Curriculum Model

Associate Degree Education in Health Information Management

Framework for HIM Education

Based on the Model Curriculum Project Workgroup 2002

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Preamble

The healthcare industry continues to evolve in the midst of great change. In 2004, a federal government executive order calls for widespread adoption of interoperable electronic health records within 10 years. Changes caused by patient demographics, spiraling costs, and advancements in technology present substantial challenges to the healthcare industry. Better and more efficient use of information promises to make the healthcare system more effective. The ability to organize and turn data into information and knowledge includes being able to determine who needs what information, when and where; how information is defined; how information accuracy and consistency is verified; and how information is explained. The need for more information and better data requires a concentrated movement toward processes that place value on how the data is defined, understood, analyzed, and interpreted.[1, 2]

Health information management (HIM) professionals must continuously transform their knowledge, skills and abilities to keep pace. They must continue to apply the core fundamental functions of HIM to ensure quality health information for all healthcare settings and organizations that create and use it.

The e-HIM™ Vision for the Future statement emphasizes that core HIM functions become more crucial as healthcare moves further into the information age:

Health information management is the body of knowledge and practice that assures the availability of health information to facilitate real-time healthcare delivery and critical health-related decision making for multiple purposes across diverse organizations, settings, and disciplines.[1]

Dramatic change in health information management demands new thinking about how we educate tomorrow's professionals. Redefining roles, competencies, and educational progression is the foundation of AHIMA's *Framework for HIM Education.*[4] When tomorrow's graduates enter the HIM workplace, they will be ready for the e-HIM™ environment. [3]

INTRODUCTION

Building on the work of the initial model curriculum workgroup, the HIM Education Strategy Committee addressed recommendations from the *e-HIM™ Vision of the Future* report,[1] the AHIMA workforce research reports, "Data for Decisions: The HIM Workforce and Workplace", and a series of task groups addressing each HIM academic level. In particular, two recommendations from the e-HIM report were most significant in developing the *Framework for HIM Education*[4]*:*

- Accelerate plans and activities to implement changes in health information management training, education, and curriculum;
- Develop and implement programs to better prepare and train HIM professionals to pursue leadership roles in current and future areas of health information management.

Professional education in health information management strives to meet the needs of a continuously changing environment while requiring a rigorous course of study to prepare graduates for diversified practice in the healthcare industry. This includes educating students in life skills such as good study habits, critical analytical thinking, problem solving, and computer literacy along with professional practice skills. Life and professional practice skills are mandatory for graduates to assume the role of life-long learners who are capable of functioning in a technologically advanced and changing work environment.

To assist faculty in designing curriculum that supports the life long learning skills of graduates, the curriculum model addresses the evolving professional skills of associate degree students, emphasizes the life skills necessary to function in a changing environment, and supports instructional strategies used to educate a diverse student body. The model provides a benchmark for entry-level associate degree education in health information management. Implicit in the design of the model is its flexibility as it relates to academic program goals and communities of interest. The model also supports the work of AHIMA in identifying emerging roles that health information management professionals may assume as technology continues to rapidly change the process of managing health information.

The model is a guide that **complements** the current (1) accreditation *Standards (see www.cahiim.org),*

(2) the entry-level competencies http://library.ahima.org/xpedio/groups/public/documents/ahima/bok1_025524.pdf,

and (3) knowledge clusters http://library.ahima.org/xpedio/groups/public/documents/ahima/bok1_025380.doc established by the profession. Educators are to use the *Model Curriculum* as a basis for program development and evaluation.[13]

MISSION OF HEALTH INFORMATION MANAGEMENT EDUCATION

The mission of health information management education is to prepare confident, innovative, and contributing professionals who can identify and use a variety of information resources and technologies to accomplish the objectives of diverse practice environments. It provides students with the knowledge and skills necessary to become self-directed learners who possess critical-thinking and problem-solving abilities as well as communication and interpersonal skills. It instills a commitment to life-long learning and important ethical values. As practitioners, graduates of programs will serve society and the profession through collaborative practice, innovative teaching, and the generation and application of new knowledge about health information management.

FRAMEWORK FOR HIM EDUCATION

The *HIM Educational Framework Description of Roles for HIM in an Electronic Workplace*,[4] http://library.ahima.org/xpedio/groups/public/documents/ahima/bok1_025418.pdf has five goals:

- Reflects the abilities that will be required in the near future, as electronic-based health

information management practice becomes the norm and paper-based practice is the exception;

- Presents a continuum of academic levels
- Defines descriptors and roles for each academic level
- Ties to the entry-level competencies and knowledge clusters for applicable academic levels
- Provides distinct entry and exit points at each academic level for ease of progression.

