Health Information Technology

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Health Information Technology involves the exchange of health information in an electronic environment. Widespread use of information technology within the health care industry will improve the quality of health care, prevent medical errors, reduce health care costs, increase administrative efficiencies, decrease paperwork, and expand access to affordable health care.

This program at Cincinnati State, which is offered through collaboration of the Center for Innovative Technologies and the Health and Public Safety Division, prepares students for important roles in varied healthcare settings. Graduates may take on responsibilities such as:

- Implementing and managing systems for electronic medical records and patient health records
- Designing and developing tools and systems to support clinical decision making and research
- Safeguarding the security of patient records in compliance with privacy laws and ethical issues related to the sharing of medical data and patient data
- Developing standards for the exchange and interoperability of medical data, promoting meaningful use of medical records and data
- Selecting and implementing health information systems to provide affordable quality healthcare

The HIT degree offers two majors: Healthcare Informatics and Healthcare Programming and Systems Analysis. Graduates of both majors earn an Associate of Applied Science degree.

Healthcare Informatics Major (HITHI)

Students in the Healthcare Informatics major gain skills needed to assist organizations with meaningful and efficient use of healthcare data by incorporating information technologies and information management techniques. The Healthcare Informatics major provides graduates with knowledge and skills that enable information to be collected, managed, used, and shared to support delivery of healthcare and to promote health.

Healthcare Programming and Systems Analysis Major (HITPA)

Students in the Healthcare Programming and Systems Analysis major gain the knowledge and skills required to fulfill an essential information technology role in healthcare, either as a developer who designs, implements, and maintains health-based software applications, or as an analyst supporting current healthcare-related applications.

Graduates understand healthcare fundamentals and have IT professional skills in systems analysis, software development, database design, and core technical skills including .NET, Java, HL7, SQL, and SQL Server.

Healthcare Informatics Major (HITHI)

All degree-seeking students must complete a First Year Experience (FYE) course as part of the first 12 credit hours taken at Cincinnati State.

Semester 1		Lec	Lab	Credits
HIT 100	Language and Culture of Healthcare			3
IT 100	Computer Programming Foundations			3
IT 105	Information Technology Concepts			3
CIT 190	Career Preparation: Engineering and Information Technologies			1
ENG 101	English Composition 1			3
Semester 2				
HIT 105	Information Technology Systems in Healthcare			3
BPA 130	Business Systems Analysis and Design			3
MAT 131	Statistics 1			3
IT 101	.NET Programming 1			3
IT 111	Database Design and SQL			4
Semester 3				
HIT 210	Healthcare Reimbursement			3

IT 210	System Design and Implementation			3
MAT 132	Statistics 2			3
MCH 104	Comprehensive Medical Terminology			3
COMM 1XX Communication Elective				3
Semester 4				
HIT 291	Full-Time Cooperative Education 1: Health Information Technology			2
ECO 1XX Economics Elective				3
Semester 5				
HIT 225	Data Mining			3
IT 220	Emerging Topics in Computer Software Development			3
ENG 10X English Composition Elective				3
XXX XXX Humanities/Social Sciences Elective				3
Semester 6				
HIT 220	Health Information Technology in the Continuum of Care			3
HIT 292	Full-Time Cooperative Education 2: Health Information Technology			2
Total Credits:		0	0	66

Electives

Communication Elective		
COMM 105	Interpersonal Communication	3
COMM 110	Public Speaking	3
Economics Elective		
ECO 105	Principles of Microeconomics	3
ECO 110	Principles of Macroeconomics	3
English Composition Elective		
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3
Humanities/Social Sciences Elective		
COMM 130	Introduction to Film Studies	3
Any ART, CRJ, CULT, FRN, GEO, HST, LBR, LIT, MUS, PHI, POL, PSY, REL, SPN, SOC, THE		3

Healthcare Programming and Analysis Major (HITPA)

All degree-seeking students must complete a First Year Experience (FYE) course as part of the first 12 credit hours taken at Cincinnati State.

