Fina210/4 A (WINTER 2015) **Quiz #1A (worth 5%)** **September 28th, 201**

NAME: Michael Stopnicki **ID#:** [redacted]

- **Period of analysis is 25 years effective put-in-use**
- **Demolition costs: $350,000**
- **Construction Costs: $7,200,000**
- **Land: $4,700,000**
- **Land with building purchased 6 months before demolition starts, and financed at 7.30% p.a. compounded quarterly**
- **Building (Existing): $250,000**
- **Demolition time: 2 months**
- **Construction time: 10 months (including demolition time)**
- **Demolition costs financed at 5.45% per annum, compounded monthly**
- **Construction costs financed at 6.75% per annum, compounded weekly. *Assume 52 weeks per annum***
- **Financing of demolition costs: 70% down, and balance (30%) paid on completion of demolition**
- **Financing of construction costs: 42% down, and balance (58%) paid on completion of construction**
- **Building depreciated at a CCA rate of 4%, declining balance method, half-year rule applies**

ASSUMPTIONS:

- ***Financing costs of Land transferred to Building***
- ***Demolition costs + financing costs transferred to Land***
- ***Existing Building + financing costs transferred to Land***

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Fina210/4 A (WINTER 2015)	Quiz #1A (worth 5%)	September 28th, 2015

COMPLETE THE TABLES

Land costs + financing costs	$ 5,175,926
Existing building + financing costs	$ 275,315
Demolition costs + financing costs	$ 365,233
Construction costs + financing costs	$ 7,339,096
TOTAL COSTS OF PROJECT at piu	$ 13,155,570

piu = put-in-use

Building costs at put-in-use	$ 7,815,022
CCA Year 1	$ 156,300
CCA Year 2	$ 306,349
CCA Year 3	$ 294,095
CCA Year 4	$ 282,331

$$EAR = \left[1 + \frac{NOM}{m}\right]^{m} - 1$$

$$FV = (1+r)^{n} * PV$$

Use table below if you find it useful

Period	Beginning Balance	CCA	Ending Balance
1	7,815,022	(2%) 156,300	7,658,722
2	7,658,722	306,349	7,352,373
3	7,352,373	294,095	7,058,278
4	7,058,278	282,331	6,775,947

1,039,075

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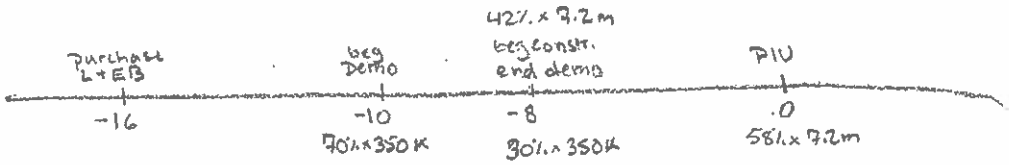

TCOP @ PIU

LC + FC
Nom = 7.30%
n = 4

$4.7m \left(1+\frac{7.3\%}{4}\right)^{\left(\frac{16}{3}\right)} = \boxed{\$5,175,926}$

(1.018261)

$FC + EB = 250K \left(1+\frac{7.3\%}{4}\right)^{\left(\frac{16}{3}\right)} = \boxed{\$275,315}$

DC + FC =
Nom = 5.45%
n = 12

$(70\% \times 350K)\left(1+\frac{5.45\%}{12}\right)^{10} = \$256,357$
245K, 1.046356

$(30\% \times 350K)\left(1+\frac{5.45\%}{12}\right)^{8} = \$108,876$
105K, 1.036916

$\boxed{\$365,233}$

CC + FC =
Nom = 6.75%
n = 52

$(7.2m \times 42\%)\left(1+\frac{6.75\%}{52}\right)^{\left(\frac{3}{12}\cdot 52\right)} = \$3,163,096$
3,024,000, 1.045997, 34.666667

