COME 6301 Advanced Computer Architecture
Prerequisite: COME 3311 Computer Architecture

COME 6302 Engineering Optimization
Prerequisite: MATH 2401 Differential Equations and Linear Algebra

COME 6303 Advanced Computer Networks
Prerequisite: COME 4321 Computer Networks

COME 6304 Pattern Recognition
Classifiers Based on Bayes Decision Theory, Linear Classifiers, Non Linear Classifiers, Feature Selection, Feature Generation, Template Matching, Context Dependent Classification, Clustering, System Evaluation.
Prerequisite: COME 6302 Engineering Optimization

COME 6305 Parallel Computer Architecture
Prerequisite: COME 6301 Advanced Computer Architecture
COME 6311 VLSI System Design
Prerequisite: EELE 3321 Digital Electronics

COME 6312 VLSI ASIC Design
MOS Transistor, Transistor Sizing, Circuit Layout, Static versus Dynamic Logic, MOS Logic Optimization of Delay and Area, ASIC Design Methodologies, Full Custom versus Semi-Custom, ASIC Library Design, Cell Characterization, Design Area and Delay, Standard Cell Design Methodology, Propagation Delay, Design Area, Critical Path, Placement and Routing of Cells, Design Optimization and Back annotation, Gate Arrays and Silicon Compilers, Programmable ASICs, Programmable Logic Cells, Programmable I/O, Programmable Interconnect, Hardware Description Languages, Technology Mapping and Synthesis, Test Techniques of ASICs, Fault Models, Boundary Scan and DFT.
Prerequisite: EELE 3321 Digital Electronics

COME 6313 Digital System Modeling and Verification
Prerequisite: COME 4311 Digital Systems Design

COME 6314 Digital System Testing
Prerequisite: COME 4311 Digital Systems Design

COME 6315 Superscalar Processor Design
Computer System Performance, Instruction Set Architecture, Integer and Floating Point Arithmetic, Interaction between Software and Hardware, Processor Implementation, Memory Systems, Input/Output, Verilog Hardware Description Language.
Prerequisite: COME 6305 Parallel Computer Architecture

COME 6316 Switching Theory
Review of Switching Algebra, Complex Gates, Boolean Algebra, Multiple-Valued Logic, Switch Network, Transient Analysis, Symmetric Functions, Unate Functions, Threshold Functions, Multiple-Output Network, Programmable Arrays, Fault Models, Test Sets, Multi-Stage Networks, Sequential-Circuit Analysis, Finite-State Machines, Multiple-Pulse and Non-Pulse Circuits, Asynchronous Circuit Design.
Prerequisite: COME 3311 Computer Architecture

COME 6317 Advanced Embedded Systems
Prerequisite: COME 3322 Embedded Systems

COME 6318 Selected Topics in Computer Hardware Engineering
Advanced Topics in Computer Hardware Engineering.
Prerequisite: Consent of Instructor

COME 6319 Local and Metropolitan Area Networks
Prerequisite: COME 6303 Advanced Computer Networks

COME 6320 Mobile Computing and Wireless Networks
Prerequisite: COME 6303 Advanced Computer Networks

**COME 6321 Computer and Network Security**
Prerequisite: COME 6303 Advanced Computer Networks

**COME 6322 Fault Tolerance and Reliability in Computer Networks**
Prerequisite: COME 6303 Advanced Computer Networks

**COME 6323 Modeling and Analysis of Computer Networks**
Prerequisite: COME 6303 Advanced Computer Networks

**COME 6324 Protocol Engineering**
Prerequisite: COME 6303 Advanced Computer Networks

**COME 6325 Complex Embedded/Multimedia Computing Systems**
Prerequisite: EELE 4310 Digital Signal Processing
COME 6326 Real-time Systems
Prerequisite: COME 4312 Operating Systems

COME 6327 Advanced Database Systems
Bioinformatics, Watermarking and Encryption, XML Query Processing, XML Coding and Metadata Management, Data Mining, Data Generation and Understanding, Query Processing in Subscription Systems, Web Services, High-Dimensional Indexing, Sensor and Stream Data Processing, Database Performance Issues, Clustering, Classification and Data Warehouses, Data Mining and Web Data Processing, Moving Object Databases, Temporal Databases, Semantics, XML Update and Query Patterns, Join Processing and View Management, Spatial Databases.
Prerequisite: COME 4313 Database Systems

