions and worksheets to the comprehensive, department-wide final exam. We created a module for each chapter and posted the worksheets to the module ahead of time for students to look at before the PASS session if they chose to do so. Once this was done, we would send out a reminder about the PASS session through an email in canvas and announce what chapter we would be covering.

Before each PASS session, we created a quiz on canvas for the material that we would be covering that week and posted the quiz to the corresponding module. These quizzes came from questions in the teacher's study guide that we used to help us create the weekly worksheets as well as from the COB 241 textbook. The quizzes consisted of 10 multiple choice questions with a time limit of 15-20 minutes depending on the type of questions included. We gave them unlimited attempts and they were able to see the correct answer after they took the quiz. We provided explanations for each question so they could see why the correct answer was correct. These quizzes were supposed to simulate a test-taking environment since we gave them a time limit.

We began each PASS session with the true/false portion of the worksheet. We used the website Kahoot! to facilitate this portion of the PASS session. Kahoot! enables students to use their phones to submit answers to questions. We thought this was a way to get the students engaged at the beginning of the PASS session. We would display the results on the board, as a percentage of the students who chose each answer choice, and then discuss the correct answer. This also forced the students to choose an answer, which allowed them to know why they got an

answer correct or incorrect. Seeing what other students answered to the question allowed them to see that they were not the only ones struggling with a particular concept. It also allowed us to see areas that the students were not understanding and tailor our teaching during the PASS session to focus more on those concepts. As seen in Exhibit 1 below, Kahoot! would show us the overall performance at the end of each quiz. This allowed us as teachers to see how well the students grasped the concepts for the chapter being taught.

Chapter 2	
Played on	24 Jan 2018
Hosted by	salfir
Played with	28 players
Played	5 of 5 questions
Overall Performance	
Total correct answers (%)	70.08%
Total incorrect answers (%)	29.92%
Average score (points)	3094.18 points

**Exhibit 1: Kahoot! Quiz Results**

After we completed the true/false portion, we moved onto the short exercises. These short exercises consisted of giving the students isolated transactions and having them determine the effects on the accounting equation and financial statements. The format of the answers to these exercises can be seen in Exhibit 2 below.

Assets	Liabilities	Equity	Revenues	Expenses	Net Income	Cash

**Exhibit 2: Short Exercise Template**

The accounting equation ( $\text{Assets} = \text{Liabilities} + \text{Equity}$ ) is the fundamental basis of financial accounting. Being able to translate from the accounting equation to the income statement ( $\text{Revenues} - \text{Expenses} = \text{Net Income}$ ) and the effect on the cash flows is another fundamental basis of financial accounting. Ensuring that the students understand and are comfortable determining the effect of a transaction on the accounting equation and the financial statements is essential to their success in COB 241.

The next, and final, part of our weekly worksheets included one or two longer problems related to that week's topic. These problems were, once again, derived from the teacher's study guide that corresponded to the COB 241 textbook. The problems varied from week to week and

can best be understood by looking at the sample weekly worksheet in Appendix B. These problems were comprehensive and aimed to tie together all the topics covered in the true/false questions and the short exercises in the beginning of the worksheet.

Several times throughout the PASS sessions, we would ask the students if they have any questions to make sure we do not lose anyone when going over the problems. Answering their questions proved to be very challenging in some situations. Having completed multiple higher accounting courses, we sometimes found that it was tough to slow down and explain the basics when we understand these topics at a much higher level. The students also asked questions that we never considered before, and we had to take a step back and look at it from their point of view. After the first few PASS sessions, we began taking the time before each PASS session to brainstorm possible questions the students might ask and the answers we would give them. This helped us to not be as caught off guard when they asked questions we did not immediately know the answer to during the PASS sessions. This also helped us to strengthen our knowledge in the basics of accounting and to be able to explain them more effectively. Learning how to answer broader questions about the basics of accounting has proven to help us in our current accounting classes because we now understand the root of a lot of our upper level accounting topics at a much deeper level.

The preparation and execution of each PASS session was very time consuming. We had to ensure we had appropriate worksheets ready to bring to the PASS sessions. We had to create a chapter quiz and post it to the canvas page. After each PASS session, we had to promptly post the answer key to the canvas page. Most weeks we would stay after to answer any additional questions that the students had. We did not realize how much time we would need to prepare our worksheets, quizzes, and making sure we knew how to teach the material during the actual PASS session. We also underestimated how much energy it takes to stand up in front of a classroom of students and teach for an hour. This gave us a much greater appreciation for all our teachers and the time they put into making the material for our classes and teaching.

### *At the End of the Semester*

Towards the end of the semester, we formulated a survey to evaluate the PASS sessions as well as our performance as teachers. Professor Shifflett helped us put this survey together and we sent it through canvas to all the students asking them to respond. The results from this survey are discussed below in the "Evaluation" section.

On April 10, 2018, we recorded our PASS session to put together a video displaying how we conducted a typical PASS session. This video was submitted, along with this reflection paper, in Scholarly Commons.

Our last PASS session was a comprehensive final exam review. This was very beneficial for the students because their final exam consists of multiple choice questions from all the topics they have learned throughout the whole semester. Many students needed a refresher on the topics taught to them at the beginning of the semester, so this comprehensive review proved to be very helpful. Finally, we have compiled all our worksheets, answer keys, and quizzes from this past semester for future PASS leaders. This will hopefully help their PASS sessions run more efficiently and save them time in the future.