$(7.2m \times 58\%)\left(1+\frac{6.75}{52}\right)^{0} = \$4,176,000$
4,176,000

$\boxed{\$7,339,096}$

Bldg (CC+FC) + FC of Land = 7,339,096
+ 475,926
$\boxed{\$7,815,022}$

5,175,926 (FC of Land)
4,700,000 = 475,926

$Land = 5,175,926 - 475,926 + 275,315 + 365,233 = \boxed{\$5,340,548}$

Fina210/4 A (WINTER 2015) **Quiz #1B (worth 5%)** **September 28th, 2015**

NAME: Julian Cefaratti **ID#:** 7026

- **Period of analysis is 25 years effective put-in-use**
- **Demolition costs: $350,000**
- **Construction Costs: $7,200,000**
- **Land: $4,700,000**
- **Land with building purchased 6 months before demolition starts, and financed at 6.75% p.a. compounded quarterly**
- **Building (Existing): $250,000**
- **Demolition time: 2 months**
- **Construction time: 10 months (including demolition time)**
- **Demolition costs financed at 7.30% per annum, compounded monthly**
- **Construction costs financed at 5.45% per annum, compounded weekly. *Assume 52 weeks per annum***
- **Financing of demolition costs: 70% down, and balance (30%) paid on completion of demolition**
- **Financing of construction costs: 42% down, and balance (58%) paid on completion of construction**
- **Building depreciated at a CCA rate of 4%, declining balance method, half-year rule applies**

ASSUMPTIONS:

- ***Financing costs of Land transferred to Building***
- ***Demolition costs + financing costs transferred to Land***
- ***Existing Building + financing costs transferred to Land***

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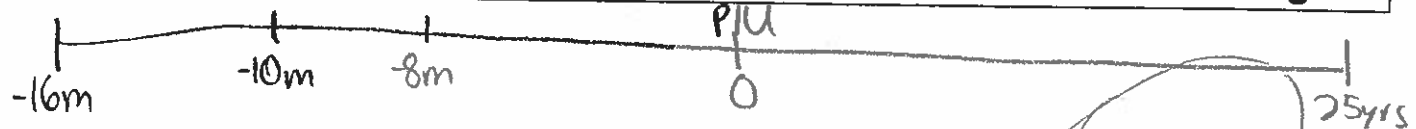

EAR for land and building: 6.922790

16m | $LC+FC = 4,700,000\left(1+0.06922790\right)^{16/12} = 5,138,759$

6m | $EB+FC = 250,000\left(1+0.06922790\right)^{16/12} = 273,338$

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EAR for demolition: 7.549267%

10m | DC+FC = 350,000 · 70% $(1+0.07549267)^{10/12}$ = 260,319

8m | DC+FC = 350,000 · 30% $(1+0.07549267)^{8/12}$ = 110,220

370,539 → Total Demo Cost

EAR for construction: 5.598234%

3m | CC+FC = 7,200,000 · 42% $(1+0.05598234)^{8/12}$ = 3,135,833

CC = 7,200,000 · 58% = 4,176,000

7,311,833 → Total Construction Costs

	Totals	New Totals
LC+FC	5,138,759	5,343,877
EB+FC	273,338	∅
DC+FC	370,539	∅
CC+FC	7,311,833	7,750,592
TCOP	13,094,469	13,094,469

FC

CCA, 4%, HYR, DBM

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COMPLETE THE TABLES

Land costs + financing costs	$ 5,343,877
Existing building + financing costs	$ 0
Demolition costs + financing costs	$ 0
Construction costs + financing costs	$ 7,750,592
TOTAL COSTS OF PROJECT at piu	$13,094,469

piu = put-in-use

Building costs at put-in-use	$ 7,750,592
CCA Year 1	$ 155,012
CCA Year 2	$ 303,823
CCA Year 3	$ 291,670
CCA Year 4	$ 280,003

$$EAR = \left[1 + \frac{NOM}{m}\right]^{m} - 1$$

$$FV = (1+r)^{n} * PV$$

Use table below if you find it useful

Year

Period	Beginning Balance	CCA	Ending Balance
1	7,750,592	155,012	7,595,580
2	7,595,580	303,823	7,291,757
3	7,291,757	291,670	7,000,087
4	7,000,087	280,003	6,720,084

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Fina210/4 A (WINTER 2015) **Quiz #1C (worth 5%)** **September 28th, 2015**

NAME: Alexander Alessi **ID#:** [redacted]