COME 6328 Principles of Broadband Networks
Low Bandwidth (Telemetry) and High Bandwidth Applications (Digitized Video), ATM, SONET, MPLS, High-Speed Switching Architecture, High-Speed Network Control, Unified Control Plane (GMPLS), Optical Networks, Designing Networking Systems, Simulation Techniques.
Prerequisite: COME 6303 Advanced Computer Networks

COME 6329 Selected Topics in Computer Networking
Advanced Topics in Computer Networking.
Prerequisite: Consent of Instructor

COME 6330 Java Parallel and Distributed computing
Design and Implementation of Distributed applications, Java as an Implementation Language, Remote Method Invocation (RMI), Common Object Request Broker Architecture (CORBA), Basic Building Blocks of Java Computing including Exceptions, Threads, Streams, Sockets, Servers.
Prerequisite: COME 6305 Parallel Computer Architecture

COME 6331 Distributed Systems
Inter-process Communication, Operating Systems, Middleware, Concurrency, Applications, Recent Advances and New Applications in Distributed Systems.
Prerequisite: COME 6305 Parallel Computer Architecture
COME 6332 Cluster Computing
Hardware and Software Tradeoffs for Cluster and Application Performance, Development, Management, and Programming of Cluster of Computers, Meta-Clustering (computational grids).
Prerequisite: COME 6305 Parallel Computer Architecture

COME 6333 Parallel Programming Languages
Architecture of Parallel Systems, Shared Memory, Distributed Memory, Data Parallel, Parallel Programming Languages and Automatic Parallelization of Programs.
Prerequisite: COME 6305 Parallel Computer Architecture

COME 6334 Parallel Compilers
Prerequisite: COME 6305 Parallel Computer Architecture

COME 6335 Grid Computing
Prerequisite: COME 6305 Parallel Computer Architecture

COME 6336 Parallel Operating Systems
Prerequisite: COME 6305 Parallel Computer Architecture

COME 6337 Message Passing Multiprocessing Systems
Prerequisite: COME 6305 Parallel Computer Architecture
COME 6338 Heterogeneous Computing
Prerequisite: COME 6305 Parallel Computer Architecture

COME 6339 Selected Topics in Parallel and Distributed Computing
Advanced topics in Parallel and Distributed Computing.
Prerequisite: Consent of Instructor

COME 6340 Artificial Intelligence
Prerequisite: COME 3312 Data Structures and Algorithms

COME 6341 Digital Image Processing
Prerequisite: EELE 3310 Signals and Linear Systems

COME 6342 Robot Modeling and Control
Prerequisite: EELE 3360 Feedback Control Systems

COME 6343 Neural Networks
Prerequisite: COME 3312 Data Structures and Algorithms

COME 6344 DSP Systems and Architectures
Classification of DSP Functional Units, Programmable DSP Architectures, Video Processors, Fine Grain Image Processors, Application Specific DSP Architectures, DSP Linear Array Architectures and their Synthesis, Mapping of
DSP Algorithms, Algorithmic and Architectural Transformation for DSP, VLIW DSP Architectures, Multimedia Processor Architectures, Memory Architecture for DSPs, Programmability of Advanced Architectures. Prerequisite: COME 6301 Advanced Computer Architecture

COME 6345 Intelligent Computing

COME 6346 Information Retrieval
Retrieval Strategies, Retrieval Utilities, Cross-Language Information Retrieval, Efficiency, Integrating Structured Data and Text, Parallel Information Retrieval, Distributed Information Retrieval. Prerequisite: Consent of Instructor

COME 6347 Multimedia

COME 6348 Modeling and Simulation

COME 6349 Medical Image Processing
Enhancement, Segmentation, Quantification, Registration, Visualization, Compression, Storage, Communication. Prerequisite: EELE 3310 Signals and Linear Systems

COME 6350 Selected Topics in Artificial Intelligence
Advanced topics in Artificial Intelligence. Prerequisite: Consent of Instructor
COME 6399 Thesis
The student has to undertake and complete a research topic under the supervision of a faculty member in order to probe in depth a specific problem in Computer Engineering.
Prerequisite: Successful completion of 18 credit hours of MS Computer Engineering core courses in addition to conditions mentioned in Higher Studies Regulations.

SHAR 6303   دراسة فقهية معاصرة
ضوابط الربح في الفقه الإسلامي وتحديده، أعمال التمويل والاستثمار التي تتعامل بها البنوك الإسلامية نظام التأمين بأنواعه الخلوات (خلو الرجل) مستجدات فقهية في قضايا الزواج والطلاق اختيار عدد من القضايا المعاصرة المستجدة بشكل مستمر.