Attachment 1 Full

Name:

LALISE FUFI NAMERA

Grading system [1]:

- A+ = **90-100%** (Excellent, First class with Great Distinction)
- A = **85-89%** (Excellent)
- A– = **80-85%** (Very Good, First Class with Distinction)
- B+ = **75-79%** (Very Good, First Class)
- B = **70-74%** (Good, First Class)
- B– = **65-69%** (Good, Second Class)
- C+ = **60-64%** (Satisfactory, Second Class)
- C = **50-59%** (Satisfactory)
- C– = **45-49%** (Unsatisfactory, Lower Class)
- D = **40-44%** (Pass, Lower Class)

- F = **below 40%** (Fail, Lowest Class)

DESCRIPTION OF ATTENDED COURSES (2)

Course Unit Title (3)	Main contents (4) [min. 100, max. 500 characters]	Books used (5)	Hours (6)	Grade (3)
General Physics I (Phys1011)	foundational concepts in mechanics, motion, forces, energy, work, power, rotational dynamics, and gravitation. Students study kinematics, Newton's laws, conservation of energy and momentum, circular motion, and basic thermodynamics, with practical applications and problem-solving in real-world scenarios.	• Fundamentals of Physics(Halliday, Resnick, Walker) •	3	A
Applied Mathematics I(MATH1101)	introduces mathematical methods essential for solving problems in science and engineering. Topics include ordinary differential equations (ODEs), vector analysis, linear algebra, matrix theory, and series.	• Applied Mathematics for Engineers and Scientists(Louis A. Pipes, Lawrence R. Harvill)	4	C+
Introduction to computing(CSE1101)	provides foundational knowledge of computer science. The course covers basic concepts in computing, algorithms, programming languages, data structures, and hardware. Key topics include problem-solving with programming, software development, using languages like Python or C++, and an introduction to databases and file systems. Students learn to write and debug simple programs, focusing on logical thinking and computational skills	• Introduction to Computing and Programming in Python (Jason Boyd & Charles Severance) • Computer Science: An Overview • CProgramming Language	3	B
Applied Mathematics II(MATH1102)	focusing on advanced mathematical techniques. Topics include partial differential equations, Fourier analysis, complex analysis, vector calculus, and probability theory. Students will study techniques for solving multidimensional problems, applying these methods to real-world problems in physics, engineering, and applied sciences. Emphasis is placed on both analytical and numerical methods.	• Advanced Engineering Mathematics (Erwin Kreyszig)	4	C+
General Physics II (Phys1012)	focusing on electromagnetism, optics, and modern physics. Topics include electric fields, magnetic fields, electromagnetic waves, circuits, optics (reflection, refraction, lenses), and an introduction to quantum mechanics and relativity.	• Physics for Scientists and Engineers(Raymond A. Serway, John W. Jewett)	3	B

Fundamental of Programming (CSE1102)	introduces students to the basic concepts of programming and problem-solving. Topics include variables, data types, control structures (loops, conditionals), functions, arrays, and basic algorithms. Students will learn programming languages such as Python or C++, focusing on writing and debugging code, understanding logic, and developing efficient algorithms. The course emphasizes practical coding skills and computational thinking	• Introduction to C++ Programming (Stephen G. Kochan) • C Programming Language(Brian W. Kernighan, Dennis M. Ritchie)	3	B
Applied Mathematics III(MATH1103)	focuses on advanced mathematical techniques and their applications in science and engineering. Topics include advanced vector calculus, Green's Theorem, Stokes' Theorem, Laplace transforms, numerical methods, and complex variables. The course emphasizes solving real-world problems using analytical and numerical approaches, preparing students for complex system modeling and simulations	• Numerical Methods for Engineers(Steven C. Chapra, Raymond P. Canale)	4	A
Electronic Circuits-I(ECE2101)	introduces the fundamentals of analog electronics, covering topics like diodes, transistors, amplifiers, filters, and oscillators. Students learn circuit analysis, design, and application of basic electronic components.	• Electronic Devices and Circuit Theory (Robert L. Boylestad, Louis Nashelsky)	4	A+
Data Structure and Algorithm(CSE2112)	covers essential data structures (arrays, stacks, queues, linked lists, trees, graphs) and algorithms for searching, sorting, and optimization. Students learn to design efficient algorithms and implement them in programming languages like C++ or Java, focusing on problem-solving, time complexity analysis, and optimizing code.	• Data Structures and AlgorithmsC++(Adam Drozdek)	3	A
Fundamental of Electrical Eng(EPC2201)	introduces core electrical concepts, including circuit analysis, Ohm's law, Kirchhoff's laws, AC/DC circuits, and power systems. Topics also cover resistors, capacitors, inductors, transformers, and basic electrical measurements.	• Fundamentals of Electric Circuits(Alexander S. Nilsson, Susan A. Riedel)	4	B+
Engineering Mechanics I(statics)(CEN2201)	focuses on the study of forces and their effects on rigid bodies at rest. Key topics include force systems, equilibrium, moments, centroids, friction, and structures like trusses and beams. The course emphasizes problem-solving techniques in analyzing static systems and applying equilibrium principles to real-world engineering problems.	• Engineering Mechanics: Statics(J.L. Meriam, L.G. Kraige) • Engineering Mechanics: Statics and Dynamics	3	C+

