ACC1701X
SEMESTER 1 2022 / 2023
POST LECTURE SUPPLEMENT
LECTURE 09

Updated Lecture Slide:

For the DDB Cathay Example, I added in the calculation for the third-year depreciation based on the DDB rate, which gives the $4,629 depreciation expense based on the DDB rate. However, this amount will reduce the book value of the asset to below its residual value, so the third-year depreciation will have to be "forced", as illustrated in the next slide.

Double-declining-balance (DDB)
Cathay Pacific Example

- At the beginning of the year, Cathay purchased equipment for $62,500 cash. The equipment has an estimated useful life of 3 years and an estimated residual value of $2,500. Calculate the depreciation expense for the first two years using DDB (double-declining-balance) method.

First year: $62,500 × $\frac{2}{3 \text{ years}}$ = $41,667

Second year: ($62,500 – $41,667) × $\frac{2}{3 \text{ years}}$ = $13,889

Third year? ($62,500 - $41,667 - $13,889) × $\frac{2}{3 \text{ years}}$ = $4,629

- The asset's depreciation schedule will look like this:

Year	Depreciation Expense (debit)	Accumulated Depreciation Balance	Undepreciated Balance (book value)
			$ 62,500
1	$ 41,667	$ 41,667	20,833
2	13,889	55,556	6,944
3	4,629	60,185	2,315
	$ 60,185		

Below residual value of $2,500! What to do? (refer to next slide)

Double-declining-balance (DDB)
Cathay Pacific Example (continued)

- In order to get the book value equals to the residual value at the end of the 3rd year, companies typically "force" it by limiting depreciation expense to the amount that will reduce the book value to the estimated residual value of $2,500.
- Therefore for the third year, we will record depreciation expense of $4,444. We determine this amount by subtracting the residual value of $2,500 from the book value at the end of the second year, $6,944.
- An updated depreciation schedule for the asset will look like this:

Year	Depreciation Expense (debit)	Accumulated Depreciation Balance	Undepreciated Balance (book value)
			$ 62,500
1	$ 41,667	$ 41,667	20,833
2	13,889	55,556	6,944
3	4,444	60,000	2,500
	$ 60,000		

Residual Value

3rd year depreciation expense is limited to the amount that reduces book value to the estimated residual value.

REMY In-Class Activity (PollEV):

PART 1:

In-class Activity (Past Exam Q)
REMY Ltd

REMY Ltd is a trucking company that moves construction materials. The following information relates to one of its truck:

- A truck was purchased for cash on July 1, 2017. The cost of truck is:

Invoice cost (before sales tax)	$140,000
Paint job to change to company colors and insert logo	$5,000
Sales tax	$12,000

- Estimated useful life is 120,000 miles, and the estimated salvage value is $25,000

Q1 : Compute the annual depreciation expense under straight line method, assuming estimate useful life in years is 5 years.

Q2 : Compute depreciation expense for 2017 & 2018 under the units-of-production depreciation method. Miles driven is 11k in 2017 and 24k in 2018.

(Note: This question is part of prior semester's final exam essay question, slightly modified)

Through a series of PollEV questions, we will work together on how to arrive at the answers for Q1 and Q2.

PollEV # (i) How much would you record as the acquisition cost of the truck

Acquisition cost of the truck = $140k + 5k + 12k
= $157k

PollEV # (ii) Q1: What is the annual depreciation under the straight-line method, assuming a 5 years useful life?

Annual depreciation expense under straight line
= (Acquisition cost – salvage value) / estimated life
= ($157,000 - $25,000)/5
= $ 26,400

PollEV # (iii) Under the units of production method, what is the annual depreciation per mile of the truck? (round to 2 d.p)

Depreciation per mile = ($157,000 - $25,000)/120,000
= $1.10/mile

PollEV # (iv) Q2: What is the depreciation expense for 2017? Miles driven is 11k in 2017.

Depreciation expense for 2017 = (11,000 miles x $1.10)
= $12,100

PollEV # (v) Q2: What is the depreciation expense for 2018? Miles driven is 24k in 2018.

Depreciation expense for 2018 = (24,000 miles x $1.10)
= $26,400

PART 2:

In-class Activity (Past Exam Q)
REMY Ltd (Continued)

RECALL: REMY Ltd purchased a truck in 2017 and the truck was depreciated using the **units-of-production** method for 2017 and 2018.

- In 2019, REMY made the following expenditures on the truck:
  - (i) On Jan 1st, spent $46,750 to re-engine the truck, which increased the total life to 200,000 miles. The expected salvage value remains unchanged
  - (ii) $6,000 in cash on new tires and regular maintenance.
- Miles driven on the truck is 20k miles in 2019 (after engine upgrade).
- Truck was sold on Dec 31st 2019 for $120k.

Q3 : Compute depreciation expense for 2019 under the units-of-production depreciation method.

Q4 : Record journal entry for disposal of the truck on Dec 31st 2019.

(Note: This question is part of last semester's final exam essay question, slightly modified)

PollEV # (vi) Which expenditures can be capitalized?

Capitalize $46,750, as this is a major expenditure that extends the useful life of the truck beyond the original estimate.

The new tires and regular maintenance does not extend the life of the truck, so it will be expensed.

PollEV # (vii) What is the carrying amount of the truck at the BEGINNING of 2019?

Carrying amount at beginning of 2019 = Original Acquisition cost – Accumulated Depr.
= $157,000 – $12,100 – $26,400
= $118,500

PollEV # (viii) What is the revised depreciation per mile? (round to 2 d.p)

Revised depreciable amount = Revised asset value – salvage value
= (Beg Carrying amount + capitalized exp) – salvage
= ($118,500 + $46,750) – $25,000
= $140,250

Revised depreciation per mile
= Revised depreciable amount / revised remaining estimated life
= $140,250/165,000
= $0.85/mile

PollEV # (ix) Q3: What is the depreciation expense for 2019? Miles driven is 20k in 2019.

Depreciation expense for 2019 = $17,000 (20,000 miles x $0.85)

PollEV # (x) What is the gain/loss on the sale of the truck?

How to calculate the gain/loss on disposal of truck:

Total cost of truck	= $157,000 + $46,750 = $203,750
Accumulated depreciation	= Depreciation for 2017, 2018 and 2019 = $12,100 + $26,400 + $17,000 = $55,500
➔ Book value	= 203,750 – 55,500 = $148,250
Disposal value	= $120,000
➔ Loss on sale of truck	= $120,000 - $148,250 = - $28,250

Q4: Journal entry to record disposal of truck:

Dr	Cash	$120,000	
Dr	Accumulated depreciation	$55,500	
Dr	Loss on sale of truck	$28,250	
	Cr PPE - Truck		$203,750