## **How We Would Improve PASS**

Considering this was the first semester that PASS sessions were provided for COB 241, there were a lot of unknowns. We were able to overcome many obstacles with the help of Professor Shifflett. When reflecting on this semester, we pinpointed two main ways we would improve these PASS sessions in the future.

The first way we would improve PASS sessions for COB 241 would be to have a PASS instructor for each professor. Since there were five professors teaching COB 241 this spring semester, and even more in the fall semesters, we believe it would be beneficial to the students to have a PASS instructor specifically for their individual professors. With so many professors, there is no way for them to stay on the same schedule, so this would allow the individual PASS leaders to alter their sessions to the schedule of their specific professor. A suggestion given by one of the students (as seen in the "Evaluation" section below) was to make the problems we went over in the PASS sessions more difficult because the problems they did in class were more difficult than the ones covered in the PASS session. This could easily be solved by having one PASS instructor per professor. That way the PASS instructor could get specific problems and exercises from their professor and the students would then find the PASS sessions more useful.

Our second idea to improve COB 241 PASS sessions in the future would be to make it a more well-known program. Since this was the first semester that PASS sessions were offered for COB 241, the students did not know how beneficial it could be to their success in the course. This was in part because professors did not promote these PASS sessions because they were not fully aware of what was going on. We think that if we had met with all the professors at the beginning of the semester, they would have known more about the PASS sessions and referred more students to come to the PASS sessions.

Overall, we believe that for the first semester of offering COB 241 PASS sessions, we accomplished a lot and helped many students. We believe that having more PASS leaders and expanding awareness for the PASS sessions would draw in more students and create a more successful program.

## **Evaluation Results**

During the last month of the semester, we worked with Professor Shifflett to create a survey for the COB 241 students to take to get feedback on our PASS program. We formed these questions to first gain an understanding of the overall audience in our PASS sessions then to analyze how well our PASS sessions helped those students. We received our results (see Appendix C) and analyzed the feedback to see how we performed and how we can improve.

By analyzing the results of our survey, we were able to see that the majority of students attending PASS were sophomores and about half of the students were attempting COB 241 for a second time. Roughly 61 percent said PASS was somewhat helpful and 30 percent said PASS was significantly helpful. This was good to know that PASS were helping over 90 percent of the students who attended them. Around 91 percent of the students who answered the survey said that they utilized the canvas page and thought the quizzes were beneficial to their studies. We also got many tips on how to improve ourselves and future COB 241 PASS. Overall, most students believed they would receive a B or C in COB 241. This survey allowed us to see how well we taught PASS as well as determine areas in which we could improve ourselves and COB 241 PASS as a whole.

## **How We Improved Ourselves**

Being a PASS leader brought us both out of our comfort zone by having to be in front of a classroom and teach a group of students. It was very intimidating having so many students looking to you to know the answers and better explain the topics to them. We gained a lot of practice talking in front of people and we both believe our public speaking skills have improved greatly. Now we both feel comfortable leading a room of students through problems they are unfamiliar with. This will be extremely helpful when we begin our careers in public accounting. Much of the work done in public accounting is learned on the job and eventually we will be in a position to teach newcomers, once again, and our skills learned through leading these PASS sessions will prove to be very advantageous.

Our confidence in understanding and conveying various accounting topics heightened over the course of the semester. When students would ask us questions during the PASS sessions, we had to learn to be confident in our answers back to them. We had to become more comfortable relying fully on our knowledge from our education in the Accounting Program at James Madison University. This will benefit us when we enter the workforce and we must communicate with those in a higher position than us on our audit teams. We will need to have the same confidence we had when leading PASS sessions when we are completing and backing up our work on our audit engagements.



Since the topics covered in COB 241 are the basics of accounting, they now come naturally to us and make logical sense. However, we realized that is not the case for everyone taking this course. Many of the students enrolled in COB 241 are not accounting majors and this material does not come easily to them. We gained a lot of patience throughout the semester when answering questions. We realized that sometimes we needed to first process what they were not understanding and why before we could even begin to answer their question. It took a great deal of patience to take the time to fully understand their questions and formulate an answer they would understand.

