

CURRICULAR STRUCTURE

FORM Nº 19 – **COURSE SYLLABUS/ACTIVITY**

CONTENT OF STUDIES

NUMERICAL METHODS

<p>SUBJECT NAME/ACTIVITY Computational Methods for Electrical Engineering</p>	<p>CODE TEE00141</p>	<p>CONCEPTION () ALTERATION: NAME () CL () TRANSLATION: (X)</p>
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DEPARTMENT/IMPLEMENTATION COORDINATION: ELECTRICAL ENGINEERING DEPARTMENT

COURSE LOAD: 60 HOURS THEORETICAL: 30 HOURS PRACTICAL: 30 HOURS INTERNSHIP: 0 HOURS

PROGRAM CONTENT


NUMERATIONS SYSTEMS. ARITHMETIC OF NATURAL, INTEGERS AND REAL NUMBERS. ERRORS OF REAL NUMBERS REPRESENTATIONS. ERROR PROPAGATIONS OF ARITHMETICAL OPERATIONS. COMPLEX NUMBERS. MATRICES AND VECTORIZATION. METHODS FOR LINEAR AND NON-LINEAR SYSTEMS SOLUTIONS. METHODS OF NUMERICAL INTEGRATION. APPLICATIONS IN RLC CIRCUITS. INTRODUCTIONS TO ELECTRICAL SYSTEMS STABILITY. UTILIZATION OF COMPUTING APPLICATIONS.

BASIC BIBLIOGRAPHY:

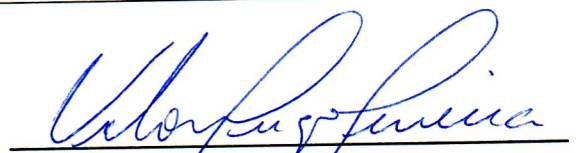
1. CARLOS H. C. GUIMARÃES, "SISTEMAS DE NUMERAÇÃO: APLICAÇÃO EM COMPUTADORES DIGITAIS", EDITORA INTERCIÊNCIA, 1ª EDIÇÃO, 2014;
2. GEORGE ELMER FORSYTHE, MICHAEL A. MALCOLM AND CLEVE B. MOLE, "COMPUTER METHODS FOR MATHEMATICAL COMPUTATIONS", PRENTICE-HALL, 1977;
3. MÁRCIA A. GOMES RUGGIERO E VERA LÚCIA DA ROCHA LOPES, "CÁLCULO NUMÉRICO: ASPECTOS TEÓRICOS E COMPUTACIONAIS", MAKRON BOOKS DO BRASIL EDITORA LTDA., 2ª EDIÇÃO, 1996;
4. PETER STARK, "INTRODUÇÃO AOS MÉTODOS NUMÉRICOS", EDITORA INTERCIÊNCIA;
5. PAUL M. DeRUSSO, ROB J. ROY, CHARLES M. CLOSE, ALAN A. DESROCHERS, "STATE VARIABLES FOR ENGINEERS", WILEY-INTERSCIENCE, 2ND EDITION, 1998.

COMPLEMENTARY BIBLIOGRAPHY:

1. GLENN W. STAGG, AHMED H. EL-ABIAD, "COMPUTER METHODS IN POWER SYSTEM ANALYSIS", MCGRAW-HILL, 1968;
2. R. G. HUDSON, "MANUAL DO ENGENHEIRO", LIVROS TÉCNICOS E CIENTÍFICOS EDITORA S.A., 1975;
3. GILBERT STRANG, "LINEAR ALGEBRA AND ITS APPLICATIONS", SAUNDERS COLLEGE PUBLISHING, 3RD EDITION, 1988.



COURSE COORDINATOR
DATE 23 / 01 / 2018



HEAD OF ELECTRICAL ENGINEERING DEPARTMENT
DATE 23 / 01 / 2018

November/2017

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