Courses Description

College: Prince Alhussein Bin Abdullah The Second For Information Technology

Department: Computer Science And Applications(Csa)

Couse ID: 1001099	**Description:** Prerequest / Computer Skills

Full Course Description: jjjjjjjjjjjjjjjjjjjjjj

Couse ID: 1001100	**Description:** Computer Skills(1)

Full Course Description:

Couse ID: 1001101	**Description:** Fundamentals of Computer Science

Full Course Description: Introduction to C++, algorithms, algorithm design, selection and repetition statements, functions, storage classes, pointers, arrays, array searching and sorting, strings, manipulation of symbols and strings, structured programming, introduction to Object-Oriented Programming.

Couse ID: 1001102	**Description:** Fundamentals of Computer Science lab

Full Course Description: Introduction to C++, algorithms, algorithm design, selection and repetition statements, functions, storage classes, pointers, arrays, array searching and sorting, strings, manipulation of symbols and strings, structured programming, introduction to Object-Oriented Programming.

Couse ID: 1001103	**Description:** Computer Skills (1)

Full Course Description: Computer capabilities, limitations, and applications, system components, applications, programming language concepts, communication, and the use of software packages. personal computer and its practical use, including hardware, application and system software, the Internet and World Wide Web, communications, Networks, and computers in society.

Couse ID: 1001104	**Description:** Computer Skills (1)/lab

Full Course Description: Computer applications and software packages, using operating system windows and office applications such as MS word, Excel, PowerPoint, Internet and electronic mail.

Couse ID: 1001110	**Description:** Computer Skills(2)/(for Arts and Humanities)

Full Course Description: Advanced Applications for word processing and large documents, and using other applications such as Microsoft excel inside word processing, electronic tables and forms, building macros, mathematical operations and functions, charts and its practical applications, data base applications (e.g. Microsoft Access) in addition basic structure for data base and its different applications, and electronic publisher.

Couse ID: 1001115	**Description:** Computer Skills(2)/(for Science)

Full Course Description: An introduction to C++ language, data types, assignment statement, arithmetic and logical expressions, selection, repetition, arrays, strings, searching.

Couse ID: 1001120	**Description:** Logic Design

Full Course Description:

Couse ID: 1001121	**Description:** Logic Design

Full Course Description: An introduction to numbering systems, logic gates and Boolean algebra, minimizing the functions using Boolean rules and K-map rule, designing the combination, sequential logic circuits and counters, registers and transfer logic.

Couse ID: 1001122	**Description:** Logic Design Lab

Full Course Description: building circuits through different gates and basic logical circuits, testing number of logical circuits, and running these circuits.

Couse ID: 1001141	**Description:** Discrete Mathematics

Full Course Description: Logic, propositional logic, predicates, sets, functions, relations, matrices, algorithms and algorithm complexity, counting, permutations, recursion, graph theory, trees.

Couse ID: 1001210	**Description:** Visual Programming (1)

Full Course Description:

Courses Description

College: Prince Alhussein Bin Abdullah The Second For Information Technology

Department: Computer Science And Applications(Csa)

Couse ID: 1001211	**Description:** Visual Programming (1)

Full Course Description: Basic concepts and basic techniques of object-oriented and event-driven windows programming, Windows architectures, integrated development environment (IDE), message and event-driven programming, and graphical user interface (GUI) design and implementation.

Couse ID: 1001212	**Description:** Visual Programming (1) Lab

Full Course Description:

Couse ID: 1001213	**Description:** Fortran Programming Language

Full Course Description:

Couse ID: 1001221	**Description:** Computer Organization

Full Course Description: Computer components, internal link, central processing unit (CPU), numbering implementation, arithmetic and logical operations, group of commands for processing, addressing, processor structure and its functions, internal memory, external memory, organization of inputs and outputs, and basic of assembly language.

Couse ID: 1001241	**Description:** Theory of Computation

Full Course Description: Theories, techniques, mechanisms and tools related to the mathematical foundation of digital computers processing activities. Regular languages, Context-Free Languages, automata, finite-State machines, and turning Machines.

Couse ID: 1001251	**Description:** Data Structures

Full Course Description: Basic concepts of representations of data, including basic data types, stacks and queues, arrays and graphs, contiguous list, linked list, tree and binary tree, sorting techniques, searching and information retrievals.

Couse ID: 1001310	**Description:** Multimedia Programming

Full Course Description: Multimedia technologies, definitions and applications, visual data input/output devices, audio data input/output devices, multimedia information storage, operating system, support for multimedia applications, multimedia on the Internet/Web, graphical user-interface (GUI) libraries, multimedia support libraries, multimedia user-interfaces, and advanced topics.