## **Tips for Future PASS Leaders**

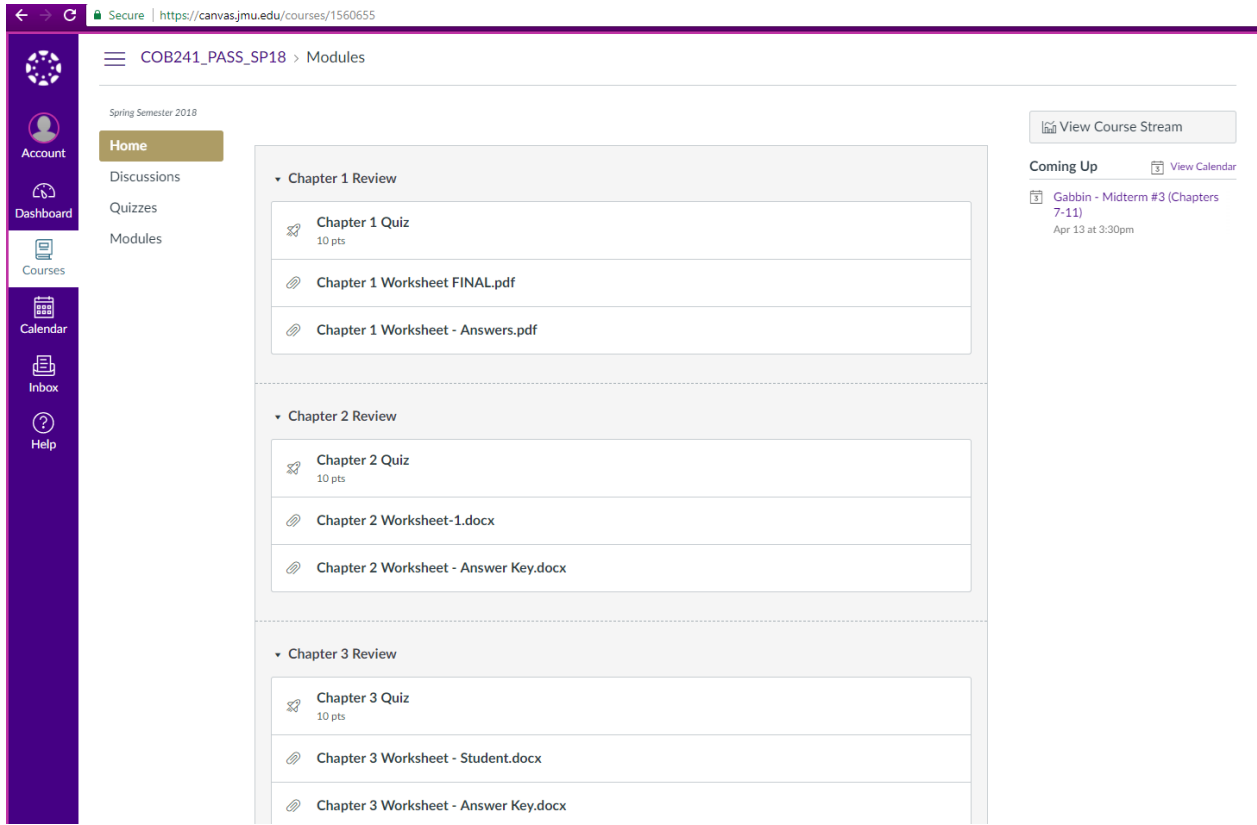
One thing that proved to be extremely beneficial was to read over the material in the textbook and on our worksheets before each PASS session. This allowed us to efficiently move through the worksheet during the PASS sessions and effectively answer questions. As mentioned before, anticipating possible questions students might ask related to the topics being covered will allow you to formulate better responses. It is important to not get frustrated while teaching if you cannot figure out the answer to a student's question. It is acceptable to explain to them that you need a minute to think about the question and you will get back to them once you have figured out the answer. In the meantime, you can think of a good way to formulate an answer and consult the textbook and other resources to back up your response to their question. Being fully prepared before PASS sessions is not only essential to running a productive PASS session but will also eliminate any additional confusion that students may have after the PASS session.

Time management was a very critical element to our success as PASS leaders. It was important to prepare worksheets ahead of time. This will allow you more time to prepare for the upcoming PASS sessions. It will also provide a buffer for you in case assignments come up in your other classes. Tests and assignments can sneak up on you and you want to make sure you are always prepared for the students. Having PASS materials prepared weeks in advance allows you to not cram for the PASS session, sacrificing the quality of the PASS session.

## **Conclusion**

Conducting PASS proved to be a worthwhile endeavor as we benefitted not only ourselves but also a large number of COB students. We believe we obtained our objectives that we set at the beginning of the semester including helping COB 241 students, becoming more confident in our accounting knowledge, and developing relationships with professors in the COB accounting program. PASS was an extremely beneficial program for students in COB 241 and we hope the program will continue in the future.

# Appendix A – Canvas Site



**Canvas Home Page:** This is the Home page of our Canvas page. Our Home page is set to show the Modules for each chapter.

Secure | https://canvasjmu.edu/courses/1560655/quizzes/2582061/take

COB241\_PASS\_SP18 > Quizzes > Chapter 1 Quiz

Spring Semester 2018

Home

Discussions

**Quizzes**

Modules

## Chapter 1 Quiz

Started: Apr 11 at 12:34pm

### Quiz Instructions

**Question 1** 1 pts

The Radford Company provided services to a customer for \$1,000 cash. Which of the following statements related to this transaction are false?

- Cash flow from operating activities would increase.
- Retained earnings would not be affected.
- Total liabilities would not be affected.
- Total assets would increase.

**Question 2** 1 pts

The following amounts were drawn from the records of Holtz Co.: Total Assets = \$1,100; Common stock = \$300; Retained Earnings = \$200. Based on this information, total liabilities must be equal to:

- \$800
- \$300
- \$600
- \$900

**Questions**

- Question 1
- Question 2
- Question 3
- Question 4
- Question 5
- Question 6
- Question 7
- Question 8

Time Running: Hide  
14 Minutes, 53 Seconds

**Canvas Quiz:** This is the quiz for chapter 1. The quiz is comprised of 10 multiple choice questions and the students have a time limit of 15 minutes to complete the quiz.

## Appendix B – Sample Weekly Worksheets (with answers)

### Chapter 8 Worksheet

#### True/False

The On-Time Co., which hauls freight for other businesses, owns several large trucks. The following events occurred at On-Time during 2014. Indicate if the statement related to each of the events if true or false.

T  On-Time paid \$10,000 to replace the engine in truck #2179, which was purchased in 2012. The new engine will extend the life of the truck by 3 years, and the truck will get significantly better gas mileage due to the new engine. On-Time should record the \$10,000 as a decrease in cash and an increase in the Equipment account.