The *Framework* begins by specifying four academic levels: pre-degree certificate, HIM associate degree, HIM baccalaureate degree, and HIM master's degree. Each degree level includes HIM in the title to strengthen the recognition of HIM as one continuous body of knowledge. Roles under each academic level describe the job functions that HIM professionals completing the respective education could expect to assume. The descriptors and roles reflect the move to an electronic health information environment as described in the *e-HIM™ Vision for the Future* report.[1,3,4]

HEALTH INFORMATION MANAGEMENT PROFESSIONAL DEFINITION

Health information management professionals hold many diverse roles, yet all share a common purpose: providing reliable and valid information that drives the healthcare industry. They are specialists in working with health information systems, managing medical records, and coding information for reimbursement and research. Health information management professionals are uniquely qualified to:

- Ensure health information is complete and available to legitimate users
- Code and classify data for reimbursement
- Analyze information necessary for decision support

- Protect patient privacy and provide information security
- Enhance the quality and uses for data within healthcare
- Administer health information computer systems
- Comply with standards and regulations regarding health information
- Prepare health data for accreditation surveys
- Analyze clinical data for research and public policy

HIM professionals also work throughout the entire healthcare industry in settings that span the continuum of care and are employed in any organization that uses health information, including:

- Hospitals
- Managed care organizations
- Long term care facilities
- Behavioral health facilities
- Consulting and law firms
- Information system vendors
- Ambulatory care facilities
- Rehabilitation center
- Skilled nursing facilities
- Home care providers
- Government agencies
- Pharmaceutical companies
- Physician practices
- Insurance companies

Graduates of associate degree programs in health information management are known as health information technicians. Entry-level health information technicians may be employed in a variety of settings, and they may assume a variety of job titles depending upon their education, work experience and place of employment. Common job titles held by associate degree health information technicians in today's job market include clinical coder, coding

manager, clinical data collection and reporting specialist, cancer/other disease registrar, data integrity specialist, documentation specialist, imaging specialist, reimbursement specialist, financial services liaison, instructor/trainer. Job titles along with job functions will change as employment settings continue to rely on information systems and technology. Health information technicians have, and will continue to hold, positions that support health information management in an electronic environment (e-HIM).[1,14] Presently, opportunities for practice are found in numerous settings such as acute care general hospitals, managed care organizations, physician office practices, long term care facilities, home healthcare agencies, corrections facilities, behavioral healthcare organizations, insurance companies, ambulatory settings, state and federal healthcare agencies, etc.

TASK RESPONSIBILITIES

The tasks or functions performed by health information technicians are numerous and are dictated by the job title and work setting that employs the health information technician. In general, these individuals are the technical experts in health data collection, analysis, monitoring, maintenance, retrieval and reporting of health care data in accordance with data quality principles, legal and regulatory standards, and professional practice guidelines, regardless of the physical medium in which the information is maintained.

UNIQUENESS OF THE ASSOCIATE DEGREE CURRICULUM

The uniqueness of entry-level associate degree education for health information management is found in the environment in which the curriculum is taught, the employment setting of its graduates and the blending of course work that comprises health information management. The associate degree curriculum represents a synthesis of curricular content drawn from general education and coupled with a unique understanding of the biomedical sciences, health data content and uses, and health data classification and reimbursement systems. It is important to note that the expertise of the associate degree graduate lies in the application of data management processes in

support of healthcare information operations. The focus is on preparing expert technical staff.

CONTENT OF CURRICULUM

The associate degree curriculum emphasizes the technical component of providing a variety of health information services. The curriculum is designed to prepare entry-level graduates with the knowledge and skills necessary to use, analyze, present, abstract, code, store and/or retrieve health care data for the support of departmental operations, and clinical and business decision making in healthcare, or related organizations.

The recommended curricular content is comprised of general and professional education requirements. The integration of these requirements is imperative to the development of professional attributes necessary to function in a rapidly changing environment and high performance workplace.

GENERAL EDUCATION

General education is defined as those courses which students are required to complete outside of the professional major which foster the skills necessary to function as responsible adults and contributing members of society. Professional education is defined as those courses students are required to complete to develop specialized knowledge and skills in a chosen field. Figure 1 displays the recommended general education requirements for an associate degree program in health information management.

