CMIS 201 Intermediate Microcomputer  Three hours 
Applications  
Prerequisite – INFT 101 and INFT 102 or equivalent  
This laboratory experience offers the student a hands-on introduction to an electronic spreadsheet, a database program, and a presentation program. Upon this foundation, intermediate database and intermediate and advanced spreadsheet skills are taught. Throughout the course, there is an emphasis on the integration of the applications as they are applied to personal and organizational tasks. This course provides the IT foundations that are applicable for all curriculums. Lab fee (*Note- this course was formerly BUSI 102) 

CMIS 210 Introduction to Management  Three hours 
Information Systems  
Prerequisite – INFT 101 and INFT 102 or equivalent  
Introduction to the role of information systems in contemporary organizations. Various components of information systems including networks, data organization and protection, management issues, ethics and security issues will be introduced.  
(Formerly BUSI 451) 

CMIS 211 Business Application  Three hours 
Programming I (Visual Basic)  
Prerequisite – CMIS 201 (Formerly BUSI 102)  
Development of computer and programming skills, problem solving methods, and selected applications. It’s a broad-based introduction to programming using Visual Basic .NET. Students will learn how to build the program from the design phase all the way through to delivery. Students will have a firm foundation for designing and building their programs, from the ground up. (*Note – this course was formerly BUSI 350) 

*CMIS 212 Business Application  Three hours 
Programming II (Java)  
Prerequisite – CMIS 211  
A study of the general-purpose, secure, object-oriented, portable programming language Java. This course prepares students to program stand-alone applications and applications for the World Wide Web using Java. It will cover features of Java, programming concepts, data types, operators, flow control statements, objects, classes, methods, arrays, strings, and applets. The concept of object-oriented programming is emphasized. 

*CMIS 310 Web Architecture and Development  Three hours  
Prerequisite – CMIS 201 (Formerly BUSI 102)  
Provides students with thorough knowledge of the foundations of e-commerce, current technologies utilized in the development of an e-commerce website, and criteria for assessing the usability of e-commerce sites. Lab fee. 

*CMIS 320 IS Hardware and Software  Three hours  
Prerequisite – CMIS 201 (Formerly BUSI 102)  
Emphasis is placed on the role of the computer in information processing, including the design of computer hardware and operating systems, application programming, data storage, network and client/server concepts, and systems development life cycle. 

*CMIS 330 Business Data Communication Systems  Three hours  
Prerequisite – CMIS 201 (Formerly BUSI 102)  
A study of the architecture, concepts, terminology, design, and management issues related to the modern environment of networking and data communications. Various types of networks and communication systems, protocols, regulatory issues and policies will be explored. 

CMIS 351 System Analysis and Design  Three hours  
Prerequisite – CMIS 212  
This practical course in information systems development will cover the concepts, skills, methodologies (RAD as well as SDLC), and tools essential for systems analysts to successfully develop information systems. The course will also introduce the student to the Oracle Designer CASE tools, which will be used to assist in the documentation of the analysis and design phases. The course will include a significant amount of team-based activities, therefore issues associated with team interactions and processes will be discussed. 

CMIS 450 Database Management  Three hours  
Systems  
Prerequisite – CMIS 212  
The study of database management systems, database architecture, design, queries, applications, administration and implementation. The course will focus on data normalization, SQL (queries), and the use of relational database technology for building business applications. Projects will be assigned to provide hands-on experience with the SQL language
and relational database software packages (Oracle and SQL Server 2000). Lab fee. (*Note – this course was formerly BUSI 450)

*CIS 460 IS Project Management* Three hours  
Prerequisite – Senior status and CMIS 201 (Formerly BUSI 102), CMIS 351, ECNC 213, and MATH 201.  
Capstone course for MIS majors. Develops skills in managing the project development cycle in an organization. Topics include systems engineering, cost analysis, risk management, and managing the socio-technological elements of a project.

