

Bachelor of Engineering:  
**ELECTRICAL ENGINEERING**

**6<sup>th</sup> SEMESTER:** Winter 2007 and Winter 2008

**REQUIRED**

COE 618	Object Oriented Engineering Analysis and Design
ELE 635	Communication Systems
ELE 637	Energy Conversion
ELE 639	Control Systems
MEC 511	Basic Thermodynamics and Fluids

**LIBERAL STUDIES:** One course required from Table B.

Bachelor of Engineering  
**ELECTRICAL ENGINEERING**

**6<sup>th</sup> SEMESTER:** Revised Program Commencing Winter 2009

**REQUIRED– Common to all options and regular program**

ELE 635	Communication Systems
ELE 639	Control Systems
MEC 511	Basic Thermodynamics and Fluids

**LIBERAL STUDIES:** One course required from Table B.

**REQUIRED\***

**Regular Program**

**REQUIRED–Group 1\*:** Select two courses from Table I.

**Energy Systems Option**

ELE 637 Energy Conversion

**REQUIRED–Group 1:** Select one additional course from Table I.

**Microsystems Option**

**ELE 604 Electronic Sensors and Measurement**

**REQUIRED–Group 1:** Select one additional course from Table I.

**Multimedia Systems Option**

**ELE 632 Signals and Systems II**

**REQUIRED–Group 1:** Select one additional course from Table I.

**Robotics and Control Systems Option**

ELE 632 Signals and Systems II

**REQUIRED–Group 1:** Select one additional course from Table I.

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\* Course selection in Required Group 1 has a bearing on selection of courses available to specific Options. Please check requisites of courses in 7<sup>th</sup> and 8<sup>th</sup> semester.

**PROFESSIONAL ELECTIVES TABLE I**

ELE 604	Electronic Sensors and Measurement
ELE 632	Signals and Systems II
ELE 637	Energy Conversion

7<sup>th</sup> SEMESTER: Fall 2006, Fall 2007, Fall 2008**REQUIRED**

ELE 700\* Engineering Design

**LIBERAL STUDIES:** One course from the following:

ENG 507 Science and the Literary Imagination  
 GEO 702 Technology and the Contemporary Environment  
 HST 701 Scientific Technology and Society in the 20<sup>th</sup> C  
 PHL 709 Religion, Science and Philosophy I  
 POL 507 Power, Change and Technology

**REQUIRED–Group 1:** Select four courses from the following

COE 518 Introduction to Operating Systems  
 COE 718 Hardware-Software Co-design of Embedded System  
 COE 768 Computer Networks  
 ELE 703 Simulation and Computation Techniques  
 ELE 704 CMOS Analog Integrated Circuits  
 ELE 709 Real-time Computer Control System  
 ELE 734 Low Power Digital Integrated Circuits  
 ELE 744 Electronics and Instrumentation  
 ELE 745 Digital Communication Systems  
 ELE 754 Power Electronics  
 ELE 772 Biomedical Signal Analysis  
 ELE 792 Digital Signal Processing

\* This course has a weight of .50

7<sup>th</sup> SEMESTER: Revised Program Commencing Fall 2009**REQUIRED – Common to all options and regular program**

ELE 700\* Engineering Design

**LIBERAL STUDIES:** One course from the following:

ENG 507 Science and the Literary Imagination  
 GEO 702 Technology and the Contemporary Environment  
 HST 701 Scientific Technology and Society in the 20<sup>th</sup> C  
 PHL 709 Religion, Science and Philosophy I  
 POL 507 Power, Change and Technology

**Regular Program****PROFESSIONAL ELECTIVE:** Select four courses from Table II.**Energy Systems Option****REQUIRED–Group 1**

ELE 746 Power System Analysis  
 ELE 747 Advanced Electromechanical System  
 ELE 754 Power Electronics

**PROFESSIONAL ELECTIVE:** Select one course from Table II not included in Required–Group 1.**Microsystems Option****REQUIRED–Group 1**

ELE 704 CMOS Analog Integrated Circuits  
 ELE 734 Low Power Digital Integrated Circuits  
 ELE 744 Electronics and Instrumentation

**PROFESSIONAL ELECTIVE:** Select one course from Table II not included in Required–Group 1.**Multimedia Systems Option****REQUIRED–Group 1**

ELE 732 Digital Signal Processing  
 ELE 795 Basics of Multimedia Systems

**REQUIRED–Group 2:** Select one course from

COE 768 Computer Networks  
 ELE 745 Digital Communication Systems

**PROFESSIONAL ELECTIVE:** Select one course from Table II not included in Required–Group 1 & Group 2.**Robotics and Control Systems Option****REQUIRED–Group 1**