Figure 1: General Education Requirements for Associate Level Health Information Management

Intent: To prepare practitioners who are capable of understanding society and their roles in it. General education elements should be interspersed throughout the curriculum in an effort to enhance the educational outcomes expected of program graduates. General education should include, but is not limited to the following:

- Oral and written communication skills
- Social Sciences/Behavioral Sciences
- Humanities
- General Sciences
- Mathematics
- Computer literacy
  - Hardware, software, operating systems, file structure
- Microcomputer applications
  - Word processing
  - Spreadsheets
  - Database
  - Graphics and presentation

The professional education requirements are comprised of ***knowledge clusters*** http://library.ahima.org/xpedio/groups/public/documents/ahima/bok1_025380.doc which represent broad domains of content. The knowledge clusters are further defined by ***knowledge units*** which represent more detailed content areas within the clusters. The recommended content areas do not equate to specific courses but represent a continuum of practice with the depth and breadth of the clusters and units varying by institutional prerogative, community of interest and the marketplace for health information technicians.

For curriculum development purposes, each of the units has been assigned a suggested competency level which best indicates the extent of knowledge and expertise that should be developed in students. Programs may wish to assign competency levels based on its own marketplace and community of interest. The scale used to define the competency levels was adapted from Longenecker, et al.[16], and is found in Figure 2.

Figure 2: Competency Levels	
1 = Awareness	Introductory recall and recognition
2 = Literacy	Knowledge of framework and contents
3 = Concept	Comprehension, translation, extrapolation and interpretation of meaning
4 = Detailed Understanding	Appropriate application of knowledge in a structured or controlled context
5 = Skilled Use	Application using analysis, synthesis, and evaluation in new situations

PRACTICUM EXPERIENCES

Students must be given the opportunity to practice the skills learned within the didactic curriculum. Experiential opportunities should allow students to relate the functional and theoretical components of the curriculum to realistic practice situations. Practicum experiences may be included in the curriculum as separate courses, incorporated within courses and/or developed as simulated practice modules.

EDUCATIONAL STRATEGIES AND ASSESSMENT

To educate students for a future characterized by change and increased dependency on information and communication technology, the curriculum must enable students to learn to think rationally and creatively, solve problems, manage and retrieve information, communicate effectively and continuously learn. Curricula should be structured in such a manner that students become active life-long learners who are capable of creating their own knowledge after interacting with information from a variety of resources, (i.e., printed media, Internet, electronic databases, and applications, etc.). It is important for students to become information literate and to acquire the skills necessary to solve problems.

Teachers or faculty must serve as facilitators or coaches and help direct students toward the attainment of skills that will make them self-directed learners. Faculty may wish to move away from a reliance on lecturing and foster a more case-based or problem-based approach to

curriculum design. This calls for the development and use of case studies, simulations, discussion lessons, paper writing and rewriting exercises and frequent oral presentations. Faculty should focus on concepts and strategies that enhance the students' ability to analyze situations and to form and defend opinions.

Student performance should be assessed through examinations and other assessment measures that test the student's ability to critically think and problem solve. These measures should also be used as a form of self-assessment for the student as he or she progresses through the program. When areas of improvement are identified, the student and faculty should collaboratively identify strategies for individual student mastery.

ALTERNATE MODES OF EDUCATIONAL DELIVERY

Rapid growth of the Internet and course authoring software has increased opportunities and challenges of providing educational programs through venues other than the classroom. Alternative modes of educational delivery are important for three principal reasons. First, alternative modes of delivery hold promise of helping to better meet the recruitment needs of the healthcare industry. Second, they can help to meet the personal development needs of students whose life situations do not permit them to pursue coursework in more traditional classroom settings. Third, alternative modes of delivery can enhance the educational experience and promote the development of students who are more independent learners. Consideration should be given to what alternative modes of educational delivery best promote active learning among students.

