

Master of Science in Electrical Engineering Technology

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|-------------------|-------|--------------------------------------|----------------------|
| Program Code | 116 | Minimum Duration | 4 Semesters, 2 Years |
| Number Of Courses | 9-12 | Maximum Duration | 8 Semesters, 4 Years |
| Credit Hours | 32-35 | Minimum CGPA Required To Earn Degree | 2.50 |

PROGRAM OBJECTIVES:

The objective of the program are to:

- Help graduates develop a more profound knowledge base of the particular subject at an advanced level.
- Equip graduates with the necessary tools to undergo simulation studies, research, optimize engineering designs and solutions.
- Assist and motivate graduates to become leaders, entrepreneurs, consultants, and successful engineers.
- Emphasize importance of continuous learning and skill development to function and survive in a competitive landscape.
- Make graduates understand the importance of team building, effective communication skills, and function efficiently as an individual and as a part of a team.
- Emphasize on upholding professional ethics.

PROGRAM OUTCOMES::

After completion of the MS program in Electrical Engineering Technology, scholars will be able to:

- Apply knowledge of Electrical Technology mathematics and sciences fundamentals
 - Identify and formulate Electrical Technology, problem, and to find out their solutions
- Technically communicate efficiently and clearly using oral, written and graphical form.

ELIGIBILITY :

Candidate having 16 years of education in B-Tech/BSc Engineering Technology/BE in relevant field with 2.00 CGPA on the scale of 4.00 in semester system or at least 50% marks in annual system from any recognized institute/university is eligible to apply.

Applicant needs to pass GAT (General) to be conducted by NTS/ETEA/any Registered Testing Agency or University, with at least 50% cumulative score and to clear departmental interview at the time of admission.

SPECIALIZATIONS OFFERED

Electronics and Communications

Power System

ELECTRONICS AND COMMUNICATION SEMESTER 1

| Course Code | Course Title | Cr. Hrs. 9 |
|-------------|--------------|------------|
| | Core-I | 3-0 |
| | Core-II | 3-0 |
| | Elective I | 3-0 |

POWER SYSTEM SEMESTER 1

| Course Code | Course Title | Cr. Hrs. 9 |
|-------------|--------------|------------|
| | Core-I | 3-0 |
| | Core-II | 3-0 |
| | Elective I | 3-0 |

MASTER OF SCIENCE IN ELECTRICAL ENGINEERING TECHNOLOGY

ELECTRONICS AND COMMUNICATION

SEMESTER 2

| Course Code | Course Title | Cr. Hrs. 9 |
|-------------|--------------|------------|
| | Core-III | 3-0 |
| | Core-IV | 3-0 |
| | Elective II | 3-0 |

SEMESTER 3

| Course Code | Course Title | Cr. Hrs. 8 |
|-------------|----------------------|------------|
| | Core-V | 3-0 |
| | Core-VI | 3-0 |
| RES581 | Research Methodology | 2-0 |

SEMESTER 4

| Course Code | Course Title | Cr. Hrs. 6/9 |
|-------------|-----------------|--------------|
| | Elective III | 3-0 |
| | Elective IV | 3-0 |
| | Elective V | 3-0 |
| | OR | |
| RES 690 | Thesis (PLAN A) | 0-6 |

POWER SYSTEM

SEMESTER 2

| Course Code | Course Title | Cr. Hrs. 9 |
|-------------|--------------|------------|
| | Core-III | 3-0 |
| | Core-IV | 3-0 |
| | Elective II | 3-0 |

SEMESTER 3

| Course Code | Course Title | Cr. Hrs. 8 |
|-------------|----------------------|------------|
| | Core-V | 3-0 |
| | Core-VI | 3-0 |
| RES581 | Research Methodology | 2-0 |

SEMESTER 4

| Course Code | Course Title | Cr. Hrs. 6/9 |
|-------------|-----------------|--------------|
| | Elective III | 3-0 |
| | Elective IV | 3-0 |
| | Elective V | 3-0 |
| | OR | |
| RES 690 | Thesis (PLAN A) | 0-6 |

LIST OF CORE COURSES

ELECTRONICS AND COMMUNICATION

| Course Code | Course Title | Cr. Hrs. |
|-------------|------------------------------------------|----------|
| ET 626 | Solid State Electronics | 3-0 |
| ET 635 | Wireless Networks | 3-0 |
| ET 535 | Linear Systems and Control | 3-0 |
| ET 522 | Advanced Digital Signal Processing | 3-0 |
| ET 507 | Advanced Power Electronics | 3-0 |
| ET 631 | Advanced Electronics Devices | 3-0 |
| ET 649 | Advanced Communication Technology | 3-0 |
| ET 619 | Radio Frequency and Microwave Technology | 3-0 |
| ET 643 | Digital Communication | 3-0 |
| ET 650 | Solar Cell Technology | 3-0 |