Couse ID: 1001312	**Description:** Visual Programming (2)

Full Course Description: GUI-based applications, document-View architecture, object linking and embedding (OLE), and advanced component programming (Java-Beans & ActiveX) visual programming packages.

Couse ID: 1001314	**Description:** Visual Programming (2)

Full Course Description:

Couse ID: 1001320	**Description:** Computer Architecture

Full Course Description: History and evolution of computer system architecture, description of the components of the computer and its different levels, CPU design, pipeline, control unit design, microprogrammed & hardwired control unit, Cpu types, RISC & CISC, operating system support.

Couse ID: 1001321	**Description:** Computer Organisation and Architecture

Full Course Description: History and evolution of computer system architecture, description of the components of the computer and its different levels, CPU design, pipeline, control unit design, microprogrammed & hardwired control unit, Cpu types, RISC & CISC, operating system support.

Couse ID: 1001330	**Description:** System Programming

Full Course Description:

Courses Description

College: Prince Alhussein Bin Abdullah The Second For Information Technology

Department: Computer Science And Applications(Csa)

Couse ID: 1001331	**Description:** System Programming

Full Course Description: Review of assembly language principles, system software (assembler, compiler, interpreter, linker, loader, and text editor), introduction to operating systems and multiprogramming, and introduction to formal systems and programming languages.

Couse ID: 1001341	**Description:** Introduction to Numerical Methods

Full Course Description: Sources of error, accumulation of error, solve nonlinear equation in one variable interpolation, approximation, differentiation, numerical integration, direct, and iterative methods for solving liner systems of equations.

Couse ID: 1001342	**Description:** Operation Research

Full Course Description: Solving linear programming problems by using different methods such as simplex method, graphical method and sensitivity analysis, and applications of linear programming, such as, transportation problems, assignment and limitation problems, and network problems.

Couse ID: 1001351	**Description:** Algorithms

Full Course Description: Algorithm definition, method of algorithm analysis and design, divide and conquer strategy, sorting algorithms, quick sort, merge sort, searching algorithms, and network algorithms, dynamic programming, Greedy algorithms, graph algorithms, Shortest path algorithms, NP definition.

Couse ID: 1001370	**Description:** Computer Networks

Full Course Description:

Couse ID: 1001371	**Description:** Computer Networks

Full Course Description: Networks types, Protocols, Layered OSI and TCP/IP models, Cable tyes and specifications, Error control, Data rate, Wide Area Networks (WANs), circuit-switching, packet-switching, frame relay, asynchronous transfer mode (ATM), Routing, Congestion, local-area networks (LANs), Ethernet, wireless LANs.

Couse ID: 1001372	**Description:** Computer Networks Lab

Full Course Description:

Couse ID: 1001411	**Description:** Computer Graphics

Full Course Description: Networks types, Protocols, Layered OSI and TCP/IP models, Cable tyes and specifications, Error control, Data rate, Wide Area Networks (WANs), circuit-switching, packet-switching, frame relay, asynchronous transfer mode (ATM), Routing, Congestion, local-area networks (LANs), Ethernet, wireless LANs.

Couse ID: 1001430	**Description:** Operating Systems

Full Course Description:

Couse ID: 1001431	**Description:** Operating Systems

Full Course Description: Basic concepts of operating systems and their evolution, study of the basic components of the operating systems, CPU scheduling, Memory management, virtual memory, deadlocks, concurrent processing, and Disk scheduling are also handled.

Couse ID: 1001432	**Description:** Compilers

Full Course Description: Programming languages and their rules as well as the rules of their formulation, phases of compiler construction such as lexical analysis, syntax analysis, semantic analysis, code generation, and code optimization.

Couse ID: 1001470	**Description:** Advanced Computer Networks

Full Course Description:

Courses Description

College: Prince Alhussein Bin Abdullah The Second For Information Technology

Department: Computer Science And Applications(Csa)

Couse ID: 1001471	**Description:** Internet Protocols

Full Course Description: Internetworking concepts, TCP/IP internet protocol, Classful and classless IP addressing, subnetting, connection-oriented and connectionless protocols, Transport protocols, wireless networks.

Couse ID: 1001472	**Description:** Network Security

Full Course Description: Security requirements and attacks, security architectures, encryption, authentication, access control, hash functions, digital signatures, packet filters, firewalls, intrusion detection systems, security management and monitoring.