There are many types of alternative modes of educational delivery. However, three more common types of delivery are technology-enhanced, independent study, and Internet-based. ***Technology-enhanced*** delivery is most often used in conjunction with traditional classroom delivery to make materials or experiences or resources available to students that otherwise

cannot be accommodated during the classroom teaching session. For example, faculty may post their lecture notes on personal web sites or sites that have been provided by their employing academic institutions. Copying and distributing materials on paper is eliminated. Lecture materials can be made more interesting and colorful using web development applications. Students can experience the lecture materials in delivery formats which appeal to younger media conscious students. In another example, faculty can link lecture materials to web sites on the World Wide Web to supplement materials they have developed themselves or to demonstrate to students how the curricular content has been realized in the nonacademic world. AHIMA provides customized course materials through its "on demand" bookstore services. https://imis.ahima.org/orders/

The ***independent study, paper-based,*** type of delivery has been available for many years. The student receives a textbook and a module of lecture notes and exercises. Students submit assignments via the mail or email. Faculty can respond by providing written feedback to the student and returning student assignments to them via mail or email. When testing occurs, it is monitored by a proctor to whom the assessment activities are mailed and/or via the Internet. Students commonly have a predefined period in which to complete the course, but they have been able to do so in concert with their personal schedules. Increasingly this model is transitioning to a fully Internet-based approach.

The ***Internet-based*****, online** or **distant-learning** type of delivery has become more prevalent as the full capabilities of the Internet have been realized. Students access a course website, complete assignments and return them to the instructor commonly by email. Faculty in turn will respond to the student assignments via email. Testing can be administered using test administration applications for student assessment via the Internet. This form of educational delivery enhances an academic program's opportunity to offer coursework on a distance education basis. If academic programs wish to offer distance-learning opportunities there are

several strategies for success that should be considered. Both the independent study paper-based and Internet based types of delivery can be offered to students on campus as well as to those students who are not physically on campus.

STAFFING LEVELS AND FACULTY QUALIFICATIONS

FACULTY

Effective implementation and maintenance of an associate degree program requires adequate faculty and staff resource levels. The changing nature of the healthcare environment, diversity of practice settings, expanding scope of practice and demands for educating a more self-directed learner require that faculty continually adjust and revise the curriculum to meet the needs of the marketplace. Associate degree programs must be staffed with more than one full-time faculty member. Additional faculty and staff are necessary to meet the challenges of a dynamic, rapidly changing knowledge base within the profession.

It is recommended that a minimum of one full-time program director, and the equivalent of two full-time faculty members, be assigned to the associate degree program. One individual cannot provide the scope of expertise, stability, continuity and teaching excellence needed to adequately educate students in today's environment. This recommendation is based on the assumption that faculty are responsible for at least two to three course preparations per term and that the courses are taught once a year. It also assumes that the program director will have a lighter teaching load than faculty due to the director's administrative and leadership responsibilities as related to the program and curriculum development. In addition, faculty resources may be adjusted depending on the institution's commitment to teaching, research and community service.

Programs may wish to configure faculty resources based on a collaborative matrix design that relies on faculty from other academic units to teach within the program, based upon their area of expertise. If this activity occurs, the program director must retain overall responsibility for assuring that the course content remains relevant to the overall mission of the curriculum. The qualifications of the program director and faculty should ensure that course content is adequately

covered by faculty with the appropriate teaching expertise for the content under study.

The program must have a program director who is responsible for overall administrative activities of the program including curriculum design and development.[13] The program director's administrative responsibilities are such that it is recommended that the teaching load for this individual not exceed the equivalent of one (1) three credit course per semester. The qualifications of the program director should include the following:

1) Master's degree;
2) AHIMA certification (RHIT or RHIA),
3) Expertise in content area taught; and,
4) Knowledge of curriculum design and educational strategies.

Program faculty qualifications should include the following:

1) Master's degree;
2) Expertise in the content area taught; and,
3) Knowledge of curriculum design and educational strategies.

Part-time faculty should have the qualifications appropriate to their teaching assignments and their work should be evaluated systematically and in the same manner as full-time faculty. Part-time faculty must participate in faculty activities, such as advising students, planning curriculum changes and interacting with faculty from other disciplines. Caution should be exercised when using part-time faculty to cover departmental workload. Excessive reliance on part-time faculty to present a curriculum risks excessive fragmentation and lack of coordination.

SUPPORT STAFF

Secretarial support staff equivalent to at least one full-time individual must be provided to the program. In addition, rapid advances in information technology and the use of this technology in the profession requires that academic programs have access to a dedicated computer laboratory. Laboratory personnel are needed to maintain the integrity of the laboratory's hardware and

software configuration and provide technical assistance to the program faculty and/or assist students if appropriate.