Signal and System Analysis(ECE2204)	covers continuous and discrete-time signals and systems. Topics include signal representation, Fourier and Laplace transforms, system properties, and filtering. It focuses on analyzing and designing systems for signal processing and communications.	• Signals and Systems (Alan V. Oppenheim, Alan S. Willsky) • Signals and Systems: Analysis and Design(M.J. Roberts)	3	A-
Computational Method(PCE2208)	introduces numerical techniques for solving mathematical problems. Topics include interpolation, numerical integration, differentiation, solving equations, and optimization methods.	• Numerical Methods for Engineers (Steven C. Chapra, Raymond P. Canale) • Applied Numerical Methods with MATLAB(Steven C. Chapra)	3	A
Probability and Random Process(ECE303)	covers probability theory, random variables, probability distributions, and stochastic processes. Topics include expectation, variance, Markov processes, and applications in communications and signal processing.	• Probability and Random Processes(T Veerarajan)	3	A
Electrical Network analysis and synthesis(PCE3201)	This course covers the analysis and synthesis of electrical circuits. Topics include network theorems, Laplace transforms, transfer functions, filters, and synthesis of passive networks.	• Network Analysis and Synthesis(Franklin F. Kuo)	3	A
Electronics Circuit – II(ECE2202)	covers advanced analog circuits, including oscillators, amplifiers, feedback systems, and tuned circuits. Emphasis is placed on design, analysis, and practical applications in electronics.	• Electronic Devices and Circuit Theory(Robert L. Boylestad, Louis Nashelsky)	4	A+
Power Electronics(PCE3202)	covers the principles and applications of electronic devices used in power conversion, including diodes, transistors, thyristors, and power supplies. Topics include converters, inverters, and voltage regulation.	• Fundamentals of Power Electronics(Robert W. Erickson, Dragan Maksimovic)	4	A-
Introduction to control system(PCE3204)	covers the principles of feedback control systems, including modeling, transfer functions, stability analysis, and controller design.	• Control Systems Engineering(Norman S. Nise)	3	A

Instrumentation and Measurement(PCE3206)	covers the principles and techniques used in measuring physical quantities. Topics include sensors, transducers, signal conditioning, data acquisition systems, and measurement error analysis.	• Measurement and Instrumentation: Theory and Application(Alan S. Morris, Reza Langari)	3	A-
Digital Logic Design(ECE3204)	covers the fundamentals of digital circuits and their application in computing systems. Topics include Boolean algebra, logic gates, combinational and sequential circuits, flip-flops, and finite state machines. The course emphasizes circuit design and optimization, focusing on digital logic's role in computer architecture, processors, memory, and control systems.	• Digital Logic Design: Principles and Practices(John F. Wakerly)	3	B+
Computer Architecture and Organization(ECE4201)	explores the structure and functioning of computer systems. Topics include CPU architecture, instruction sets, memory hierarchies, I/O systems, pipelining, and performance optimization, emphasizing the design and operation of modern computer systems.	• Computer Architecture: A Quantitative Approach (John L. Hennessy, David A. Patterson) • Modern Computer Architecture(Randal E. Bryant, David R. O'Hallaron)	3	A
Electrical and control lab(PCE4203)	provides hands-on experience with electrical circuits, control systems, and instrumentation. Students design, simulate, and test circuits, gaining practical skills in measurement, control, and system analysis.	• Electrical Engineering Lab Manual(S. K. Gupta)	2	B+
Digital Signal Processing(ECE3205)	covers techniques for analyzing and processing discrete-time signals. Topics include Fourier transforms, z-transforms, digital filters (FIR, IIR), and the implementation of algorithms using tools like MATLAB or Python.	• Digital Signal Processing (John G. Proakis, Dimitris K. Manolakis) • Discrete-Time Signal Processing(Alan V. Oppenheim, Ronald W. Schafer)	3	B+
Modern Control System(PCE4302)	covers advanced control theory, including state-space representation, system stability, control design, and feedback systems. Topics include optimal control, observers, and digital control systems.	• Modern Control Engineering(Ogata Katsuhiko)	3	A-