Because the useful life of the asset was extended and the quality of the asset (improved gas mileage) was improved, the equipment account should be increased.

F  On-Time paid \$10,000 to replace the engine in truck #2235, which was purchased in 2012. The new engine will extend the life of the truck by 4 years, but the overall quality of the truck will not be better than it was before the original engine failed. On-Time should record the \$10,000 as a decrease in cash and an increase in the repair and maintenance expense account.

Because the useful life of the asset was extended, but the quality of the asset was NOT improved, the cost incurred should be capitalized by reducing the balance in the accumulated depreciation, rather than increasing the equipment account.

T  A third truck, #2461, was taken to the shop to have several things done at the same time. The rear bumper, which was severely dented, was replaced. The windshield, which had a crack was replaced. The tires were changed, and the truck received its scheduled 25,000 service. The \$4,000 cost of these items was recorded as a decrease in cash and an increase in the repair and maintenance expense account.

All of these items would be considered normal repair and maintenance.

F  Truck #2088 was purchased in 2008 for \$80,000. At the time, On-Time expected the truck would have a useful life of 8 years and a salvage value of \$12,000. This year, 2014, the expected life of the truck was extended by 3 years, but the estimated salvage value was not changed. As a result of this change the depreciation expense in 2015 will be higher than if the original expected life had not been changed.

If an asset's estimated useful life is extended, then its cost is being spread over a longer period, so each year will be charged with less expense, not more.

T  Truck #2353 was purchased in 2012 for \$60,000. At the time, On-Time expected the truck would have a useful life of 8 years and a salvage value of \$10,000. This year, 2014, the estimated salvage value was reduced to \$5,000, but the expected useful life was not changed. As a result of this change, the depreciation expense in 2015 will be higher than if the original expected life had not been changed.

If the salvage value of an asset is lower, the amount that is being depreciated in total (cost – salvage value) and for each year [(cost – salvage value) / estimated life] will be higher.

On July 1, 2013, the Boston Co. purchased a stamping machine for \$100,000 cash. Boston uses the units of production method of depreciation. The machine had an expected useful life of 10,000 machine hours of operation, and an estimated salvage value of \$20,000. The machine was used as follows:

<u>Year</u>	<u>Hours Used</u>
2013	600
2014	3,000
2015	4,000
2016	2,000
2017	<u>1,000</u>
Total	10,600

The machine was sold on September 15, 2017 for \$17,000. Indicate if each of the following statements related to this machine is true or false.

T  During 2013 Boston should report a negative cash flow from investing activities of \$100,000.

F  Depreciation expense for 2013 would be \$6,000.

Depreciation expense for 2013 should be \$4,800

$$[(\$100,000 - \$20,000) / 10,000 \text{ hrs}] \times 600 \text{ hrs} = \$4,800$$

T  Depreciation expense for 2014 would be \$24,000.

$$[(\$100,000 - \$20,000) / 10,000 \text{ hrs}] \times 3,000 \text{ hrs} = \$24,000$$

F  Assuming the correct depreciation expense was \$9 per unit for this machine, depreciation expense for 2017 would be \$9,000.

If the depreciation expense per machine hour was \$9, then depreciation expense for 2017 would be \$3,600. Even though the machine was used for 1,000 hours in 2017, depreciation can be recorded for only 400 of these hours. This is because the machine originally had an estimated life of 10,000 hours and 9,600 hours were used from 2013 to 2016. Unless the company officially changes the estimated life or salvage value of the machine, depreciation computations must be consistent with the original estimates, and the machine may not be depreciated below its originally estimated salvage value of \$20,000. If depreciation for 2017 is based on 1,000 hours rather than 400 hours, the book value will be reduced below \$20,000.

T  When the machine was sold in 2017, Boston would report a loss on disposal of assets of \$3,000.

The book value of the machine on the date of sale would be equal to its estimated salvage value. Thus, an asset with a book value of \$20,000 that is sold for \$17,000 causes a loss of \$3,000.

On April 1, 2013 Pizza Co. Pizza purchased a new delivery truck for cash. The truck cost \$30,000. It has an expected useful life of 5 years, and an estimated salvage value of \$7,500. Assuming Pizza uses the straight-line method of depreciation, indicate if each of the following statements is true or false.

T  Pizza's depreciation expense for 2013 should be \$3,375

$(\$30,000 - \$7,500) / 5\text{yrs} = \$4,500$  per year. However, for 2013, only 9 months of depreciation expense should be recorded.  $\$4,500 \times 9/12 = \$3,375$

T  Pizza's depreciation expense for 2014 should be \$4,500

F  The balance in accumulated depreciation on Pizza's 2014 balance sheet should be \$4,500

Accumulated depreciation as of December 31, 2014 is equal to the depreciation expense for 2013 and 2014.  $(\$3,375 + \$4,500 = \$7,875)$

## Exercises

1. In 2013 Trusty Co. purchased a packaging machine for \$20,000 cash.

Assets	Liabilities	Equity	Revenues	Expenses	Net Income	Cash
N	N	N	N	N	N	D

Cash decreased and another asset, equipment, increased by the same amount. Thus, total assets were not affected.

2. In 2013 Trusty Co. paid \$1,000 to have the packaging machine delivered to its factory.

Assets	Liabilities	Equity	Revenues	Expenses	Net Income	Cash
N	N	N	N	N	N	D

Because the cost of having the machine delivered to its factory was a necessary cost of getting the asset ready for its intended use, this cost was recorded as a part of the cost of the equipment. Therefore, as in event 1, cash decreased and another asset, equipment, increased by the same amount.