POWER SYSTEM

| Course Code | Course Title | Cr. Hrs. |
|-------------|------------------------------------|----------|
| ET 603 | High Voltage Technology | 3-0 |
| ET 519 | Power System Technology | 3-0 |
| ET 529 | Power System Operation | 3-0 |
| ET 507 | Advanced Power Electronics | 3-0 |
| ET 535 | Linear Systems and Control | 3-0 |
| ET 526 | Power System Protection | 3-0 |
| ET 537 | Power System Stability and Control | 3-0 |
| ET 604 | Distributed Energy Generation | 3-0 |
| ET 501 | Renewable Energy Technologies | 3-0 |

**LIST OF ELECTIVES
ELECTRONICS AND COMMUNICATION**

| Course Code | Course Title | Cr. Hrs. |
|-------------|----------------------------------------------------------|----------|
| ET 601 | Digital Speech Processing | 3-0 |
| ET 637 | Optimization Techniques in Engineering | 3-0 |
| ET 624 | Advanced Communication Networks | 3-0 |
| ET 630 | Biometric Systems | 3-0 |
| ET 642 | Computational Photonics | 3-0 |
| ET 644 | Optical Properties of Nanostructure Materials | 3-0 |
| ET 652 | Advanced Nanomaterials for Renewable Energy Applications | 3-0 |
| ET 605 | Digital Video System | 3-0 |
| ET 654 | Performance, Modeling and Simulation | 3-0 |
| ET 609 | Computer Vision | 3-0 |
| ET 648 | Advanced Data Communication | 3-0 |
| ET 611 | Pattern Recognition | 3-0 |
| ET 539 | Theory of Lasers | 3-0 |
| ET 621 | Antenna and Wave Propagation | 3-0 |
| ET 544 | Neural Networks | 3-0 |
| ET 639 | Advanced Mobile Communication | 3-0 |
| ET 645 | Digital Control Systems | 3-0 |
| ET 563 | Advanced Optical Communication | 3-0 |
| ET 540 | Stochastic Processes | 3-0 |
| ET 541 | Multimedia Systems and Communication | 3-0 |
| ET 622 | Optics, Vision and Cameras | 3-0 |
| ET 628 | Nano-Electronics | 3-0 |
| ET 632 | Optoelectronics and Photonics | 3-0 |
| IT 515 | Artificial Intelligence | 3-0 |
| ET 511 | Applied Photovoltaic Engineering | 3-0 |
| ET 534 | Photoactive Materials and Their Characterization | 3-0 |
| ET 624 | Advanced Computer Networks | 3-0 |
| ET 669 | Personal and Mobile Communication | 3-0 |
| ET 672 | Advanced Satellite Communication System | 3-0 |
| ET 666 | Materials Characterization Techniques | 3-0 |
| ET 674 | Special Electromechanical Devices | 3-0 |
| ET 673 | Electric Drive Systems | 3-0 |
| ET 604 | Distributed Energy Generation | 3-0 |
| ET 505 | Power Electronics and Machines | 3-0 |
| ET 676 | Magnetic Measurements and Electrical Machines | 3-0 |
| ET 661 | Automated Distributed Power System | 3-0 |
| ET 663 | Smart Grid | 3-0 |
| ET 665 | Management of Technology | 3-0 |

POWER SYSTEM

| Course Code | Course Title | Cr. Hrs. |
|-------------|----------------------------------------------------------|----------|
| ET 514 | Power System Planning & Design | 3-0 |
| ET 637 | Optimization Techniques in Engineering | 3-0 |
| ET 607 | Power Quality | 3-0 |
| ET 613 | Flexible AC Transmission | 3-0 |
| ET 623 | Advanced Topics in Power Engineering | 3-0 |
| ET 560 | Energy Management | 3-0 |
| ET 650 | Solar Cell Technology | 3-0 |
| ET 517 | Power Distribution, Control & Automation | 3-0 |
| ET 652 | Advanced Nanomaterials for Renewable Energy Applications | 3-0 |
| ET 654 | Performance, Modeling and Simulation | 3-0 |
| ET 633 | Power System Reliability | 3-0 |
| ET 631 | Advanced Electronics Devices | 3-0 |
| ET 641 | Modeling & Simulation of Power System Components | 3-0 |
| ET 647 | Dielectric & Electrical Insulation Materials | 3-0 |
| ET 662 | Hydro Power Engineering | 3-0 |
| ET 515 | Artificial Intelligence | 3-0 |
| ET 505 | Power Electronics & Machines | 3-0 |
| ET 664 | Environment Impact Assessments | 3-0 |
| ET 511 | Applied Photovoltaic Engineering | 3-0 |
| ET 513 | Renewable Energy Mega Power Plants | 3-0 |
| ET 666 | Materials Characterization Techniques | 3-0 |
| ET 676 | Magnetic Measurements and Electrical Machines | 3-0 |
| ET 534 | Photoactive Materials and Their Characterization | 3-0 |
| ET 661 | Automated Distributed Power System | 3-0 |
| ET 663 | Smart Grid | 3-0 |
| ET 665 | Management of Technology and Innovation (MOTI) | 3-0 |