# Health Science Pathway

## Courses in Health Information Management (J7)

<table>
<thead>
<tr>
<th>ODE Courses</th>
<th>Possible Sinclair Courses</th>
<th>CTAG courses for approved programs</th>
</tr>
</thead>
</table>
| **Health Science and Technology – 1st course in the Career Field**  
Subject Code: 072001  
This first course in the career field provides students an overview of the opportunities available in the healthcare industry. Students will learn fundamental skills in effective and safe patient care that can be applied across a person’s lifespan. They will also be introduced to exercise science and sports medicine, the field of biomedical research and the importance of managing health information. | ALH 1101 Introduction to Healthcare Delivery - 2 semester hours | |
| **Health Science Capstone**  
Subject Code: 072105 – **Does not count as one of the required four courses**  
The capstone course provides opportunities for students to apply knowledge, attitudes and skills that were learned in Health Sciences program in a more comprehensive and authentic way. Capstones often include project/problem based learning opportunities that occur both in and away from school. Under supervision of the school and through community partnerships, students may combine classroom learning with work experience. This course can be delivered through a variety of delivery methods including cooperative education or apprenticeship. | | |
| **Health Information Systems – 1st course in the Pathway**  
Subject Code: 072135  
This course introduces electronic health information systems, designs, implementation, and application. Students gain knowledge and skills in techniques for managing and maintaining electronic | | |


health data and compilation, analysis, of healthcare statistics, research protocols and techniques. Topics include imaging technology, information security and integrity, data dictionaries, basic statistical principles, databases, registries, descriptive statistics, research protocol monitoring, including data collection and analysis, data sources/sets, archival systems, and quality and integrity of healthcare data.

**Billing and Coding**
Subject Code: 072145
Students develop, evaluate, and implement billing and record systems for health information data using various classification systems to code and categorize patient information. Topics include health record content and structure, diagnostic coding, legal and compliance requirements. Students will record transactions, process payments, and manage patient accounts. Further, students gain knowledge using coded data to produce and submit claims to insurance companies; reviewing and appealing unpaid and denied claims; and for handling collections on unpaid accounts.

**Medical Terminology**
Subject Code: 072150 This course focuses on the applications of the rules for constructing and defining medical terms with an emphasis on building a working medical vocabulary. Topics include using the appropriate abbreviations and symbols for anatomical, physiological and pathological classifications and the associated medical specialties and procedures. Students will decipher medical terms by identifying and using word elements with an emphasis on derivation, meaning, and pronunciation. Further, students will interpret and translate medical records and documents.
| **Human Anatomy and Physiology**  
Subject Code: 072040  
In this course, students will demonstrate knowledge of body systems with emphasis on the interrelationships between structure and physical function. Students will analyze and evaluate how the body systems respond to physical activity, disease, and aging. Students will use data acquisition software to monitor abnormal physiology and body functions (e.g., muscle movement, reflex, respiratory, and voluntary actions). Further, students will analyze descriptive results of abnormal physiology and evaluate clinical consequences.  |
| --- |

| **Medical and Dental Office Technology**  
Subject Code: 072155  
Students will apply fundamental principles of communication, leadership, technology and management as it applies to the medical office setting. Students will demonstrate documentation and record keeping procedures set forth by national accrediting organizations.  |
| --- |

| **Data and Use**  
Subject Code #072160  
This foundational course focuses on the use of data and databases within the health field. Students learn what are data, how it is used and sources of data in the medical and health informatics field. They learn how to make sense of data and how data can be applied to our lives. Students will have the opportunity to interact with professionals in the health informatics field.  |
| --- |

| **Transforming Data into Information**  
Subject Code #072165  
Students learn how to use data to address both patient and industry needs in the health-care field. Students use software to collect and analyze data, develop a health-care registry, create a mobile app mockup and develop forms and systems to solve health-care problems. They will learn how technology can be used to create better  |
| --- |
information to inform decision making, create information from data, improve public and individual health and to protect patient privacy.

**Transforming Information into Knowledge**  
Subject Code # 072170  
This advanced course allows students to make improvements in the health-care field by designing solutions using the information, knowledge and technology tools available to health informatics professionals. Students are engaged in the following activities: building a system of sharing information among health-care facilities; using social media tools to reduce diseases in foreign countries; exploring voice recognition software; using a motion-based video gaming console for rehabilitation; and exploring clinical decision rules for improving patient care.

**Problems and Solutions**  
Subject Code # 072175  
In this advanced course, students study and design solutions to problems facing health-care systems. Students learn how the health-care system can work more efficiently and economically, how health-care issues in rural locations can be addressed and how various community organizations work together to improve the health of the community. Students will have the opportunity to interact with professionals in the health informatics fields.