COMPUTER INFORMATION SYSTEMS: DATABASE (CISD)

CISD 11 Database Management - Microsoft Access
3 Units (Degree Applicable, CSU)
Lecture: 54
Corequisite: *CISD 11L*
Advisory: *CISB 11 and CISB 15*

Design, creation, and management of relational databases using Microsoft Access. Basic database design, creation of tables, queries, forms, reports, and macros. Creation of custom graphical user interface and introduction to Visual Basic for Applications (VBA) code.

CISD 11L Database Management - Microsoft Access Laboratory
0.5 Units (Degree Applicable, CSU)
Lab: 27
Corequisite: *CISD 11*

Laboratory for CISD 11 - Database Management - Microsoft Access. Exercises focusing on design and development of a business database using Microsoft Access software, including creation of tables and relationships between tables, queries, forms, reports, macros, and an introduction to Visual Basics for Applications (VBA) programming language to make a fully-functioning, user-friendly Access database.

CISD 14 VBA for Excel and Access
3 Units (Degree Applicable)
Lecture: 54
Corequisite: *CISD 14L*
Advisory: *CISD 11 and CISB 21*

Excel and Access programming using Visual Basic for Applications (VBA) programming language for business applications. Event-driven programming, Excel and Access Object Models, ActiveX Data Objects model (ADO), VBA structures, arrays, embedded SQL (Structured Query Language) into Access VBA, and error-handling.

CISD 14L Visual Basic for Applications (VBA) Excel and Access Laboratory
0.5 Units (Degree Applicable)
Lab: 27
Corequisite: *CISD 14*

Laboratory component for the CISD 14 course. Visual Basic for Applications (VBA) programming language exercises in both Excel and Access applications. Uses the structures learned in the CISD 14 course, including decision statements, looping, array manipulation, and error-handling. Use the Excel and Access Object Models and the ActiveX Data Objects model in programming projects.

CISD 21 Database Management - Microsoft SQL Server
3 Units (Degree Applicable, CSU)
Lecture: 54
Corequisite: *CISD 21L*
Advisory: *CISB 11 or CISB 15*

Structured Query Language (SQL) and Transact-SQL for Microsoft SQL Server. Topics include creating database objects, retrieving and updating data, writing scripts, developing stored procedures and functions, developing triggers, and creating cursors. Student must be enrolled in CISD 21L, a concurrent lab co-requisite.

CISD 21L Database Management - Microsoft SQL Server Laboratory
0.5 Units (Degree Applicable, CSU)
Lab: 27
Corequisite: *CISD 21*

Laboratory for CISD 21 - Structured Query Language (SQL) and Transact-SQL for Microsoft SQL Server. Topics include creating database objects, retrieving and updating data, writing scripts, developing stored procedures, functions, triggers, and creating cursors. Student must be enrolled in CISD 21, a concurrent lecture co-requisite.

CISD 31 Database Management - Oracle
3 Units (Degree Applicable, CSU)
Lecture: 54
Corequisite: *CISD 31L*
Advisory: *CISB 11 or CISB 15*

Oracle database management system (DBMS) functions, concepts, and terms. Procedure Language/Structure Query Language (PL/SQL) is used to code, test, and implement stored procedures, functions, triggers, and packages. Relational database projects will be built using PL/SQL. Concurrent enrollment in CISD 31L is required.

CISD 31L Database Management - Oracle Laboratory
0.5 Units (Degree Applicable, CSU)
Lab: 27
Corequisite: *CISD 31*

Laboratory for CISD 31 - Oracle database management system (DBMS) functions, concepts, and terms. Procedure Language/Structured Query Language (PL/SQL) is used to code, test, and implement stored procedures, functions, triggers, and packages. Relational database projects will be built using PL/SQL. Concurrent enrollment in CISD 31 is required.

CISD 40 Database Design
3 Units (Degree Applicable, CSU)
Lecture: 54

Database design principles. Understanding database needs and functions; creating data models, entity-relationship (E-R), and Unified Modeling Language (UML) diagrams; using normalization rules and principles to create databases; learning basic database administrator objectives and tasks; and understanding the role of data warehousing and data mining.

CISD 41 Introduction to Data Science
3.5 Units (Degree Applicable)
Lecture: 54   Lab: 27
Advisory: *CISP 10*

Introduces students to the evolving domain of data science. Addresses the key knowledge domains in data science, including data development and management, statistical analysis, data visualization, and inference. Provides an exposure to some of the technologies involved in application of data science. Goals are to learn how to use tools for acquiring, cleaning, analyzing, exploring, and visualizing data; making data-driven inferences and decisions; and effectively communicating results.

CISD 42 Big Data Integration and Processing
3.5 Units (Degree Applicable)
Lecture: 54   Lab: 27
Prerequisite: *CISD 41*
Advisory: *CISP 10*

Learn Big Data: why and where. Characteristics of Big Data and dimensions of scalability. Use Big Data frameworks and tools. Retrieve data from example database and Big Data management systems. Acquire and ingest Big Data. Get value out of Big Data by using a 5-step process to structure an analysis. Process Big Data using various technologies. Identify when a Big Data problem needs data integration. Integrate Big Data and warehouse data using various technologies. Describe the connections between data management operations and the Big Data processing patterns needed to utilize them in large-scale analytical applications.

CISD 43 Big Data Modeling and Analysis
3.5 Units (Degree Applicable)
Lecture: 54   Lab: 27
Prerequisite: *CISD 41*
Advisory: *CISP 10*

Introduces students to various Big Data management systems and analytical tools. Addresses data mining vs predictive analytics. Provides an exposure to data modeling, data mining, text mining, analytics, real-time analytics, and graph analytics from Big Data perspective.