Course Syllabus

SUPERIOR MATHEMATICS

Printed by: jfmoncay

Program: Telecommunications Engineering

1. Course number and name

MATG1027 - SUPERIOR MATHEMATICS

2. Credits and contact hours

2 credits and 4 contact hours

3. Instructor's course or coordinator's name

WILFREDO ANTONIO ANGULO SANCHEZ

4. Text book, tittle, author, and year

• Kreyszig Erwin. Matemáticas Avanzadas para Ingeniería 2 (4ta)

a.Other supplemental materials

• Glyn James. Matematicas Avanzadas para Ingenieria (2da)

5. Specific course information

a. Brief description of the content of the course (catalog description)

The Superior Mathematics course is aimed at the comprehensive training of engineering students. In the same three fundamental topics are studied, namely: complex variable, Fourier series and Fourier integral. The course prepares the student to solve problems in various areas of engineering, such as: electrical circuits, signal processing and transport phenomena.

b. Prerequisites

MULTIVARIABLE CALCULUS - MATG1002

DIFFERENTIAL EQUATIONS - MATG1004

c. This course is: Required

6. Specific goals for the course

a. Specific outcomes of instruction

1.- Apply complex variable theory in engineering problems for signal processing.

2.- Analyze the convergence of relevant numerical series, using the Fourier series.

3.- Deduce the Fourier transform for its application in solving problems in engineering.

b. Explicity indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course

• An ability to apply knowledge of mathematics, science, and engineering

• An ability to identify, formulate, and solve engineering problems

7. Brief list of topics to be covered

1.- COMPLEX VARIABLE

2.- FOURIER SERIES

3.- FOURIER INTEGRALS