



University/Academy: Arab Academy for Science and Technology & Maritime Transport
Faculty/Institute: College of Engineering & Technology
Program: Electrical & Control Engineering

Form no. (12)
Course Specification

1- Course Data

Course Code: EE 545	Course Title: High Voltage Engineering	Academic Year/Level: 5
Specialization: Electrical & Control Engineering	No. of Instructional Units: 3	Lecture 2 Practical 2

2- Course Aim	-To cover the high voltage aspects of electrical power engineering which include transient phenomena, high voltage testing and insulation coordination
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3- Intended Learning Outcome

a- Knowledge and Understanding	A.1 Concepts and theories of mathematics and sciences, appropriate to the discipline A.10 Technical language and report writing A.12 Contemporary engineering topics
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b- Intellectual Skills	B.2 Select appropriate solutions for engineering problems based on analytical thinking
c- Professional Skills	C.2 Professionally merge the engineering knowledge, understanding, and feedback to improve design, products and/or services C.3 Create and/or re-design a process, components or system, and carry out specialized engineering designs
d- General Skills	D.3 Communicate effectively D.4 Demonstrate efficient IT capabilities

4- Course Content	<p>Generation of D. C. high voltage. Generation of A. C. high voltage. Generation of impulse voltage and currents. Measurements of high voltages. Sources of transient in power system. Travelling waves. Lattice diagram. Gaseous, liquid and solid Insulations study. Surge arresters. High voltage circuit breakers. Gas insulated switcher (GIS). Insulation coordination. Testing and HVDC studies.</p>
5- Teaching and Learning Methods	<ul style="list-style-type: none"> - Lectures - Tutorials - Reports & sheets - Laboratories - Seminars
6- Teaching and Learning Methods for Students with Special Needs	<ul style="list-style-type: none"> - Lectures - Tutorials - Reports & sheets - Laboratories - Seminars
7- Student Assessment:	<p>Written Examinations to asses The Intended Learning Outcomes Class Activities (Reports, Discussions, -----) to asses The Intellectual Skills</p>
a- Procedures used:	<p>Written Examinations to asses The Intended Learning Outcomes Class Activities (Reports, Discussions, -----) to asses The Intellectual Skills</p>

b- Schedule:	<table> <tr> <td>Assessment 1 Exam</td> <td>7th Week Written</td> </tr> <tr> <td>Assessment 2 Exam</td> <td>12th Week Written</td> </tr> <tr> <td>Assessment 3 Assessments</td> <td>Continuous</td> </tr> <tr> <td>Assessment 4 Written Exam</td> <td>16th Week Final</td> </tr> </table>	Assessment 1 Exam	7th Week Written	Assessment 2 Exam	12th Week Written	Assessment 3 Assessments	Continuous	Assessment 4 Written Exam	16th Week Final						
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c- Weighing of Assessment:	<table> <tr> <td>7th Week Examination</td> <td>30 %</td> </tr> <tr> <td>12th Week Examination</td> <td>20 %</td> </tr> <tr> <td>Final-term Examination</td> <td>40 %</td> </tr> <tr> <td>Oral Examination</td> <td>0 %</td> </tr> <tr> <td>Practical Examination</td> <td>0 %</td> </tr> <tr> <td>Semester Work</td> <td>10 %</td> </tr> <tr> <td>Total</td> <td>100%</td> </tr> </table>	7th Week Examination	30 %	12th Week Examination	20 %	Final-term Examination	40 %	Oral Examination	0 %	Practical Examination	0 %	Semester Work	10 %	Total	100%
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8- List of References:	<p>J. Glover & M. Sarma , “Power System Analysis and Design”, PWC Publishers, Boston, 1993.</p> <p>Kuffel and W. Zaengle, “High Voltage Engineering”, Pergammon Press, U.K., 1994.</p> <p>B. Gungor, “Power Systems”, TBJ Publishers, New York, 1988.</p> <p>K. R. Padiyar, “HVDC Power Transmission Systems”, Wiley Eastern Limited, 1992.</p>														
a- Course Notes															
b- Required Books (Textbooks)	M. Khalif, " High Voltage Engineering ", Marcel Dekker Inc, New York, 1990														
c- Recommended Books															
d- Periodicals, Web Sites, ..., etc.															

Course Instructor:

Head of Department:

Program Manager: