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FREE UNIVERSITY PEREIRA SECTION

UNDERGRADUATE PROGRAM IN ENVIRONMENTAL ENGINEERING

SUBJECT: ADVANCED MATHEMATICS

CODE: ----------

SEMESTER: ROOM

HOURS WEEKLY: 4

THEORETICAL: 4

PRACTICES: 0

REQUIREMENTS: PHYSICS II AND LABORATORY,
CALCULUS III

GOALS :

To train engineering students in the handling and mastery of tools
mathematics that will be very useful in your engineering designs and work.

Understand and master the theory of Laplace transforms,
also known as operational calculus.

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METHODOLOGY:

The teacher must make his classes interesting and understandable to his students.

. It will use the best teaching methodologies for the study of the

mathematics, will vary the methodology of the classes, will make the student very involved in the class

and will take advantage

the advantages of modern mathematics education.

CONTENT :

1. Laplace transforms.
2. Inverse Laplace transform
3. Applications to differential and integral equations.
4. Complex variable theory
5. Fourier series and integrals
6. Applications to boundary values

BIBLIOGRAPHY:

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SPIEGEL M. Laplace transforms. ISBN: 968-422-881-3. McGraw Hill. 1991

SPIEGEL M. Complex Variable. ISBN: 968-422-883-X McGraw Hill. 1991