3. At the end of 2013 Trusty Co. recorded the first year's depreciation on the packaging machine.

Assets	Liabilities	Equity	Revenues	Expenses	Net Income	Cash
D	N	D	N	I	D	N

Because equipment does not last forever, a portion of it is removed (through the accumulated depreciation account) from assets each accounting period. Because the equipment was used to produce revenues, the portion that expired this period was recognized as an expense. The increase in expenses caused net income to decrease, which caused retained earnings, a part of equity, to decrease.

4. During 2014 Trusty Co. paid \$500 for the annual maintenance cost on the packaging machine.

Assets	Liabilities	Equity	Revenues	Expenses	Net Income	Cash
D	N	D	N	I	D	D

Routine maintenance costs do not improve the quality of the asset over its original quality, nor do they extend the life longer than its originally estimated life. Therefore, these costs are expensed as incurred. The increase in expenses reduced net income and retained earnings. Cash also decreased.

5. During 2015 Trusty Co. paid \$2,000 to have the packaging machine fitted with a computer controller. Previously the machine had been manually controlled. This new device considered to have improved the quality of the packaging machine.

Assets	Liabilities	Equity	Revenues	Expenses	Net Income	Cash
N	N	N	N	N	N	D

Because this expenditure improved the quality of the machine, the \$2,000 was added to the cost of the asset. Specifically, it was recorded as an increase in the equipment account, and another asset, cash, decreased by the same amount. Thus, total assets were no affected.

6. During 2016 Trusty co. spent \$4,000 to replace several major parts on the packaging machine. Although these repaired parts did not increase the productive capacity of the machine, they did extend tis useful life by three years.

Assets	Liabilities	Equity	Revenues	Expenses	Net Income	Cash
N	N	N	N	N	N	D

This event was not recorded as an expense because the useful life of the machine was extended. Recall that an asset represents probable future economic benefits. These major repairs clearly met the test for an asset. However, the way this amount got on the books as an asset is a bit complicated. The \$4,000 was recorded as a reduction of accumulated depreciation, a contra

asset. Because contra assets reduce total assets, a reduction in contra assets will increase total assets. At the same time, another asset, cash, is being reduced, so the net result was to not change total assets, or anything else except for cash flows.

7. At the end of 2016 Trusty Co. sold the packaging machine for \$7,000. At the time of the sale, the cost of the machine in Trusty' books was \$24,000 and accumulated depreciation totaled \$15,000. Thus, the book value of the machine was \$9,000. Record the net effects of this sale.

Assets	Liabilities	Equity	Revenues	Expenses	Net Income	Cash
<b>D</b>	<b>N</b>	<b>D</b>	<b>N</b>	<b>I</b>	<b>D</b>	<b>I</b>

The book value of equipment decreased by \$9,000, but another asset, cash, increased by \$7,000, causing total assets to decrease by \$2,000. Because the equipment was sold for less than its book value, a loss was incurred on the sale. Although a loss is not exactly the same as an expense, it has the same effects on net income, retained earnings, and total equity. Therefore, the solution here shows the loss as an increase in expenses.

8. Horatio Co. purchased land using a note payable.

Assets	Liabilities	Equity	Revenues	Expenses	Net Income	Cash
<b>I</b>	<b>I</b>	<b>N</b>	<b>N</b>	<b>N</b>	<b>N</b>	<b>N</b>

Land, an asset, increased and notes payable, a liability, also increased.

9. Horatio Co. sold land for \$8,000. The land had originally been purchased for \$6,000. Show the "net" effects.

Assets	Liabilities	Equity	Revenues	Expenses	Net Income	Cash
<b>I</b>	<b>N</b>	<b>I</b>	<b>I</b>	<b>N</b>	<b>I</b>	<b>I</b>

One asset, land, decreased by \$6,000, but another, cash, increased by \$8,000 causing total assets to increase by \$2,000. Because the land was sold for more than it originally cost the company, a gain was made on the sale. Although a gain is not exactly the same as a revenue account, it has the same effect on net income, retained earnings, and total equity. Therefore, the solution here shows the gain as an increase in revenues.

## Problems

On January 1, 2013, Chesapeake Co. purchased an automobile for use in its business. The following facts relate to this asset:

<b>Cost:</b>	\$14,000	
<b>Estimated salvage value:</b>	\$2,000	



<b>Estimated life:</b>	In years:	4
	In miles:	100,000
<b>Miles driven:</b>	2013:	26,000
	2014:	29,000
	2015:	23,000
	2016:	20,000

Required:

1. Compute the depreciation expense for 2013, 2014, 2015, and 2016 using:
  - a. Straight-line method
  - b. Double-declining balance method
  - c. Units of production method
2. Using the forms provided, compute the book value of the automobile at the end of 2013, 2014, 2015, and 2016 using:
  - a. Straight-line method
  - b. Double-declining balance method
  - c. Units of production method
3. Using information developed in completing requirements 1 and 2, answer the following questions:
  - a. Which method of depreciation produced highest net income in 2013?
  - b. Which method of depreciation produced highest net income in 2016?
  - c. Which method of depreciation resulted in the highest total assets for Chesapeake Co. at December 31, 2013?
  - d. Which method of depreciation results in the highest total assets for Chesapeake Co. at December 31, 2016?