Program Prerequisite: CIT 110 Introduction to Information Technologies or Program Chair Consent

Semester 1		Lec	Lab	Credits
HIT 100	Language and Culture of Healthcare			3
IT 100	Computer Programming Foundations			3

IT 105	Information Technology Concepts	3
ENG 101	English Composition 1	3
CIT 190	Career Preparation: Engineering and Information Technologies	1
Semester 2		
HIT 105	Information Technology Systems in Healthcare	3
IT 101	.NET Programming 1	3
IT 111	Database Design and SQL	4
BPA 130	Business Systems Analysis and Design	3
ENG 10X English Composition Elective		3
Semester 3		
HIT 210	Healthcare Reimbursement	3
IT 102	.NET Programming 2	4
MCH 104	Comprehensive Medical Terminology	3
COMM 1XX Communication Elective		3
XXX XXX Technical Elective 1		3
Semester 4		
HIT 291	Full-Time Cooperative Education 1: Health Information Technology	2
ECO 1XX Economics Elective		3
Semester 5		
HIT 215	Healthcare Programming	3
IT 210	System Design and Implementation	3
MAT 1XX Mathematics Elective		3
XXX XXX Technical Elective 2		4
XXX XXX Humanities/Social Sciences Elective		3
Semester 6		
HIT 220	Health Information Technology in the Continuum of Care	3
HIT 292	Full-Time Cooperative Education 2: Health Information Technology	2

Total Credits:		0	0	71

Electives

English Composition Elective

ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3
Communication Elective		
COMM 105	Interpersonal Communication	3

COMM 110	Public Speaking	3
Economics Elective		
ECO 105	Principles of Microeconomics	3
ECO 110	Principles of Macroeconomics	3
Mathematics Elective		
MAT 125	Algebra and Trigonometry	4
MAT 130	Intermediate Algebra for Statistics	4
MAT 131	Statistics 1	3
MAT 150	Intermediate Algebra	5
MAT 151	College Algebra	4
Technical Electives [1]		
IT 102	.NET Programming 2	4
IT 110	HTML with CSS and JavaScript	4
IT 140	PHP and MySQL	4
IT 161	Java Programming	4
CPDM 151	ASP.NET C# 1	3
SET 151	C Programming 1	4
SET 252	C Programming 2	4
Humanities/Social Sciences Elective		
COMM 130	Introduction to Film Studies	3
Any ART, CRJ, CULT, FRN, GEO, HST, LBR, LIT, MUS, PHI, POL, PSY, REL, SPN, SOC, THE		3

[1]   Program Chair approval required

HIT Courses

HIT 100 Language and Culture of Healthcare
3 Credits. 3 Lecture Hours. 0 Lab Hour.
A course on key elements of the U.S. healthcare system. Topics include: basic operations; inpatient, ambulatory and mental health services; government influence on healthcare delivery; roles of healthcare professionals; and legal and ethical aspects of healthcare.
Prerequisites: None

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=100subject_code=HIT)

HIT 105 Information Technology Systems in Healthcare
3 Credits. 3 Lecture Hours. 0 Lab Hour.
A course on the use and value of information system technology in healthcare settings. Topics include: choosing and implementing health IT systems, clinical care delivery, and tracking and reporting healthcare delivery outcomes.
Prerequisites: HIT 100

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=105subject_code=HIT)

HIT 191 Part-time Co-op 1: HIT
1 Credit. 1 Lecture Hour. 20 Lab Hours.
Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: HIT 100 (minimum grade C)

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=191subject_code=HIT)

HIT 192 Part-time Co-op 2: HIT
1 Credit. 1 Lecture Hour. 20 Lab Hours.
Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: HIT 191

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=192subject_code=HIT)

HIT 198 First Year Special Topics in Health Information Technology
1-9 Credits. 0 Lecture Hour. 0 Lab Hour.
A course on selected topics related to Health Information Technology, which gives students opportunities to study information not currently covered in other courses. Grades issued are A, B, C, D, or F.
Prerequisites: None

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=198subject_code=HIT)