- **Period of analysis is 25 years effective put-in-use**
- **Demolition costs: $350,000**
- **Construction Costs: $7,200,000**
- **Land: $4,700,000**
- **Land with building purchased 6 months before demolition starts, and financed at 5.45% p.a. compounded quarterly**
- **Building (Existing): $250,000**
- **Demolition time: 2 months**
- **Construction time: 10 months (including demolition time)**
- **Demolition costs financed at 6.75% per annum, compounded monthly**
- **Construction costs financed at 7.30% per annum, compounded weekly. *Assume 52 weeks per annum***
- **Financing of demolition costs: 70% down, and balance (30%) paid on completion of demolition**
- **Financing of construction costs: 42% down, and balance (58%) paid on completion of construction**
- **Building depreciated at a CCA rate of 4%, declining balance method, half-year rule applies**

ASSUMPTIONS:

- ***Financing costs of Land transferred to Building***
- ***Demolition costs + financing costs transferred to Land***
- ***Existing Building + financing costs transferred to Land***

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√ Land = 4700000
√ Demolition = 350000
√ Existing Building = 250000
√ Construction Costs = 7200000

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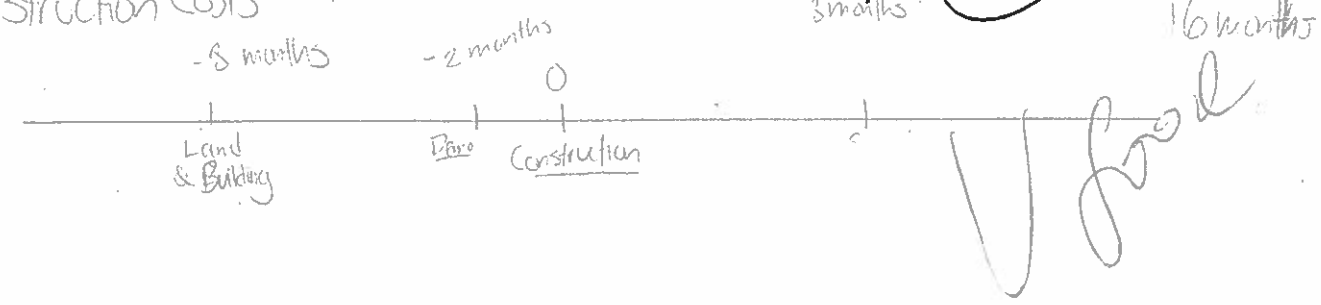

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Land = $4700000 \times \left(1 + \frac{.0545}{4}\right)^{(11/12 \times 4)} = \$5051769.535$

Existing Building = $256000 \times \left(1 + \frac{.0545}{4}\right)^{(11/12 \times 4)} = 265711.1455$

Demolition => $(350000 \times .70)\left(1 + \frac{.0675}{12}\right)^{10} = 259135.3723$

$(350000 \times .30)\left(1 + \frac{.0675}{12}\right)^{8} = 109819.0773$

Construction Costs = $(7200000 \times .42)\left(1 + \frac{.073}{52}\right)^{(8/12 \times 52)} = 3174699.546$

$7200000 \times .58 = 4176000$

Demolition Total Costs = $259135.3723 + 109819.0773 = 368954$

Construction Costs Total = $3174699.546 + 4176000 = 7350700$

TCOP = 13040135

TCOP
- Land = $4700000 + 268711 + 259135 + 109819 = 5337665$
- New Building = $3174700 + 4176000 + (5051770 - 4700000)$ $= 7702470$

Fina210/4 A (WINTER 2015)	Quiz #1C (worth 5%)	September 28th, 2015

COMPLETE THE TABLES

Land costs + financing costs	$ 5051 770
Existing building + financing costs	$ 268 711
Demolition costs + financing costs	$ 368 954
Construction costs + financing costs	$ 7350 700
TOTAL COSTS OF PROJECT at piu	$ 13 640 135

piu = put-in-use

Building costs at put-in-use	$ 7702 470
CCA Year 1	$ 1541 049
CCA Year 2	$ 301 937
CCA Year 3	$ 289 859
CCA Year 4	$ 278 265

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$$EAR = \left[1 + \frac{NOM}{m}\right]^{m} - 1$$

$$FV = (1 + r)^{n} * PV$$

Use table below if you find it useful

Period	Beginning Balance	CCA	Ending Balance
1	7702 470	1541049.4	7 518 420.6
2	7 518.421	301 936.84	7 246 484 16
3	7246 484	289 859.36	6 956 624.64
4	6956625	278 265	6678 360