**Computations needed for requirements 1 and 2:**

**Straight-line:**

Depreciation expense =  $[\$14,000 - \$2,000] / 4 \text{ years} = \$3,000 \text{ each year}$

	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2015</b>
Accumulated Depreciation	\$3,000	\$6,000	\$9,000	\$12,000

**Double-declining balance:**

Recall that:

Book value = cost – accumulated depreciation

DDB rate =  $2 \times [1 / \text{life}] \rightarrow 2 \times [1 / 4\text{yrs}] = .50$

<u>Year</u>	<u>Book Value</u>	<u>Rate</u>	<u>Depreciation Expense</u>	<u>Accumulated Depreciation</u>
2013	\$14,000	.50	\$7,000	\$7,000
2014	\$7,000	.50	\$3,500	\$10,500
2015	\$3,500	N/A*	\$1,500*	\$12,000
2016	\$2,000	N/A*	0*	\$12,000

\* The book value cannot go below the estimated salvage value. Therefore, only \$1,500 of depreciation expense can be taken in 2015 [2015's book value of \$3,500, minus the salvage value of \$2,000 = \$1,500]. This also means that NO depreciation is recorded in 2016, even though the automobile had a life of 4 years. This is one of the peculiarities of the double-declining balance method.

### Units of production:

First, compute the depreciation expense per mile:

$[\$14,000 - \$2,000] / 100,000\text{miles} = \$0.12$  per mile driven

<u>Years</u>	<u>Miles Driven</u>	<u>Depreciation per Mile</u>	<u>Depreciation Expense</u>	<u>Accumulated Depreciation</u>
2013	26,000	\$0.12	\$3,120	\$3,120
2014	29,000	\$0.12	\$3,480	\$6,600
2015	23,000	\$0.12	\$2,760	\$9,360
2016	20,000	\$0.12	\$2,400	\$11,760*

\* Note that with the units of production method the accumulated depreciation does not total \$12,000 at the end of 2016. This is because the "4 year life" is irrelevant to the units of production approach. The only relevant useful life for this method is the total units expected to be produced, 100,000 miles in the case of Chesapeake's automobile. Also be aware that the car can only be depreciated a maximum of 100,000 miles. If it is driven more than 100,000 miles, depreciation stops, at which point accumulated depreciation would total \$12,000.

### Chart for requirement 1

<u>Year</u>	<u>Straight-Line</u>	<u>Double-Declining Balance</u>	<u>Units of Production</u>
2013	3,000	7,000	3,120
2014	3,000	3,500	3,480
2015	3,000	1,500	2,760
2016	3,000	0	2,400

Form for requirement 2

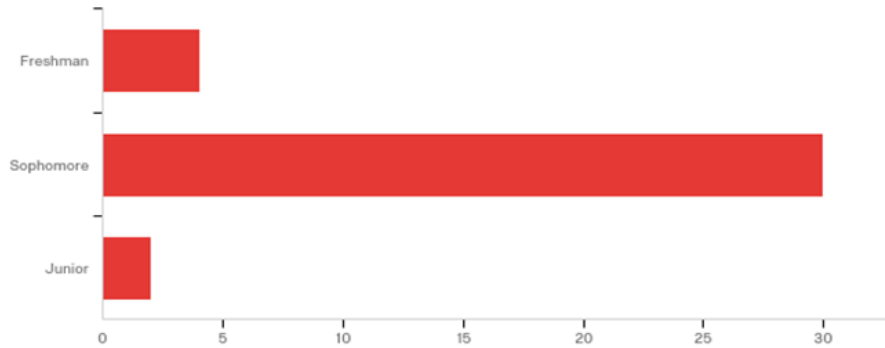
<u>Year</u>	<u>Straight-Line</u>	<u>Double-Declining Balance</u>	<u>Units of Production</u>
<b>2013</b>			
Cost	\$14,000	\$14,000	\$14,000
Less:			
Accumulated Depreciation	3,000	7,000	3,120
Book Value	11,000	7,000	10,880
<b>2014</b>			
Cost	\$14,000	\$14,000	\$14,000
Less:			
Accumulated Depreciation	6,000	10,500	6,600
Book Value	8,000	3,500	7,400
<b>2015</b>			
Cost	\$14,000	\$14,000	\$14,000
Less:			
Accumulated Depreciation	9,000	12,000	9,360
Book Value	5,000	2,000	4,640
<b>2016</b>			
Cost	\$14,000	\$14,000	\$14,000
Less:			
Accumulated Depreciation	12,000	12,000	11,760
Book Value	2,000	2,000	2,240

**Space for answering requirement 3**

- a. The depreciation method that produces the highest net income for 2013 is: **Straight-line**  
It produced the lowest amount of depreciation expense in 2013.
- b. The depreciation method that produces the highest net income for 2016 is: **Double-declining balance**  
It produced the lowest amount of depreciation expense in 2016.
- c. The depreciation method that results in the highest total assets in 2013 is: **Straight-line**  
It is the method with the highest book value at the end of 2013.
- d. The depreciation method that results in the highest total assets in 2016 is: **Units of production**  
It is the method with the highest book value at the end of 2016.

