# COURSE OUTLINE

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|---|---|
| **Department & Faculty:**<br>**Dept. of Built Environment**<br>**Centre For Diploma Studies SPACE** | **Page : 1 of 5** |
| **Course Code : Valuation Mathematics (DDPF1212)**<br>**Total Lecture Hours : 28 hours**<br>**Tutorial : 14 hours** | **Semester: 1**<br>**Academic Session: 2012/2013** |

**Lecturer** :

**Room No.** :

**Telephone No.** :

**E-mail** :

**Synopsis** : This course introduces students to some major views and theories in concepts, practices and applications of mathematics in their daily activities and property valuation process. Student s need to understand the subject, so that they are able to apply the valuation mathematics concepts in the following subjects such as property management and property valuation. The course covers topics such as linear equation, non linear equation, arithmetic and geometric sequences, simple interest, compounded interest, annuity, instalment purchases, valuation mathematic, valuation parry's table, depreciations etc.

**LEARNING OUTCOMES**

By the end of the course, students should be able to:

| No. | Course Learning Outcome | Programme Learning Outcome(s) Addressed | Taxonomy/KI Levels | Assessment Methods |
|---|---|---|---|---|
| 1. | Identify the concept and formula of mathematics needed in real estate profession<br>Discuss and apply mathematical formulas to solve the simple problems in valuation | PO1 | C1- C3 | Test, Final, Tutorial |
| 2. | Identify and explore mathematical formulas in relation to calculations adopted in real estate. | PO3 | P1-P3<br>CTPS1 | Test, Final, Tutorial |
| 3. | Develop qualities of an effective team player and reporting information. | CO5 | A1 – A3<br>TS-TS2 | Test, Final<br>Tutorial |



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|---|---|
| **Prepared by:**<br>**Name:**<br>**Signature:**<br>**Date:** | **Certified by: (Course Panel Head)**<br>**Name:**<br>**Signature:**<br>**Date:** |

# COURSE OUTLINE

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| **Department & Faculty:**<br>**Dept. of Built Environment**<br>**Center For Diploma Studies SPACE** | **Page : 2 of 5** |
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**STUDENT LEARNING TIME**

| Teaching and Learning Activities | Student Learning Time (hours) |
|---|---|
| A. Face-to-face Learning | |
| 1. Lecture | 28 |
| 2. Practical / Tutorial | 7 |
| 3. Student Centered Learning | 7 |
| B. Self Directed Learning | |
| 1. Non face-to-face eg assignments | 10 |
| 2. Revision | 16 |
| 3. Assessment Preparation | 7 |
| C. Formal Assessment | |
| 1. Continuous Assessment | 3 |
| 2. Final Exam | 2 |
| **Total** | **80** |

**TEACHING METHODOLOGY**

Lecture and Discussion, Co-operative Learning, Independent Study, Group Tutorials.



**WEEKLY SCHEDULE**

**Week 1** : **1.0. INTRODUCTION FOR VALUATION MATHEMATIC**

- Environment property industry
- Concept of price, value and cost.
- Important valuation's mathematic for property management and property valuation.

**Week 2** : **2.0 LINEAR EQUATION AND NONLINEA EQUATION**

- Introduction
- Equation
- Solution of linear equation in one variable
- Linear equation and non linear equation
- Quadratic equation
- Systems of equations
- Using these equations in property valuation and property management.

**Weeks 3** :

**2.0 LINEAR EQUATION AND NONLINEA EQUATION**

**Tutorial 1**

- Introduction
- Equation

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- Solution of linear equation in one variable
- Linear equation and non linear equation
- Quadratic equation
- Systems of equations
- Using these equations in property valuation and property management.

**Weeks 4** : **3.0 SQUENCE:** Arithmetic sequence

- Introduction
- Arithmetic sequence
- Using these sequences in property valuation and property management.

**Weeks 5** : **4.0 SQUENCE:** Geometric sequence
**Tutorial 2**

- Introduction
- Geometric sequence
- Using these sequences in property valuation and property management.

**Weeks 6** **5.0 SIMPLE INTEREST**

- Introduction
- Interest
- Simple interest formula
- Simple amount formula
- Four basic concept
- Present value
- Equation of value

**Weeks 7** **6.0 COMPOUND INTEREST**
**Tutorial 3**
**Test 1 (15%)**

- Introduction
- Compound interest formula
- Effective, nominal and equivalent rate
- Relationship between effective and nominal rates
- Relationship between two nominal rates
- Present value
- Equation of value

**Weeks 8** **MID TERM BREAK**

**Weeks 9** **7.0 ANNUITY**

- Introduction
- Future value
- Present value
- Solving for R, n and i

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- Amortisation
- Amortisation schedule
- Sinking fund

**Week 10** : **8.0 VALUATION MATHEMATIC**

- Introduction
- Amount $1
- Amount $1 per annum
- Present Value of $1
- Present Value of $1 per annum
- Annual Sinking Fund
- Year Purchases Single Rate
- Year Purchase Dual Rate
- Valuation Parry's Table

**Weeks 11** : **8.0 VALUATION MATHEMATIC**
Tutorial 4

- Introduction
- Amount $1
- Amount $1 per annum
- Present Value of $1
- Present Value of $1 per annum
- Annual Sinking Fund
- Year Purchases Single Rate
- Year Purchase Dual Rate
- Valuation Parry's Table

**Weeks 12** : **9.0 INSTALMENT PURCHASES**
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- Introduction
- Interest charge based on original balance
- Interest charge based on reducing balance
- Unequal instalment payments and repayment schedules.

**Week 13** **9.0 INSTALMENT PURCHASES**

- Introduction
- Interest charge based on original balance
- Interest charge based on reducing balance
- Unequal instalment payments and repayment schedules.

**Weeks 14** : **10.0 DEPRECIATION**
**Test 2 (15%)**

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- Introduction
- Depreciation
- Terms related to depreciation
- Straight line method
- Declining balance method
- Sum of year digits method

**Weeks 15** : **10.0 DEPRECIATION**
**Tutorial 5**

- Introduction
- Depreciation
- Terms related to depreciation
- Straight line method
- Declining balance method
- Sum of year digits method

**REFERENCES** :


1. Robert Brechner (2009). "Contemporary Mathematics For Business and Consumers". Sourth Western: Thompson.
2. Lau Too Kya, Phang Yook Ngor and Wee Kok Kiang (2006) ."Business Mathematics For UITM". Kuala Lumpur:Oxford Fajar Sdn. Bhd.
3. Lau Too Kya, Phang Yook Ngor and Wee Kok Kiang (2006) ."Accounting Mathematics For UITM". Kuala Lumpur:Oxford Fajar Sdn. Bhd.
4. Ernest F. , Haeussler, Jr., and Rishard S. Paul (2007). "Student Solutions Manual for Introductory Mathematical Analysis for Business, Economics, and the Life and Social Sciences". Prentice Hall.




**GRADING**

| No. | Assessment | Number | % Each | BT | Overall % | Dates |
|---|---|---|---|---|---|---|
| 1. | Tutorial | 2 | 10 | C1- C3<br>P1-P3<br>CTPS1-CTPS2<br>A1-A3<br>TS1-TS2 | 20% | W2, W9 |
| 3. | Test s | 2 | 10 | C1- C3 | 20% | W7 , W13 |
| 4. | Final Exam | 1 | 60 | C1- C3 | 60% | W17 |
| | **Overall Total** | | | | **100** | |