COMPUTER LABORATORY

The purpose of the computer laboratory is to 1) provide state-of-the-art training and a technological knowledge base, 2) expose students to a variety of technology and 3) allow students to interact successfully in a technological environment. A laboratory is integral to the work of the students and to their achievement of the knowledge needed for practice. The laboratory must serve as a source of simulation activity for procedures related to the use, analysis, coding, presentation, storage and retrieval of health care data in manual or electronic form.

A dedicated computer laboratory is recommended to provide consistent and dependable access to information technology. However, with increasing technological advances, there are many alternatives for providing sufficient and dependable computer access. The networked laboratory facilitates teaching activities, software expansion needs and access to a central data repository. The program will need to acquire a number of general and HIM related software applications (i.e., encoders, groupers, cancer databases, master patient index, etc.) that can require significant amounts of CPU and peripheral device capacity. A list of recommended general and HIM related software applications including recommendations approved by the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM) can be found in Appendix A and a suggested computer lab setup in Appendix B. Students must have access to such software in order to successfully compete in the marketplace.

Laboratory exercises should provide for computer experience in HIM functional areas as well as in many basic computer applications. Exercises should be developed that emphasize the acquisition of skills related to the use of electronic tools to solve problems and make decisions. Students must learn to collect, integrate, analyze, disseminate and translate vast amounts of data into usable information for patient care, financial, legal, administrative, quality management, case

management, outcomes research, planning and other purposes.

It is important that the program have a plan for the continuous development and upgrading of the laboratory in order to remain current with technology and applications necessary to educate students for today's and tomorrow's HIM needs in an electronic environment.

CONCLUSION

Rapid changes within the healthcare environment coupled with changing organizational cultures and practice applications in the health information management profession require that associate degree programs design curricula that can prepare graduates for a future of technological innovations and change. The model curriculum put forth in this document is designed to serve as a guide to existing and future academic programs that must develop, revise and/or evaluate curriculum to meet the needs of an information-intensive society and an increasingly electronic healthcare environment. The model discusses the course content that should be offered to students, the strategies necessary to deliver the content and the resources that should be available to successfully operate an academic program of this kind. The curriculum model is dynamic and it serves to provide direction in designing curricula, and managing HIM programs to prepare graduating students to meet the needs of a dynamic HIM profession in an electronic information age.

GLOSSARY OF TERMS

Case-based learning - an educational strategy designed to emphasize problem solving and decision-making skills.

Competency level - knowledge and/or skill outcomes that should be developed in students.

Computer literacy - understanding of, and ability to use software applications as related to computer technology.

Data - factual information used as a basis for reasoning, discussion, and calculation.

Data broker – see information services broker

Data literacy - ability to understand data and its symbolic representation, interpret or give meaning to data and take action as a result of this understanding.

Data modeling - process of modeling and formalizing data requirements with a conceptual modeling tool (i.e., entity relationship (ER) diagram).

Educational outcome - the behaviors, attitudes, attributes expected from students that follow as a result or consequence of the educational process.

E-Health Commerce – transactions conducted over the Internet such as purchasing goods or services, or transmitting claims.

E-Health – the application of the Internet and its related technologies to the healthcare industry to improve the efficiency, effectiveness, and quality of clinical and business processes within an organization, between organizations and with patients and consumers.

E-Health organizations - any and all organizations that deliver or facilitate the delivery of healthcare products, services or information to and from healthcare businesses and/or healthcare consumers using the Internet and its related technologies. Two distinct and evolving categories of e-health organizations are business to business (B to B) organizations, and business to consumer (B to C) organizations.

E-HIM – any and all transactions in which healthcare information is accessed, processed, stored, and transferred using electronic technologies to facilitate the business of healthcare. Such technologies include but are not limited to the Internet, facsimile, wireless, direct dial-up, document management systems and electronic databases.

Enterprise - unit of economic organization or activity, i.e., business organization.

Entry-level professional - term used to refer to graduates who are entering a profession after having successfully completed a course of study from an associate, baccalaureate or master's degree program.

Extra-enterprise - denotes activities that range outside the organization or enterprise entity.

General education - courses outside of a professional major which foster the skills necessary to function as a responsible adult and contributing member of society

Healthcare information infrastructure - the underlying framework or foundation of information systems within healthcare.

Health information administrator - an individual who has graduated from a baccalaureate degree program in health information management and who performs tasks related to the management of health information and the systems used to collect, store, retrieve, disseminate and communicate that information regardless of the physical medium in which the information is maintained.