Couse ID: 1001473	**Description:** Network Security

Full Course Description:

Couse ID: 1001495	**Description:** Selected Topics in Computer Science

Full Course Description: Covering one of the recent topics in the field of computer science.

Couse ID: 1001498	**Description:** Practical Training

Full Course Description: The Bsc degree in (CS / CIS / SWE) requires 8 weeks of continuous training inside Jordan or 6 weeks continuous training outside Jordan.The training must be conducted within private or public sectors working in the IT field,wich requires the approval of the department.

A final report is also required,training can be replaced by a recognized certificate in the IT field.

Couse ID: 1001499	**Description:** Computer Science Project

Full Course Description: Designing and developing a software system in one of the computer science areas.

Couse ID: 111001100	**Description:** Introduction to Programming

Full Course Description: g

Couse ID: 111001101	**Description:** Introduction to Programming Lab

Full Course Description: g

Couse ID: 111001110	**Description:** Object Oriented (1)

Full Course Description: f

Couse ID: 111001111	**Description:** Object Oriented (1) Lab

Full Course Description: f

Couse ID: 111001123	**Description:** Digital Logic Design

Full Course Description: r

Couse ID: 111001212	**Description:** Object Oriented (2)

Full Course Description: fr

Couse ID: 111001213	**Description:** Object Oriented (2) Lab

Full Course Description: g

Couse ID: 111001214	**Description:** Visual Programming

Full Course Description: f

Couse ID: 111001215	**Description:** Visual Programming Lab

Full Course Description: j

Couse ID: 111001240	**Description:** Theory of Computation

Full Course Description: f

Courses Description

College: Prince Alhussein Bin Abdullah The Second For Information Technology

Department: Computer Science And Applications(Csa)

Couse ID: 111001250	**Description:** Data Structures
Full Course Description: d	
Couse ID: 111001321	**Description:** Internet Protocols
Full Course Description: g	
Couse ID: 111001341	**Description:** Operation Research
Full Course Description: gt	
Couse ID: 111001351	**Description:** Algorithms
Full Course Description: f	
Couse ID: 111001370	**Description:** Programming of Internet Applications
Full Course Description: f	
Couse ID: 111001371	**Description:** Programming of Internet Applications Lab
Full Course Description: f	
Couse ID: 111001372	**Description:** Bioinformatics
Full Course Description: f	
Couse ID: 111001373	**Description:** Simulation
Full Course Description: f	
Couse ID: 111001375	**Description:** Computer Vision
Full Course Description: f	
Couse ID: 111001416	**Description:** Programming Languages Design
Full Course Description: f	
Couse ID: 111001421	**Description:** Wireless Networking
Full Course Description: g	
Couse ID: 111001422	**Description:** Network Security
Full Course Description: gt	
Couse ID: 111001431	**Description:** Operating Systems
Full Course Description: f	
Couse ID: 111001432	**Description:** Compilers
Full Course Description: de	
Couse ID: 111001460	**Description:** Artificial Intelligence
Full Course Description: d	
Couse ID: 111001474	**Description:** Computer Graphics
Full Course Description: f	
Couse ID: 111001480	**Description:** Practical Training
Full Course Description: de	
Couse ID: 111001490	**Description:** Graduation Project (1)
Full Course Description: f	
Couse ID: 111001491	**Description:** Graduation Project (2)
Full Course Description: d	

Courses Description

College: Prince Alhussein Bin Abdullah The Second For Information Technology

Department: Computer Science And Applications(Csa)

Couse ID: 111001492	**Description:** Special Topics In Computer Science

Full Course Description: f

Couse ID: 121001100	**Description:** a

Full Course Description: ff

Couse ID: 151001460	**Description:** Artificial Intelligence

Full Course Description: m

Couse ID: 1910011100	**Description:** Introduction to Programming

Full Course Description: Introduce to the student the programming concepts using the C++ language. The course covers the fundamental concepts for analyzing problem statements, designing computer solutions, as well as an introduction into the syntax and semantics of the C++ language. It also focuses on Data types, variables, constant, Operators and expressions, Control flows, Functions, Arrays, and classes.

Couse ID: 1910011101	**Description:** Introduction to Programming Lab

Full Course Description: The course provides students with basic understanding of C++ programming language. It shows students the ideal way to create programs by c++ language. It introduces the history of computer programming languages, and in more details covers the C++ programming languages by study the syntaxes and rules of C++ languages.

Couse ID: 1910011110	**Description:** Object Oriented (1)

Full Course Description: This course provides students with a comprehensive study of the Java Programming Language. The course stresses the object paradigm including classes, inheritance, virtual functions, and templates in the development of Java programs. Lab exercises reinforce the lectures.

