# HEALTHCARE SYSTEMS TECHNOLOGY (AAS) - 60 CREDITS

## OVERVIEW

**WHY CHOOSE HEALTHCARE SYSTEMS TECHNOLOGY?**

With growth of electronic health records and technology in health care, Healthcare Systems Technology is a high growth field.

**SKILLS ACQUIRED**

(Bureau of Labor Statistics)

Healthcare Systems Technology will help students learn to:

- Review patient records for timeliness, completeness, accuracy, and appropriateness of data
- Organize and maintain data for clinical databases and registries
- Track patient outcomes for quality assessment
- Use classification software to assign clinical codes for reimbursement and data analysis
- Electronically record data for collection, storage, analysis, retrieval, and reporting
- Protect patients’ health information for confidentiality, authorized access for treatment and data security

## CAREERS IN HEALTHCARE SYSTEMS TECHNOLOGY

### Projected Job Growth

The Bureau of Labor Statistics (BLS) estimates that there will be a shortage of 51,000 qualified healthcare IT workers within the next five years.

The BLS also projects employment of Medical Records and Health Information Technicians to grow 22% from 2012 to 2022.

The demand for health services is expected to increase as the population ages.

### Types of Jobs

(Bureau of Labor Statistics)

Students who study Healthcare Systems Technology typically pursue careers in the field of:

- Applications Software Developers
- Computer and Information Scientists
- Information Technologist
- Informatics Specialist
- Health Data Specialist
- Systems Analyst
- Privacy and Security Information Technology
- Specialist
- Technology Support

### Average State Pay

The Bureau of Labor Statistics lists $16.42 per hour and $34,160 annually as the national median pay for medical records and health information technicians.

### Description

(Indeed.org)

Medical records and health information technicians, commonly referred to as health information technicians, organize and manage health information data by ensuring its quality, accuracy, accessibility, and security in both paper and electronic systems.

## DEGREES & CERTIFICATES IN HEALTHCARE SYSTEMS TECHNOLOGY

Normandale has designed an Associate of Applied Science in Healthcare Systems Technology that will develop students’ knowledge of information technology, health care data and processes across a variety of systems.

Continuing Education and Customized Training offers non-credit courses/certificates in health information technology to provide students skills and resources in the career advancement.

For more information on Continuing Education MNHIT programs, click here.

## YOU MAY ALSO LIKE

## REQUIREMENTS

This is a multidisciplinary program infused with the skills necessary to build a strong foundation in computer technology, health information technology and healthcare. More specifically, students in this program learn: software database design, data management, data privacy laws and regulations, work flow analysis and design, and healthcare and computer terminology. Additionally, graduates of this program have the knowledge to bridge the gap in communication between multiple departments within the organization.

### CORE COURSES - 40 CREDITS
<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>COMT 1107</td>
<td>Introduction to Computer Technology</td>
<td>4</td>
</tr>
<tr>
<td>COMT 1173</td>
<td>PC Architecture Operation and Interface</td>
<td>3</td>
</tr>
<tr>
<td>COMT 1181</td>
<td>Database Management Systems</td>
<td>3</td>
</tr>
<tr>
<td>COMT 1182</td>
<td>Advanced Database with Crystal Reports</td>
<td>3</td>
</tr>
<tr>
<td>COMT 2188</td>
<td>Systems Analysis and Design</td>
<td>3</td>
</tr>
<tr>
<td>COMT 2250</td>
<td>Object-Oriented Programming with Java for HCST</td>
<td>4</td>
</tr>
<tr>
<td>CSCI 1101</td>
<td>Introduction to Computing and Problem Solving</td>
<td>4</td>
</tr>
<tr>
<td>HLTH 1010</td>
<td>Health Professions Terminology</td>
<td>3</td>
</tr>
<tr>
<td>HLTH 2010</td>
<td>Healthcare in the US</td>
<td>3</td>
</tr>
<tr>
<td>HCST 2096</td>
<td>Professional Practical Experience</td>
<td>2-4</td>
</tr>
<tr>
<td>HCST 2100</td>
<td>Introduction to Health Information Technology</td>
<td>4</td>
</tr>
<tr>
<td>HCST 2200</td>
<td>Privacy and Security in Health Information Technology</td>
<td>2</td>
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**ADDITIONAL REQUIRED COURSES - 20 CREDITS**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ENGC 1101</td>
<td>Freshman Composition</td>
<td>4</td>
</tr>
<tr>
<td>COMM 1111</td>
<td>Interpersonal Communication</td>
<td>3</td>
</tr>
<tr>
<td>or COMM 1121</td>
<td>Small Group Communication</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1080</td>
<td>Introduction to Statistics</td>
<td>4</td>
</tr>
<tr>
<td>or MATH 1090</td>
<td>STATWAY Statistics</td>
<td>2</td>
</tr>
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Complete at least 9 credits from MCTC Goal 3, 5, 6, 7, 8, 9 or 10

**OTHER DEGREE REQUIREMENTS**

- If needed, complete additional courses to reach 60 credits total.
- Earn a minimum cumulative grade point average (GPA) of 2.0 for college-level coursework (courses numbered 1000 and above) completed at Normandale.
- Earn a minimum of 20 college-level credits at Normandale.

*Coursework in this degree program satisfies a portion of the Minnesota Transfer Curriculum (MnTC). Please see MnTC Degree Audit Report.*

**COURSES**

**COMM 1111 INTERPERSONAL COMMUNICATION | 3 CR**

Recommended: ENGC 1101, and READ 1106 MnTC Goal 1

The primary purpose of this course is to assist the student in examining and developing competence as an interpersonal communicator. Students will practice skills and learn strategies to develop and manage relationships more effectively in a variety of contexts.