HIT 199 First Year Independent Project in Health Information Technology
1-9 Credits. 0 Lecture Hour. 0 Lab Hour.
A project related to Health Information Technology that is completed by one or more students to meet specific educational goals. Projects must have prior approval and supervision by Health Information Technology faculty. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: Vary by section

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=199subject_code=HIT)

HIT 210 Healthcare Reimbursement
3 Credits. 3 Lecture Hours. 0 Lab Hour.
A course on the history and use of healthcare reimbursement systems. Topics include: current structure and future directions for private and public healthcare reimbursement systems, and the computer systems and business processes involved in healthcare reimbursement.
Prerequisites: HIT 105

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=210subject_code=HIT)

HIT 215 Healthcare Programming
3 Credits. 3 Lecture Hours. 0 Lab Hour.
A course on basic theory of healthcare information system integration. Topics include: designing, coding, implementing and supporting HL7 transactions, and the value of health information system integration within an organization and across disparate organizations.
Prerequisites: HIT 105

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=215subject_code=HIT)

HIT 220 Health Information Technology in the Continuum of Care
3 Credits. 3 Lecture Hours. 0 Lab Hour.
A course on health information systems in non-hospital healthcare settings. Topics include: integrating and exchanging patient information across care settings, using health information to improve patient care and public health outcomes, and protecting health information security and integrity.
Prerequisites: HIT 105

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=220subject_code=HIT)

HIT 225 Data Mining
3 Credits. 2 Lecture Hours. 0 Lab Hour.
A course on concepts and techniques of data mining, the computer-assisted process of evaluating sets of data to find previously undiscovered patterns, draw conclusions, and make decisions based on those patterns.
Prerequisites: IT 112, MAT 131

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=225subject_code=HIT)

HIT 291 Full-Time Cooperative Education 1: Health Information Technology
2 Credits. 1 Lecture Hour. 40 Lab Hours.
Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: HIT 105, IT 111, BPA 130, CIT 190 (minimum grade C for all)

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=291subject_code=HIT)

HIT 292 Full-Time Cooperative Education 2: Health Information Technology
2 Credits. 1 Lecture Hour. 40 Lab Hours.
Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: HIT 291

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=292subject_code=HIT)

HIT 298 Second Year Special Topics in Health Information Technology
1-9 Credits. 0 Lecture Hour. 0 Lab Hour.
A course on selected topics related to Health Information Technology, which gives students opportunities to study information not currently covered in other courses. Grades issued are A, B, C, D, or F.
Prerequisites: None

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=298subject_code=HIT)

HIT 299 Second Year Independent Project in Health Information Technology
1-9 Credits. 0 Lecture Hour. 0 Lab Hour.
A project related to Health Information Technology that is completed by one or more students to meet specific educational goals. Projects must have prior approval and supervision by Health Information Technology faculty. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: Vary by section

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=299subject_code=HIT)

IT Courses

IT 100 Computer Programming Foundations
3 Credits. 2 Lecture Hours. 3 Lab Hours.
A course on fundamental concepts related to programming. Topics include: problem solving and developmental tools, design techniques such as flow charting and pseudo coding, and testing techniques used in programming.
Prerequisites: AFL 085, AFM 090 or appropriate placement test scores

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=100subject_code=IT)

IT 101 .NET Programming 1
3 Credits. 2 Lecture Hours. 3 Lab Hours.
An introduction to concepts of object-oriented software development using Visual Basic .NET. Topics include: application design methods, stages of software development, interaction with the .NET framework, and modular programming concepts utilizing procedures and functions.
Prerequisites: AFL 085 and AFM 090, or equivalent placement test scores

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=101subject_code=IT)

IT 102 .NET Programming 2
4 Credits. 3 Lecture Hours. 3 Lab Hours.
A continuation of IT 101. Topics include: object- oriented design and implementation using the .NET framework, developing class modules, and accessing and writing to external data storage and databases using ADO.NET and SQL.
Prerequisites: IT 101

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=102subject_code=IT)

IT 103 .NET Programming 3
4 Credits. 3 Lecture Hours. 3 Lab Hours.
A continuation of IT 102. Topics include creating, debugging, and maintaining Web-based database applications using the .NET framework.
Prerequisites: IT 102, IT 111

