

Electrical Engineering Course work

List of M.Sc. by Research / Ph.D. course work subjects that can be offered under
Electrical Engineering Group from 2009

| Group I | | Group II | | Group III | | Group IV | |
|--------------|---|--------------|--|--------------|--------------------------------------|--------------|----------------------------|
| Subject Code | Name of the subject | Subject Code | Name of the subject | Subject Code | Name of the subject | Subject Code | Name of the subject |
| 09 ECD 142 | Dynamics of analog & Discrete Time Systems | 09 EEM 141 | Computer modelling of Electrical Power Systems | 09 EES 141 | Power System Instrumentation | 09 EPS 142 | Dynamics of Linear Systems |
| 09 ECD 143 | VLSI Design | 09 EEM 142 | Switched Mode Power Conversion | 09 EES 144 | Alternate Energy Sources | 09 EPS 151 | Energy Management Systems |
| 09 ECD 144 | Advanced Network Analysis and synthesis | 09 EEM 151 | Bio-Mass Energy Resources | 09 EES 151 | Digital Power System Protection | 09 EPS 152 | Digital Signal Processing |
| 09 ECD 152 | Protection techniques for Electrical Machines | 09 EEM 152 | Engineering Economics and Management | 09 EES 242 | Power System Reliability Engineering | 09 EPS 241 | HVDC Power Transmission |

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| 09 ECD 243 | Design of analog and Discrete Time Control Systems | 09 EEM 241 | AI Applications to energy Management | 09 EES 243 | HVDC/EHVAC Transmission and FACTS | 09 EPS 243 | Non linear Automatic Control Theory |
| 09 ECD 244 | Non Linear Systems | 09 EEM 242 | Environmental Engineering and Pollution Control | 09 EES 291 | Software Engineering | 09 EPS 252 | AI Applications in Power Systems |
| 09 ECD 251 | Discrete Control Systems & Multi Variable Control | 09 EEM 243 | Computer Aided power system operation and Alalysis | 09 EES 252 | Parallel Processing in Power Systems | 09 EPS 253 | Power System Reliability Engineering |
| 09 ECD 252 | Computer Based Industrial Drive Control | 09 EEM 251 | HVDC Transmission | 09 EES 253 | Environmental Aspects of Power Generation and Transmission | 09 EMS 252 | Computer based industrial control |
| 09 EMS 11 | Analysis of Linear Systems | 09 SCN 13 | Distributed Computing | 09 SCN 251 | Optical Communications & Fiber Optic Networks | 09 SCN 152 | Multimedia Networks |

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|------------|---|------------|---|------------|--|------------|----------------------------------|
| 09 SCN 11 | Advanced Digital Communication | 09 SCE 142 | Computer Graphics | 09 SCE 143 | Digital Image Processing & Computer Vision | 09 SCE 11 | Computer Architecture |
| 09 SCN 253 | Client Server Programming & Application | 09 SCE 13 | Database Management Systems | 09 SCE 151 | Object Oriented Analysis & Design | 09 SCE 152 | Pattern Classification |
| 09 SCE 12 | Data Structure & Algorithms | 09 SCE 21 | Operating Systems & Linux Internals | 09 SSE 22 | Product Engineering | 09 SCE 252 | Embedded & Real Time Systems |
| 09 SCE 153 | Digital Signal Processing | 09 SCS 141 | Theoretical Foundations of Computer Science | 09 SCS 152 | Artificial Intelligence & Expert Systems | 09 SCS 242 | Data Warehousing & Mining |
| 09 SCE 253 | Compiler Design Tools & Techniques | 09 SIT 141 | System Simulation & Modeling | 09 SSE 151 | Advanced Algorithms | 09 SSE 153 | Multimedia Information Systems |
| 09 SCS 23 | Computer Networks | 09 SSE 23 | Software Architecture | 09 SSE 242 | Software Quality Assurance & Testing | 09 SSE 243 | Systems Performance & Evaluation |
| 09 SCE 22 | Software | 09 SCN 22 | Cryptograph | 09 EC 052 | Multimedia | 09 EC 097 | High |

