Courses to be offered for the April 2024 PG Semester
Department of EEE, BUET

Date: September 10, 2024

Sl. no.	Course No.	Course Title	Course Teacher	Day, Time and Classroom
1.	EEE 6208	Advanced Multimedia Communication	Dr. Md. Saifur Rahman	Saturday 2 – 5 pm ECE 625
2.	EEE6410	Semiconductor Characterization Technology	Dr. Md. Shafiqul Islam	Tuesday 2 – 5 pm ECE 634
3.	EEE 6203	Advanced Digital Signal Processing	Dr. Md. Kamrul Hasan	Sunday 10 – 1 pm ECE 6_ _
4.	EEE 6407	Carbon Nanotechnology	Dr. Sharif Mohammad Mominuzzaman	Saturday 10:30 - 1:30 pm ECE 625
5.	EEE 6003	Solar Photovoltaic Systems	Dr. Md. Ziaur Rahman Khan	Sunday 10 – 1 pm ECE 625/634
6.	EEE 6608	Machine Learning and Pattern Recognition	Dr. Shaikh Anowarul Fattah	Saturday 11 – 2 pm ECE 625
7.	EEE6503	Laser Theory	Dr. Md. Nasim Ahmed Dewan	Tuesday 2 – 5 pm ECE _ _ _
8.	EEE6009	Energy Planning	Dr. Farseem Mannan Mohammedy	**Wednesday** 3 – 6 pm ECE 1107
9.	EEE 6614	Satellite Communication Systems	Dr. Mohammad Faisal	Monday 5 – 8 pm ECE 632
10.	EEE 6207	Broadband Wireless Communications	Dr. Md. Forkan Uddin	Saturday 5 – 8 pm ECE 634
11.	EEE 6512	Nanoscale Device Modeling and Simulation Techniques	Dr. Md. Kawsar Alam	**Saturday** 2 – 5 pm ECE 627
12.	EEE6606	Optical Waveguide Theory	Dr. Md. Zahurul Islam	Saturday **3 – 5:30 pm** ECE 632
13.	EEE 6011	Semiconductor Detector for Image Sensors	Dr. Shaikh Asif Mahmood	Wednesday 5 – 8 pm ECE 625
14.	EEE 6301	Power Semiconductor Circuits	Yeasir Arafat	Saturday 5 – 8 pm ECE 627
15.	EEE 6615	Advanced Electromagnetic Theory	Dr. Md. Asiful Islam	Wednesday 10 – 1 pm ECE 627

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Sl. no.	Course No.	Course Title	Course Teacher	Day, Time and Classroom
16.	EEE 6002	Selected Topics in Electrical and Electronic Engineering (Quantum Computing and Quantum Photonics)*	Dr. Sajid Muhaimin Choudhury	Wednesday 2 – 5 pm ECE 625
17.	EEE 6004	Medical Imaging	Dr. Maruf Ahmed	Tuesday 2 – 5 pm ECE 627
18.	EEE 6509	Solar Cells	Dr. Ehsanur Rahman	Saturday 2 – 5 pm ECE 627

* EEE 6002 - Selected Topics in Electrical and Electronic Engineering
Topic Title: Quantum Computing and Quantum Photonics

Course Content: Introduction to quantum computing, circuits and single-qubit gates, Qubits, bra-ket notation, superposition, and measurements, Rotation gates, the Bloch sphere and quantum state preparation, Measurements and expectation values; Introduction to multi-qubit circuits and entanglement, Quantum Algorithms - No cloning theorem and quantum teleportation, Deutsch-Jozsa algorithm, Grover's algorithm, Quantum Fourier Transform (QFT), Shor's algorithm, quantum error correction. Quantum Algorithms simulation.
Introduction to quantum hardware - fault-tolerant architecture, Photonic quantum computers, Trapped ions, Superconducting qubits, Neutral-atom quantum computers, Pulse programming on Rydberg atom hardware, Introduction to quantum photonics and continuous variable Quantum Computing, Annihilation and creation, quadrature and number operators, Continuous-variable (CV) quantum circuits, Quantum photonics for information processing.