ECET 216 Signal and Systems Analysis

Instructor: Joyce van de Vegte
Office: TEC 208
Phone: 370-4438
Text: None
Email: vandevegte@camosun.ca

Lecture Format:
ECET 216 meets for 2.5 hours per week. To implement this, we will meet as follows:

Weeks 1:	2 hours (Tuesday and Thursday only) (due to Labour Day)
Weeks 2 and 3:	3 hours per week
Weeks 4 and 5:	2 hours per week (Monday and Wednesday only)
Week 6:	2 hours (Tuesday and Thursday only) (due to Thanksgiving)
Week 7:	3 hours

Grading:

Problem Sets (4)	20%*
Final Exam	80%

*Solution Sets will be posted. Problem Sets will be graded for effort not correctness.

Important Dates:

Problem Set 1	Tuesday 18 September (lecture 2 of week 3)
Problem Set 2	Monday 1 October (lecture 1 of week 5)
Problem Set 3	Thursday 11 October (lecture 2 of week 6)
Problem Set 4	Tuesday 16 October (lecture 2 of week 7)
Final Exam	20 – 27 October (week 8)

Course Topics:

1. Analysis of signals and systems using complex functions:
   - (a) Complex numbers
   - (b) Roots of complex numbers
   - (c) Complex limits and derivatives
   - (d) Analytic functions and Cauchy-Riemann equations
   - (e) Complex functions
     - (i) rational
     - (ii) exponential
     - (iii) trigonometric
     - (iv) hyperbolic
     - (v) logarithmic
     - (vi) power

2. Application of complex Fourier series and Fourier transform to signals and systems:
   - (a) Complex Fourier series
   - (b) Spectral representation and power spectrum
   - (c) Relationship between Fourier series and Fourier transform
   - (d) Fourier transform
   - (e) Relationship between Fourier transform and Laplace transform