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=103subject_code=IT)

IT 105 Information Technology Concepts
3 Credits. 2 Lecture Hours. 3 Lab Hours.
A course on information technology fundamentals. Topics include; the internet, software, hardware, I/O and storage, operating systems, communications and networks, database management, security, system development, programming, enterprise computing, and numbering systems. The course is delivered through online instruction only.
Prerequisites: AFL 085 and AFM 090, or appropriate placement test scores

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=105subject_code=IT)

IT 110 HTML with CSS and JavaScript
4 Credits. 3 Lecture Hours. 3 Lab Hours.
A course on internet programming using HTML, CSS, and JavaScript. Topics include: HTML commands, cascading style sheets, JavaScript commands, web apps, and dynamic web pages.
Prerequisites: None

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=110subject_code=IT)

IT 111 Database Design and SQL
4 Credits. 3 Lecture Hours. 3 Lab Hours.
A course on fundamentals of relational database design and implementation using Microsoft SQL Server. Topics include: SQL Enterprise Manager, fundamentals of database design and normalization, data import and export, Structured Query Language (SQL), indexes and keys, views, and stored procedures.
Prerequisites: AFL 085 and AFM 090, or appropriate placement test scores

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=111subject_code=IT)

IT 112 Database Design and SQL 2
4 Credits. 3 Lecture Hours. 3 Lab Hours.
A continuation of IT 111. Topics include: advanced stored procedures using transact SQL, user defined functions, triggers, user defined data types, full text searching, replication, database maintenance plans, and designing various data models from abstract requirements.
Prerequisites: IT 111 (minimum grade C)

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=112subject_code=IT)

IT 115 Operating Systems Administration
3 Credits. 2 Lecture Hours. 3 Lab Hours.
A course on the Windows operating system used on PC's. Topics include Windows utilization and management, utilities, managing disks, disaster recovery, troubleshooting, user management, productivity tools, and performance issues.
Prerequisites: AFL 085 or appropriate placement test score

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=115subject_code=IT)

IT 140 PHP and MySQL
4 Credits. 3 Lecture Hours. 3 Lab Hours.
A course in PHP web programming with a MySQL database. Topics include: PHP language, syntax, variables, and forms; MySQL database design; connecting to a MySQL database using PHP; inserting, editing, and deleting MySQL data using PHP; and building dynamic web pages using PHP and MySQL.
Prerequisites: None

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=140subject_code=IT)

IT 150 Logistics and Distribution Technology
3 Credits. 2 Lecture Hours. 2 Lab Hours.
A course on technologies and software used in supply chain management for freight, air, and maritime logistics operations. Topics include: barcodes, RFID, Wi-Fi tags, logistics and inventory software, high frequency tracking, and passive/active tracking.
Prerequisites: SCM 105

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=150subject_code=IT)

IT 161 Java Programming
4 Credits. 3 Lecture Hours. 3 Lab Hours.
An introduction to the Java programming language. Topics include: data types, variables, basic command line input/output, decisions, loops, procedures, string manipulation, arrays, object-oriented development, event programming, and database programming.
Prerequisites: IT 101

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=161subject_code=IT)

IT 210 System Design and Implementation
3 Credits. 2 Lecture Hours. 3 Lab Hours.
A course on methodologies and techniques of the system development life cycle. Topics include: system design, project management for IT, system implementation, programming design, and system testing techniques.
Prerequisites: BPA 130

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=210subject_code=IT)

IT 215 Scripting
3 Credits. 2 Lecture Hours. 2 Lab Hours.
A course on task automation and configuration management using Microsoft PowerShell programming language. Topics include: modifying existing PowerShell scripts, and creating new scripts to automate common tasks.
Prerequisites: NETB 155

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=215subject_code=IT)

IT 220 Emerging Topics in Computer Software Development
3 Credits. 2 Lecture Hours. 3 Lab Hours.
A course on current topics related to Computer Software Development such as data reporting, XML, and other new concerns.
Prerequisites: IT 101, IT 110, IT 111

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=220subject_code=IT)