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Fina210/4 A (WINTER 2015) **Quiz #1D (worth 5%)** **September 28th, 2015**

NAME: Shant Tchaghaskanian **ID#:** [illegible]

- **Period of analysis is 25 years effective put-in-use**
- **Demolition costs: $350,000**
- **Construction Costs: $7,200,000**
- **Land: $4,700,000**
- **Land with building purchased 6 months before demolition starts, and financed at 7.30% p.a. compounded monthly**
- **Building (Existing): $250,000**
- **Demolition time: 2 months**
- **Construction time: 10 months (including demolition time)**
- **Demolition costs financed at 5.45% per annum, compounded quarterly**
- **Construction costs financed at 6.75% per annum, compounded weekly. *Assume 52 weeks per annum***
- **Financing of demolition costs: 42% down, and balance (58%) paid on completion of demolition**
- **Financing of construction costs: 70% down, and balance (30%) paid on completion of construction**
- **Building depreciated at a CCA rate of 4%, declining balance method, half-year rule applies**

ASSUMPTIONS:

- ***Financing costs of Land transferred to Building***
- ***Demolition costs + financing costs transferred to Land***
- ***Existing Building + financing costs transferred to Land***

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DO NOT REMOVE STAPLE, complete NAME and ID before starting

COMPLETE THE TABLES

Land costs + financing costs	$ 5,178,943.00
Existing building + financing costs	$ 275,476.69
Demolition costs + financing costs	$ 364,242.68
Construction costs + financing costs	$ 7,431,826.57
TOTAL COSTS OF PROJECT at piu	$ 13,250,488.94

piu = put-in-use

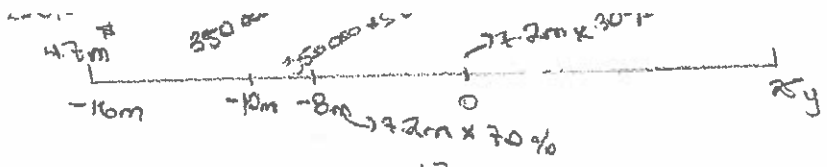
Building costs at put-in-use	$ 7,910,769.57
CCA Year 1	$ 158,215.39
CCA Year 2	$ 310,102.17
CCA Year 3	$ 297,698.08
CCA Year 4	$ 285,790.16

$$EAR = \left[1 + \frac{NOM}{m}\right]^{m} - 1$$

$$FV = (1+r)^{n} * PV$$

Use table below if you find it useful

Period	Beginning Balance	CCA	Ending Balance
1	7,910,769.57	158,215.39	7,752,554.18
2	7,752,554.18	310,102.17	7,442,452.01
3	7,442,452.01	297,698.08	7,144,753.93
4	7,144,753.93	285,790.16	6,858,963.77



EFF Land: $\left[1 + \frac{0.073}{12}\right]^{12} - 1 = 0.075449267$

EFF Demol: $\left[1 + \frac{0.0545}{4}\right]^{4} - 1 = 0.055623995$

EFF Const.: $\left[1 + \frac{0.0675}{52}\right]^{52} - 1 = 0.069783431$

-16m: $4.7\text{m}\,(1 + 0.075449267)^{16/12} =$ **5,178,943.00 ₩**

-12m: $250{,}000\,(1 + 0.075449267)^{16/12} =$ **275,476.69 ₩**

-10m: $350{,}000 \times 0.42\,(1 + 0.055623995)^{10/12} =$ 153,783.02 ₩

-8m: $350{,}000 \times 0.58\,(1 + 0.055623995)^{8/12} =$ 210,459.66 ₩ } +

Dem. cost + Fin. cost = **364,242.68 ₩**

-8m: $7.2\text{m} \times 0.70\,(1 + 0.069783431)^{8/12} =$ 5,271,826.57 ₩

0m: $7.2\text{m} \times 0.30 =$ 2,160,000 ₩ } +

Constr. cost + Fin. cost = **7,431,826.57 ₩**

Assume:

5,178,943 − 478,943 + 275,476.69 + 364,242.68 = 5,339,719.37 ₩

275,476.69 − 275,476.69 = ∅

364,242.68 − 364,242.68 = ∅

7,431,826.57 + 478,943 = 7,910,769.57 ₩

13,250,488.94 ₩