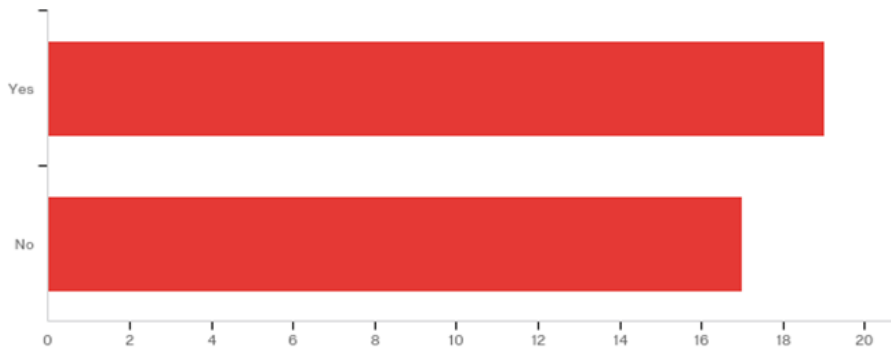
## Appendix C – Evaluation Results

### Q1 - What is your current level?



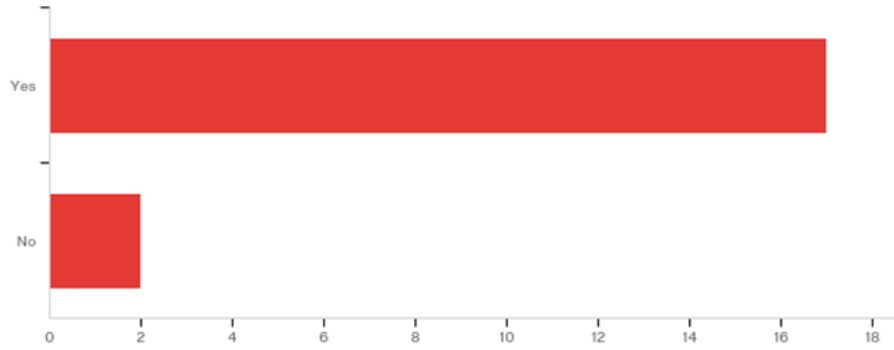
Answer	%	Count
Freshman	11.11%	4
Sophomore	83.33%	30
Junior	5.56%	2
Total	100%	36

### Q2 - Is this your 2nd attempt at COB 241 (an attempt includes any past withdrawals)



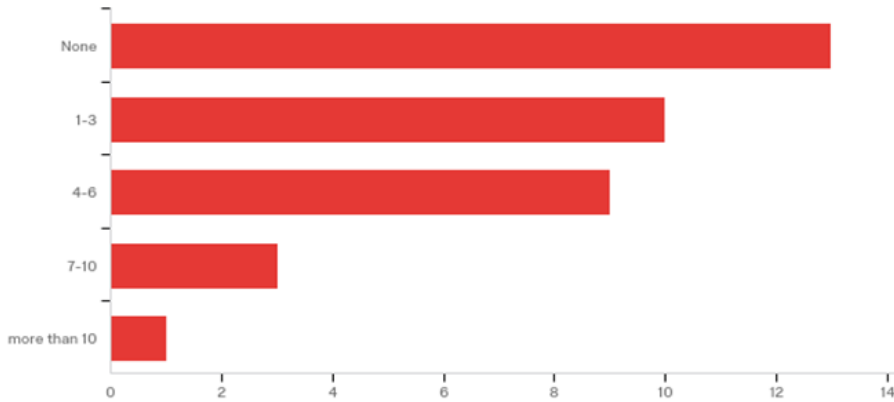
Answer	%	Count
Yes	52.78%	19
No	47.22%	17
Total	100%	36

**Q3 - Do you think it would have been beneficial to have had a PASS instructor during any of your prior semesters of having taken this class?**



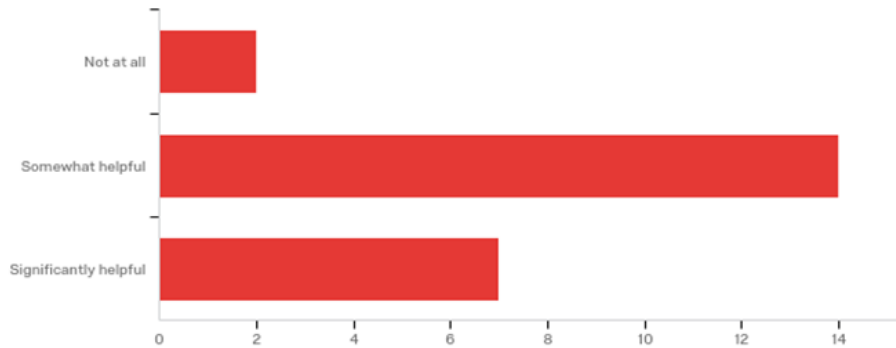
Answer	%	Count
Yes	89.47%	17
No	10.53%	2
Total	100%	19

**Q4 - How many PASS sessions did you attend?**



Answer	%	Count
None	36.11%	13
1-3	27.78%	10
4-6	25.00%	9
7-10	8.33%	3
more than 10	2.78%	1
Total	100%	36

**Q5 - How did the PASS sessions enhance your knowledge of the material?**



Answer	%	Count
Not at all	8.70%	2
Somewhat helpful	60.87%	14
Significantly helpful	30.43%	7
Total	100%	23