Couse ID: 1910011111	**Description:** Object Oriented Lab (1)

Full Course Description: The objectives of the course are to have students identify and practice the object-oriented programming concepts and techniques, practice the use of Java classes and class libraries, modify existing Java classes, develop Java classes for simple applications, and practice the concepts of Object-Oriented Analysis and Design (OOA/OOD) and design patterns and frameworks by developing a Java based project.

Couse ID: 1910011123	**Description:** Digital Logic Design

Full Course Description: A modern introduction to logic design and the basic building blocks used in digital systems, methods for designing digital circuits, implementation of systems computer systems, control systems and other applications which demand digital hardware. Topics include: Numbering systems, conversion methods, binary and complement arithmetic, Boolean algebra, circuit minimization techniques, Combinational circuits: Adders, Decoders, Encoders, Code Converters, Sequential Circuits: flip-flops, counters, registers, synchronous sequential circuits.

Couse ID: 1910011212	**Description:** Object Oriented (2)

Full Course Description: This course teaches the fundamental ideas behind the object-oriented approach to programming; through the widely-used Java programming language. Concentrating on aspects of Java that best demonstrate object-oriented principles and good practice, students will gain a solid basis for further study of the Java language, and of object-oriented software development.

Courses Description

College: Prince Alhussein Bin Abdullah The Second For Information Technology

Department: Computer Science And Applications(Csa)

Couse ID: 1910011213	**Description:** Object Oriented Lab (2)

Full Course Description: This course presents a conceptual and practical introduction to imperative and object oriented programming, exemplified by Java. As well as providing a grounding in the use of Java, the course will cover general principles of programming in imperative and object oriented frameworks. The course should enable you to develop programs that support experimentation, simulation and exploration in other parts of the Informatics curriculum (e.g. the capacity to implement, test and observe a particular algorithm).

Couse ID: 1910011214	**Description:** Visual Programming

Full Course Description: Introduction to the principles of programming for Windows in Visual Basic. Event driven programming. Control structures. Data types and structures. Properties, events, and methods of forms controlling. Modular programming.

Couse ID: 1910011215	**Description:** Visual Programming Lab

Full Course Description: Visual programming environment, Hands on practicing using one of the visual programming languages such as VB.Net. Developing programs using object oriented programming, building user interface forms, connecting to Database.

Couse ID: 1910011240	**Description:** Theory of Computation

Full Course Description: Language theory includes: regular expressions, regular languages, finite automata (deterministic and non-deterministic), Context-Free Languages, Pushdown automata, and language grammars, simple introduction to Turing machines.

Couse ID: 1910011250	**Description:** Data Structures

Full Course Description: Present fundamental techniques in the design and analysis of data structures using Java Programming Language. Fundamental data structures include: lists, stacks, queues, trees, priority queues, hashing, graphs, and search trees. Introduces algorithm design and analysis techniques such as recursion and formal methods for analyzing the time and space requirements of programs.

Couse ID: 1910011320	**Description:** Computer Networks

Full Course Description: Principles, design, implementation, and performance of computer networks, Internet protocols and routing, local area networks, wireless communications and networking, performance analysis, congestion control, TCP, network address translation, multimedia over IP, switching and routing, mobile IP, peer-to-peer networking, network security.

Couse ID: 1910011321	**Description:** Internet Protocols

Full Course Description:

Couse ID: 1910011322	**Description:** Mobile Application Development

Full Course Description: This course covers software mobile application development, its architecture and lifecycle, as well as its inherent design considerations. Students will learn about mobile resources, activities, views, layouts, and intents in addition to interacting with the location based services, messaging services, multimedia interfaces, sensors available on the mobile device, and application distribution.

Couse ID: 1910011330	**Description:** Multimedia Programming

Full Course Description: Various elements of multimedia developmental environment: hardware and software such as: text, sound, images, animation, video, multimedia authoring techniques, multimedia approaches on Web including digitizing of audio and video multiple types of audio, images, video and animation, broadcasting techniques. Planning and producing multimedia projects, testing and deliver, compression algorithms and digital audio conversion.

Couse ID: 1910011341	**Description:** Operation Research

Full Course Description: The Linear programming models, Simplex & revised simplex algorithms, Duality and sensitivity analysis in LP, Transportation and assignment problems, Decision Trees, Integer programming models, and the applications of the operations research.