*CIS 495 Directed Research* Three hours  
Prerequisite – Senior status and permission of Department Chair  
Individual study of advanced topics in management information systems. Includes periodic meetings with instructor.

*CIS 497 Special Topics in MIS* Three hours  
Prerequisite – Permission of instructor  
Selected topics in various areas of management information systems. May be repeated for credit when the topic varies.

*CIS 111 Computer Science I* Three hours  
Prerequisites: Knowledge of basic computer skills  
Introduction to structured programming and algorithms with an object-oriented language. Topics include input/output, flow of control, functions, and an introduction to software engineering. Programming assignments are required.

*CIS 112 Computer Science II* Three hours  
Prerequisites: CIS 111 or approval of instructor  
Continuation of CIS 111. Further development of discipline in program design, especially for larger programs. Introduction of pointers, simple data structures, recursion, internal sort/search methods. Programming assignments are required.

*CIS 211 High Level Languages* Three hours  
Prerequisite: Knowledge of 1 programming language or CIS 111  
An introduction to a high-level language other than Pascal or C++. Typical offerings include Smalltalk, Prolog and Ada. The chosen language will be used as a vehicle for developing the discipline of modern programming techniques and software engineering. Several programming assignments are required. May be repeated for credit when the languages vary. Lab fee.

*CIS 215 Algorithms and Data Structures* Three hours  
Prerequisites: MATH 123 and CIS 112 or approval of the instructor.  
Study of data structures such as linked lists, stacks, queues, trees, and graphs. Algorithms for manipulating such structures will be introduced and analyzed. Static and dynamic memory allocation. Access methods for sorting/searching, such as hashing and tree searching.

*CIS 244 Assembly Language and Organization* Three hours  
Prerequisite: Knowledge of 1 high-level language or CIS 111  
A detailed development of the tools and techniques of assembly language on a particular computing system. Several programming assignments are required. Lab fee.

*CIS 342 Computer Architecture and Organization* Three hours  
Prerequisites: Knowledge of data structures or CIS 215  
Introduction to architecture and organization of computer systems. Data and instruction representations. Arithmetic and logical operations. Processor and memory implementations.

*CIS 415 Software Engineering* Three hours  
Prerequisite: CIS 215 or approval of instructor  
Study of the software development process. Topics include: phases of a software project, life-cycle models, metrics, tools, ethical and professional issues. Participation on team projects is integral.

*CIS 424 File Processing and Data Base Structures* Three hours  
Prerequisite: CIS 215 or approval of instructor  
File organization and management. Data structures, access methods, storage devices. Data definition and manipulation languages. Study of data base models and techniques.

*CIS 434 Theory of Programming Languages* Three hours  
Prerequisite: CIS 215  
A theoretical study of programming languages. Introduction to grammars and parsers. Language design issues and practical applications.

*CIS 443 Operating Systems* Three hours  
Prerequisite: CIS 215  
CSCI 495 Directed Research 1 to 3 hours
Prerequisite: Permission of instructor
Study of advanced topics in computer science on an individual basis. Periodic meetings with instructor.

CSCI 497 Topics in Computer Science 3 hours
(Offered on demand)
Prerequisite: Permission of instructor.
Selected topics in various areas of computer science. May be repeated for credit when topic varies.

CSCI 499 Internship 1 to 6 hours

INFT 101 Computer Concepts 1 hour
INFT 101 and INFT 102 must be taken concurrently
An introduction to the terminology and basic use of computers in today’s society. This course will cover the following using Blackboard: computer hardware, computer software, file management, terminology, and how to use Blackboard.

INFT 102 Computer Applications 2 hours
INFT 101 and INFT 102 must be taken concurrently
An introduction to software applications, specifically operating systems, word processing, spreadsheets, and presentation software. The student will be introduced to basic file procedures, the editing and formatting of professional documents, fundamental worksheet development, and effective presentation production.