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| | Engineering | | y & Network Security | | Communication | | Performance Computing |
| 09 SCN 21 | Wireless & Mobile Networks | 09 EC 056 | Network Programming | 09 EC 063 | Power Semiconductor devices | 09 EC 035 | Electrical machine dynamics |
| 09 EC 023 | Cryptography and Network Security | 09 EC 0026 | Design of Power Converters | | | 09 EC 083 | VLSI Technology |
| 09 EC 036 | Electromagnetic Compatibility | 09 EC 078 | Testing and verification of VLSI Circuits | 09 EC 049 | Micro computer control of electrical Drives | 09 EC 062 | Power electronics system Design with Ics |
| 09 EC 002 | Advanced Bio-medical Instrumentation | 09 EC 042 | HV- DC Power Transmission | 09 EC 051 | Modeling and Simulation of Data networks | 09 EC 091 | Digital Switching Systems |
| 09 EC 005 | Advanced control systems | 09 EC 039 | Error Control Coding | 09 EC 020 | CMOS RF Circuit Design | 09 EC 025 | Design of Analog & Mixed mode VLSI Circuits |
| 09 EC 006 | Advanced Digital | 09 EC 012 | ASIC Design | 09 EC 068 | Radar Systems | 09 EC 086 | Wireless Communicati |

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| | Communications | | | | | | ons |
| 09 EC 010 | Algorithms for VLSI Design Automation | 09 EC 028 | Detection and Estimation | 09 EC 053 | Multirate Systems and Filter Banks | 09 EC 079 | Theory & Design of Bio-Medical Instruments |
| 09 EC 011 | Antenna Theory & Design | 09 EC 038 | Ergonomics | 09 EC 041 | Hardware - Software Co-design | 09 EC 047 | Low power VLSI Design |
| 09 EC 017 | Bio- medical Signal Processing | 09 EC 037 | Embedded System Design | 09 EC 070 | Real Time Embedded Systems | 09 EC 077 | Synthesis and Optimization of Digital Circuits |
| 09 EC 027 | Design of VLSI Systems | 09 EC 032 | Digital System Design Using VHDL | 09 EC 060 | Pattern Recognition | 09 EC 075 | Speech and Audio Processing |
| 09 EC 029 | Digital Circuits and Logic Design | 09 EC 043 | Image and Video Processing | 09 EC 050 | Mobile Computing | 09 EC 055 | NET Technology |
| 09 EC 030 | Digital Signal | 09 EC 040 | Ethernet Technology | 09 EC 076 | Statistical Signal | 09 EC 092 | Parallel Systems |

| | Compression | | | | Processing | | |
|-----------|------------------------------|-----------|--|-----------|---|-----------|------------------------------------|
| 09 EC 033 | Distributed Computing | 09 EC 082 | VLSI System and Architecture | 09 EC 084 | Web Services | 09 EC 094 | Advanced Data Networks |
| 09 EC 046 | Linear Algebra | 09 EC 067 | Protocal engineering | 09 EC 093 | High Speed VLSI Design | 09 EC 059 | Optical communication & Networking |
| 09 EC 057 | Network Protocal Design | 09 EC 072 | Soft Computing | EG-31* | RF & MMIC Design and Technology | - | - |
| 09 EC 085 | Wireless & ATM Networks | EG-21* | Vacuum and Thin film science and technology | EG-32* | Suggested Subject relevant to the chosen area Thin Film Instrumentation Technology. | - | - |
| EG-11* | Nanoelectronics | EG-22* | Suggested Subject relevant to the chosen area Senors & application | - | - | - | - |
| EG-12* | GaAs and Related devices and | - | - | - | - | - | - |

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| | Technology | | | | | | |
| - | - | EC-23 | Numerical Techniques in Electromagn etic | - | - | - | - |
| * This are new courses | | | | | | | |