SWE121−1: ENGINEERING MATHEMATICS II

COURSE INSTRUCTOR: JAFF LAWRENCE ASUIYI

TEL: 678179539 WHATSAPP: 663966310

PERIOD: FRIDAY: 1:00 PM-3:00 PM

COUSRE OUTLINE FOR THE SECOND SEMESTER

I. ANALYSIS I: 3 CREDITS (45 HOURS); L, T, SPW

I.1. NUMERICAL FUNCTIONS OF A REAL VARIABLE:

I.1.1 Logarithmic and exponential functions

I.1.2 Reciprocal circular functions

I.1.3 Hyperbolic functions and their reciprocals.

I.2. SEVERAL REAL VARIABLE FUNCTIONS

I.2.1 First and second order partial derivative

I.2.2 Schwarz theorem

I.2.3 Differential applications

I.2.4 Composite functions

I.2.5 Differential forms

I.2. 6 Vector operators

I.3. TAYLOR SERIES AND LIMITS

I.4. INTEGRATION (SIMPLE AND MULTIPLE)

I.5. DIFFERENTIAL EQUATIONS

II. LINEAR ALGEBRA I: 2 CREDITS (30 HOURS); L, T, SPW

II.1 Vector space of finite dimensions N≤ 4

II.2 Matrices

References:

1. James Stewart CALCULUS 8th Edition 2016
2. Advanced Modern Engineering Mathematics Fourth Edition Glyn James 2011
3. Advanced Engineering Mathematics ErwinKreyszig. 10th Edition 2011
4. **Higher Engineering Mathematics (PDFDrive.com)_4**
5. **https://technicalsymposium.com/allengineeringmaths.html**

SWE121−1: ENGINEERING MATHEMATICS II

COURSE INSTRUCTOR: JAFF LAWRENCE ASUIYI

TEL: 678179539 WHATSAPP: 663966310

PERIOD: FRIDAY: 10:15 AM-12:15 PM

COUSRE OUTLINE FOR PROBABILITIES

SECOND SEMESTER

III. PROBABILITY: 2 CREDITS (30 HOURS); L, T, SPW

COMBINATORY ANALYSIS

III.1 Calculation of probabilities

III. 1.1 Kolmogorov axioms

III. 1.2 Conditional and independent probabilities

III. 1.3 Bayes theorem and axiom on total probability

III. 2. Random variables

III. 2.1. Definition

III. 2. 2. Moment of a random variable

III. 2. 3. Joint law and marginal laws of a pair

III. 2. 3. Bienaymé-Tchebychev Inequality

III. 2. 4. Basic laws on large numbers

III. 2. 5. TCL

III. 3. Probability Laws

References:

1. Advanced Modern Engineering Mathematics Fourth Edition Glyn James 2011
2. Advanced Engineering Mathematics ErwinKreyszig. 10th Edition 2011
3. **Schaum's Outline of Probability**