Health information management - A continuum of practice concerned with health related information and the management of systems to collect, store, process, retrieve, analyze, disseminate and communicate information related to research, planning, provision, and evaluation of healthcare services; also refers to professional curricula at the associate, baccalaureate and graduate degree levels.

Health information technician - an individual who has graduated from an associate degree program in health information management and who performs tasks related to the use, analysis, presentation, abstracting, coding, storage and retrieval of healthcare data in manual or electronic form.

Information - meaningful aggregation of data or knowledge that can be evaluated for a specific use or set of uses.

Information literacy - ability to recognize when information is needed and have the ability to locate, evaluate and use information effectively when appropriate.

Information services broker - an individual who acts as an agent or intermediary between a client and an information product or group of services.

Knowledge cluster - a broad domain of practice.

Knowledge unit - detailed content area within a cluster.

Medical linguistics - study of the units, nature, and structure of medical language.

Problem-based learning - teaching-learning strategy designed to emphasize problem solving and self-directed study skills, stresses what knowledge students learn and how that knowledge is acquired. Uses group process where students are confronted with a problem, they engage in independent study by investigating various aspects of problem, then come together along with a facilitator to share and discuss with others and receive feedback, ask additional questions, etc., until problem is solved.

Professional education - courses students are required to complete to develop specialized knowledge and skills in a chosen field.

Resource-based learning - learning which results from using multiple resources.

Self-directed learning - students are in charge of own learning and move at their own pace to acquire knowledge from multiple resources.

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APPENDIX A

MINIMAL REQUIRED SOFTWARE APPLICATIONS FOR HIM PROGRAMS
Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM)

Background

Students should be oriented to computers and have hands-on experience with the general applications of word-processing, spreadsheet, database management, presentation, statistical and project management applications prior to their professional practice experience. Minimum HIM-specific applications to which students must be oriented prior to the PPE include basic chart management and coding/abstracting applications. Below illustrates the types of software applications experience that programs must provide in order to meet the standards. Programs that do not use HIM-specific software packages to meet the standards should be prepared to demonstrate how they have incorporated HIM-specific functions into general computer application.

General Applications

- Word processing
- Spreadsheet
- Database management
- Presentation (PowerPoint)
- Project Management
- Statistics

HIM-specific Applications

- Chart Management
- Chart tracking
- Chart deficiency
- Release of Information
- Coding Encoder and Grouper
- Abstracting (e.g., Database)
- Master Patient Index (e.g. MPI, ADT)
- Registries (e.g. Cancer, Birth)

Students may gain knowledge of and experience with the minimal software applications through classroom and lab use on campus, or on focused field trips, which are conducted as part of a regular course. Students should not receive their first experience with any of the basic required software applications while on their Professional Practice Experience.

APPENDIX B

SUGGESTED COMPUTER LABORATORY CONFIGURATION

Hardware

1. File server
2. 1 workstation per student: 17 inch monitor (CD-ROM, sound cards, earphones/speakers – generally standard);
3. Internet configuration with wiring and ports for rapid access to Internet
4. Laser printer; color (at least two with ½ workstations defaulted to one; ½ to the other so there is sufficient backup)
5. Data (LCD) projector and screen (for teaching from host computer to project for classroom viewing)
6. Copying machine (optional)
7. Flatbed scanner (optional)
8. Digital camera (optional)

Software

1. Virus protection for server, network and each PC
2. Internet browser software
3. Microsoft Office Suite - latest version (Word, Access, Excel, PowerPoint)
4. Microsoft Project or other project software
5. Encoder, such as 3M, QuadraMed, HSS, or equivalent encoder product
6. Terminology, coding or other learning packages such as MC Strategies Webinservice/Educode™, AHIMA Coding Basics™, etc.
7. Cancer Registry products such as IMPAC
8. Library search tools such as MEDLINE, CINAHL, OVID, etc
9. Statistical packages, such as SPSS, SAS or equivalent
10. Chart management, tracking, deficiency, such as SoftMed™, etc.
11. Abstracting system

Furniture

1. Computer desks – ergonomically designed (one per student assigned to section)
2. Drawer modules for desks – single pedestal – for storage
3. Ergonomic chairs with armrests that adjust to fit with computer desks
4. Sufficient space for elbow room horizontally and walking space behind chairs for instructor access