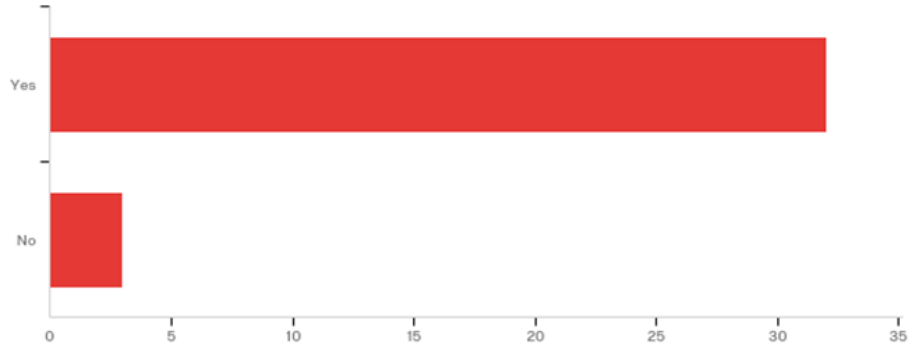
**Q6 - What suggestions do you have to improve the sessions?**

Have the material be more relevant/focused on stuff instructors do in their classes, the material worked on at PASS sessions is way easier than problems gone over in class  
keep the sessions in showker

**Q7 - Why did you choose not to attend any sessions?**

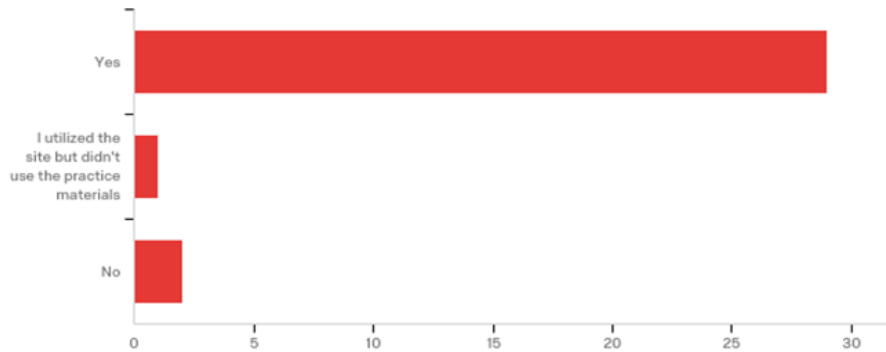
Scheduling conflicts  
Too late in the evening  
I understood the material without needing any resources outside of what was provided online.  
conflicting class schedule  
Lazy  
I did not need to  
Bad time  
I forgot/time did not work for me  
Never really had time to  
Scheduling conflicts  
Can't make the times that were scheduled  
I felt that I understood the material without needing to attend

**Q8 - Whether or not you attended the in-person sessions, did you utilize the Canvas site?**



Answer	%	Count
Yes	91.43%	32
No	8.57%	3
Total	100%	35

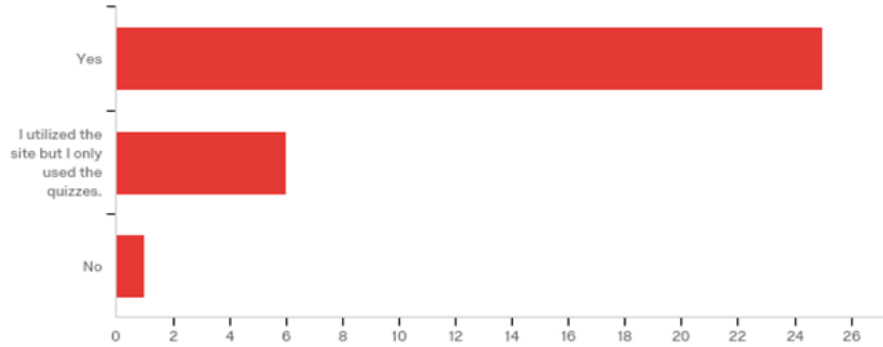
**Q9 - Were the practice quizzes beneficial to you?**



Answer	%	Count
Yes	90.63%	29
I utilized the site but didn't use the practice materials	3.13%	1
No	6.25%	2
Total	100%	32

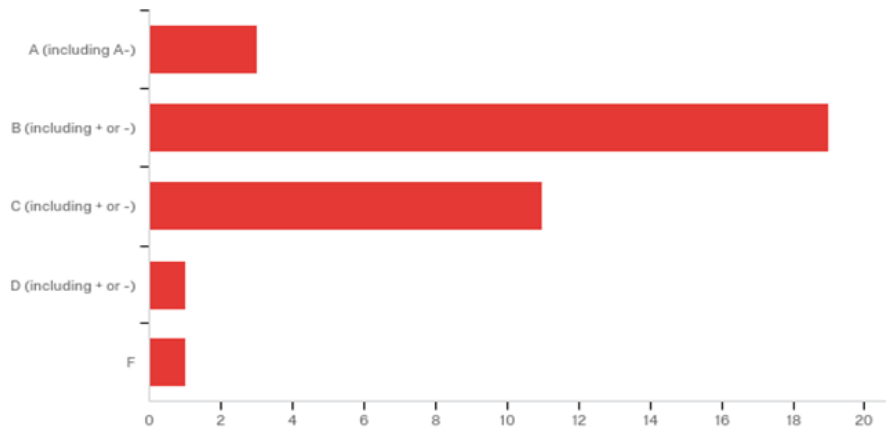


**Q10 - Were the practice materials on the Canvas site beneficial to you?**



Answer	%	Count
Yes	78.13%	25
I utilized the site but I only used the quizzes.	18.75%	6
No	3.13%	1
Total	100%	32

**Q11 - What grade are you expecting to receive in the class this semester?**



Answer	%	Count
A (including A-)	8.57%	3
B (including + or -)	54.29%	19
C (including + or -)	31.43%	11
D (including + or -)	2.86%	1
F	2.86%	1
Total	100%	35