Courses Description

College: Prince Alhussein Bin Abdullah The Second For Information Technology

Department: Computer Science And Applications(Csa)

Couse ID: 1910011351	**Description:** Algorithms☐

Full Course Description: The design and analysis of computer algorithms, growth of functions, recurrences, sorting, divide-and-conquer, binary search tree, red black tree, dynamic programming, greedy algorithms, graph searching and graph algorithms, flow networks, bipartite matching, NP-completeness.

Couse ID: 1910011373	**Description:** Simulation

Full Course Description: System modeling and simulation, Discrete and Continuous Markov Chains, Queuing Theory, Discrete Event Simulation, Large Sample Estimation, Output Statistics, Test of Randomness, Monté Carlo Simulation, sequence of assignments using some simulation tools such as ARENA.

Couse ID: 1910011416	**Description:** Programming Languages Design☐

Full Course Description: Fundamental concepts and general principles underlying current programming languages and models, control and data abstractions, language processing and static and dynamic binding, indeterminacy and delayed evaluation, and languages and models for parallel and distributed processing. A variety of computational paradigms such as: functional programming, logic programming, object-oriented programming and data flow programming.

Couse ID: 1910011421	**Description:** Wireless Networking

Full Course Description: The design and implementation of wireless networks and mobile systems, the science and technology behind wireless networks, comprehensive view of the electromagnetic spectrum, mobile computing concepts and applications, the concepts of frequency and wavelength, radio propagation and attenuation, telecommunications via wireless, technology offerings, frequency allocations, and types of wireless technologies and their appropriate application, Wireless LAN technology, TCP/IP suite and sub netting, and IEEE 802.11 wireless LAN standard.

Couse ID: 1910011422	**Description:** Network Security

Full Course Description: Theory and practice of computer security, focusing in particular on the security aspects of the web and Internet. Cryptographic tools used to provide security, such as shared key encryption (DES, 3DES, RC-4/5/6, etc.); public key encryption, key exchange, and digital signature (Diffie-Hellmann, RSA, DSS, etc.). Utilizing these concepts in the internet protocols and applications such as SSL/TLS, IPSEC, Kerberos, PGP, S/MIME, SET, and others (including wireless). System security issues, such as viruses, intrusion, and firewalls, will also be covered.

Couse ID: 1910011423	**Description:** Parallel and Distributed Computing

Full Course Description: Basic architectural, programming, and algorithmic concepts in the design and implementation of parallel and distributed applications. The specific topics include, but not limited to, multithreaded programming, message passing interface, Shared memory programming, GPU, and cloud computing.

Couse ID: 1910011431	**Description:** Operating Systems☐

Full Course Description: Concepts and principles of operating systems, structure and services, processor scheduling, thread, virtual machine, processing synchronization, deadlocks, concurrent processes, memory management, virtual memory, input/output, secondary storage management, and file systems.

Couse ID: 1910011460	**Description:** Artificial Intelligence

Full Course Description: Rapidly-developing fields of artificial intelligence (AI): general knowledge representation techniques and problem solving strategies, classical and heuristic search techniques, rule-based systems, production system, stochastic system, prepositional and first order logic, fact representation in logic and logic programming (Prolog). Natural language processing, machine learning, expert systems, reasoning, neural network.

Courses Description

College: Prince Alhussein Bin Abdullah The Second For Information Technology

Department: Computer Science And Applications(Csa)

Couse ID: 1910011474	**Description:** Computer Graphics

Full Course Description: Hardware and software principles of interactive raster graphics. Introduction to the basic concepts, 2-D and 3-D modeling and transformations, viewing transformations, projections, rendering techniques, graphical software packages and graphics systems. Students will use a standard computer graphics API to reinforce concepts and study fundamental computer graphics algorithms.

Couse ID: 1910011480	**Description:** Practical Training

Full Course Description:

Couse ID: 1910011490	**Description:** Applied Project (1)

Full Course Description: There are no formal lectures for this course but the student holds discussion at least 3 hours a week with the supervisor. The student will be given assigned a practical project where he/she is expected to analyses, design and implement it and finally to write a report of very high quality.

Couse ID: 1910011491	**Description:** Applied Project (2)

Full Course Description: There are no formal lectures for this course but the student holds discussion at least 3 hours a week with the supervisor. The student will be given assigned a practical project where he/she is expected to analyses, design and implement it and finally to write a report of very high quality.

Couse ID: 1910011492	**Description:** Special Topics In Computer Science

Full Course Description: Covers topics of interest in computer science at the senior undergraduate level. Content varies from semester to semester. Prerequisites: Consent of instructor.