ELE 709 Real-time Computer Control System  
 ELE 729 System Identification  
 ELE 732 Digital Signal Processing

**PROFESSIONAL ELECTIVE:** Select one course from Table II not included in Required–Group 1.

\* This course has a weight of .50

**8<sup>th</sup> SEMESTER** Winter 2007, Winter 2008, Winter 2009

**REQUIRED – Common to all options and regular program**

ELE 800*	Design Project
CEN 800	Law and Ethics in Engineering Practice

**REQUIRED–Group 1:** Select four courses from the following

COE 608	Computer Organization and Architecture
COE 808*	Programming Languages
COE 865**	Advanced Computer Networks
ELE 804	Advanced Electronics III
ELE 809**	Digital Control Systems Design
ELE 813	VLSI Circuit Testing
ELE 815	Cellular Mobile Communications
ELE 825**	Digital Coding of Waveforms
ELE 829*	System Models and Identification
ELE 846	Power Systems
ELE 847	Advanced Electromechanical Systems
ELE 861	Microwave Engineering
ELE 863**	VLSI Systems Design
ELE 864**	Electric Drives
ELE 869	Robotics
ELE 874	Biomedical Instrumentation
ELE 884	Photonics
ELE 885	Optical Communication Systems
ELE 888**	Intelligent Systems

\* This course has a weight of 1.50

\*\* Students must select a minimum of two of these courses.

**8<sup>th</sup> SEMESTER:** Revised Program Commencing Winter 2010

**REQUIRED – Common to all options and regular program**

ELE 800*	Design Project
CEN 800	Law and Ethics in Engineering Practice

**Regular Program**

**PROFESSIONAL ELECTIVE:** Select four courses from Table II.

**Energy System Option**

**REQUIRED–Group 1**

ELE 806	Alternative Energy Systems
ELE 846	Power Systems Control
ELE 864	Electric Drives

**PROFESSIONAL ELECTIVE:** Select one course from Table II not included in Required–Group 1.

**Microsystems Option**

**REQUIRED–Group 1**

ELE 804	Advanced Electronics III
ELE 813	VLSI Circuit Testing
ELE 863	VLSI Systems

**PROFESSIONAL ELECTIVE:** Select one course from Table III not included in Required–Group 1.

**Multimedia Systems Option**

**REQUIRED–Group 1**

ELE 882	Introduction to Digital Image Processing
ELE 888	Intelligent Systems

**REQUIRED–Group 2:** Select one course from

COE 865	Advanced Computer Networks
ELE 815	Cellular Mobile Communications
ELE 885	Optical Communication Systems

**PROFESSIONAL ELECTIVE:** Select one course from Table III not included in Required–Group 1 and Group 2.

**Robotics and Control Systems Option**

**REQUIRED–Group 1**

ELE 809	Digital Control System Design
ELE 869	Robotics
ELE 888	Intelligent Systems

**PROFESSIONAL ELECTIVE:** Select one course from Table III not included in Required–Group 1.

\* This course has a weight of 1.50

COE 518	Introduction to Operating Systems
COE 718	Hardware-Software Co-design of Embedded System
COE 768	Computer Networks
ELE 703	Simulation and Computation Techniques
ELE 704	CMOS Analog Integrated Circuits
ELE 709	Real-time Computer Control System
ELE 729	System Identification
<b>ELE 732</b>	<b>Digital Signal Processing</b>
ELE 734	Low Power Digital Integrated Circuits
<b>ELE 744</b>	<b>Electronics and Instrumentation</b>
ELE 745	Digital Communication Systems
ELE 746	Power System Analysis
ELE 747	Adv Electromechanical System
ELE 754	Power Electronics
ELE 772	Biomedical Signal Analysis
<b>ELE 795</b>	<b>Basics of Multimedia Systems</b>

**PROFESSIONAL ELECTIVES TABLE III**

COE 608	Computer Organization and Architecture
COE 618	Object Oriented Eng Analysis and Design
COE 865	Advanced computer Networks
ELE 804	Advanced Electronics
<b>ELE 806</b>	<b>Alternative Energy Systems</b>
ELE 809	Digital Control System Design
ELE 813	VLSI Circuit Testing
ELE 815	Cellular Mobile Communications
ELE 846	Power System Control
ELE 861	Microwave Engineering
ELE 863	VLSI Systems
ELE 864	Electric Drives
ELE 869	Robotics
ELE 874	Biomedical Instrumentation
<b>ELE 882</b>	<b>Introduction to Digital Image Processing</b>
ELE 884	Photonics
ELE 885	Optical Communication Systems
ELE 888	Intelligent Systems