Credits: 3 Semesters: Fall, Spring

**COMT 1107 INTRODUCTION TO COMPUTER TECHNOLOGY | 4 CR**

Topics associated with computers and computing, input/output, central processing unit, storage devices, programming languages, operating systems, PC software programs, security and privacy issues, and trends in computing.

Credits: 4 Semesters: Fall, Spring

**COMT 1173 PC ARCHITECTURE OPERATION AND INTERFACE | 3 CR**

Prereq: COMT 1107

Introductory course on the architecture of computers. Using the PC as a representative architecture, the primary components of the PC and their interfaces are examined. Function of the operating system and its interaction with the computer hardware. Must be completed within the last seven years prior to receiving the AAS degree or certificate in Computer Technology.

Credits: 3 Semesters: Spring

**COMT 1181 DATABASE MANAGEMENT SYSTEMS | 3 CR**

Prereq: COMT 1107

Various database models with emphasis on the relational model. Data relationships and attributes, the use of entity relationship diagrams, and data mapping operations. Must be completed within the last seven years prior to receiving the AAS degree or certificate in Computer Technology.

Credits: 3 Semesters: Fall

**COMT 1182 ADVANCED DATABASE WITH CRYSTAL REPORTS | 3 CR**

Prereq: COMT 1181

This course will present advanced features of relational database including concurrency control, query optimization, distributed databases, and database administration. It will present many of the constructs of SQL (Structure Query Language), including queries, updates, and deletes. It will provide students with the tools to master report generation through Crystal Reports.

Credits: 3 Semesters: Spring

**COMT 2188 SYSTEMS ANALYSIS AND DESIGN | 3 CR**

Prereq: COMT 1173, (C or higher)

The total environment of a computer-based system - analysis, design, implementation, and maintenance. Concepts and tools used in the system development life cycle and analysis of large systems are introduced. Must be completed within the last 7 years prior to receiving the AAS degree or certificate in Computer Technology.
COMT 2250 OBJECT ORIENTED PROGRAMMING WITH JAVA FOR HCST | 4 CR
PreReq: Eligible for CSCI 1101, and COMT 2100
This course enables students to learn object oriented programming principles using the Java programming language. Students will become familiar with Java techniques that are widely used in the industry, including best practices for the implementation of component based software architecture.

CSCI 1101 INTRODUCTION TO COMPUTING AND PROBLEM SOLVING | 4 CR
PreReq: MATH 0700, or (C or higher) or eligible for MATH 1100
Problem solving techniques in computer programming. A structured approach to algorithm development to solve a large number of problems. Students will write pseudocode to develop problem solving skills. They will write simple programs in one or more programming languages.

ENGC 1101 FRESHMAN COMPOSITION | 4 CR
PreReq: ENGC 0900, (C or higher) and eligible for READ 1106, or eligible for ENGC 1101 and READ 1106 MnTC Goals: 1
In this essential college-level writing course, students will practice the skills necessary for success in college and professional writing. Students will develop and apply critical reading and thinking skills in a variety of research and writing assignments, including analysis and argument, with some essays based on literary texts and other sources.

HCST 2096 PROFESSIONAL PRACTICAL EXPERIENCE | 2-4 CR
PreReq: Consent of program coordinator/chair and 30 credits completed in the program
Designed to provide exploratory or specific work experiences in an approved healthcare systems technology environment. Students are not placed in a work environment but are guided through the professional development process to gain the skills necessary to conduct workforce needs assessments, informational interview skills and questions, networking tips, and resume building tools which will be used to bridge the gap from graduation to the workforce.

HCST 2100 INTRODUCTION TO HEALTH INFORMATION TECHNOLOGY | 4 CR
PreReq: HLTH 2100
This course will develop an understanding of the role of Information Technology (IT) in the US healthcare systems drive to implement electronic health data exchange. It will provide students with an introduction to Health Information Technology (HIT), Electronic Health Records (EHR), and Health Information Exchange (HIE).

HCST 2200 PRIVACY AND SECURITY IN HEALTH INFORMATION TECHNOLOGY | 2 CR
PreReq: HCST 2100
This course will develop an understanding of the need for privacy and security in the healthcare industry. This course will emphasize government mandated privacy and security requirements, the importance of compliance, and ways to implement privacy and security during software development.

HLTH 1010 HEALTH PROFESSIONS TERMINOLOGY | 3 CR
Comprehensive course designed for mastering the medical language used in all professions and industries related to health care. Course includes an introduction of body systems in relation to medical terminology. Utilization, understanding and pronunciation of medical terms are incorporated into lab each week.

HLTH 2010 HEALTHCARE IN THE US | 3 CR
Recommended: Eligible for ENGC 1101, and READ 1106
Students will understand the history, organization, influences, and delivery of healthcare in the US and abroad. A focus will be on analyzing the factors that have shaped our healthcare system compared to the other parts of the globe. The course will cover types of healthcare institutions, functions of hospitals, and other facilities; accountability in healthcare, hierarchy of the healthcare system, organizational structure, and the role of government in healthcare.

MATH 1080 INTRODUCTION TO STATISTICS | 4 CR
PreReq: MATH 0050, or eligible for MnTC Goals: 4
Concepts and application of descriptive and inferential statistics. Measures of central tendency and variation. z-scores and percentiles, normal distribution, and central limit theorem. Estimation, hypothesis testing, t and z tests, chi-square tests, analysis of variance (ANOVA), and linear regression.

Last modified date: 9/29/2020 Normandale Community College