Microprocessor and Microcontroller applications(PCE4308)	This course explores the architecture, operation, and programming of microprocessors and microcontrollers. Topics include assembly language programming, interfacing techniques, memory management, and real-time system applications. Students learn to design and implement embedded systems for practical applications in automation, robotics, and control systems.	• Microcontrollers: Principles and Applications (Ajay V. Deshmukh) • Microprocessor and Microcontroller Applications(N. Senthil Kumar, M. Saravanan)	3	A
Microprocessor and Interfacing(ECE4202)	architecture, programming, and interfacing of microprocessors. Topics include assembly language programming, memory interfacing, I/O interfacing, and peripheral devices. Students learn to design and implement microprocessor-based systems for applications in embedded systems, automation, and control.	• Microprocessor Architecture, Programming, and Applications (Focuses on microprocessor architecture and practical programming) •	4	A
Microelectronic Device and circuits(ECE3206)	This course covers the fundamentals of semiconductor devices such as diodes, transistors, and operational amplifiers. Topics include device characteristics, amplifiers, feedback systems, and analog circuit design.	• Microelectronic Circuits(Adel S. Sedra, Kenneth C. Smith)	3	A-
Introduction to Communication system(ECE3202)	This course covers the basics of communication systems, including analog and digital modulation techniques, signal transmission, noise analysis, and the fundamentals of receivers and transmitters.	• Introduction to Communication Systems(Irodov)	4	A
Intelligent Controller(PCE 5201)	This course explores advanced control strategies using artificial intelligence. Topics include fuzzy logic, neural networks, genetic algorithms, and their applications in intelligent control systems for automation and robotics.	• Intelligent Control Systems(Andronicus V. Tsiotras)	3	A
Process control fundamental(PCE5303)	This course covers the principles of process control, including control loops, feedback systems, and stability analysis. Topics include PID controllers, process modeling, and real-time control applications in industries like chemical, manufacturing, and energy.	• Introduction to Process Control(Carlos A. Smith, Armando B. Corripio)	3	A+
Communication Systems(ECE4203)	This course covers the theory and techniques of modern communication systems, including analog and digital modulation, transmission methods, noise analysis, and signal detection in communication channels.	• Communication Systems(Simon Haykin)	3	A

VLSI Design(ECE5307)	This course covers the fundamentals of VLSI (Very-Large-Scale Integration) design, including CMOS technology, logic gates, semiconductor devices, chip design, fabrication processes, and system integration for modern electronics.	• VLSI Design(Samuel D. Senturia)	3	A+
Embedded Syetem(PCE5305)	This course covers the design and development of embedded systems, focusing on microcontrollers, real-time operating systems, hardware/software interfacing, and applications in automation, robotics, and control systems.	• Embedded Systems: Architecture, Programming, and Design(Jean J. Labrosse)	3	B+
Wireless and Mobile Communication(ECE5201)	This course covers the principles of wireless and mobile communication systems, including cellular networks, modulation techniques, signal propagation, mobile data transmission, and network protocols for mobile systems.	• Wireless Communications (Theodore S. Rappaport) • Principles of Mobile Communication(Gordon L. Stüber)	3	A+
Introduction to robotics and industrial Automation(PCE5308)	This course introduces robotics and automation in industrial settings. Topics include robotic kinematics, dynamics, control systems, sensors, actuators, and the integration of robotics in manufacturing and automation processes.	• Introduction to Robotics: Analysis, Control, Applications(Saeed B. Niku)	3	A-
Antenna and Radio wave Propagation(ECE4204)	This course covers the principles of antenna theory, design, and radiation patterns. Topics include antenna types, impedance matching, radio wave propagation, and factors affecting signal transmission in various environments.	• Antennas and Propagation for Wireless Communication Systems(Simon Saunders, Alejandro Aragon-Zavala)	3	A-

I declare under my full responsibility that I have given correct and true information on all of the above.

Date and place

Signature

January 03,2025