UNIVERSITY OF NORTH TEXAS
School of Library and Information Sciences

SLIS 5960.003 Kelly Thomas
Medical Digital Imaging

Instructor Information

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Course Description

This course will focus on the usage and characteristics of medical images as well as two critical medical informatics standards used for exchanging relevant information such as patient demographics, orders, laboratory tests, and diagnostic images. These two standards, DICOM and HL7, will be explored in detail. Students will practice working with medical images using public domain viewing software. Special emphasis will be given to the role of workflow in an institution through on-site study and a final project. The role of health information professionals in the management of digital medical images will be explored. Also, the students will participate in a site visit in order to witness the functionality of these standards in real world situations.

Course Goals

- To develop an understanding of the image and information standards used to exchange data between medical computers and devices such as hospital information systems and radiology acquisition devices such as CT scanners, MRI systems, ultrasound units, etc.
- To acquire sufficient knowledge so that students can determine the compatibility and effectiveness of medical image and information systems in their future or current careers.
- To understand the work and information flow in a healthcare environment, in this case the radiology department.
- To acquire an appreciation of the actual environment and analyze the workflow through an on-site visit.
- To familiarize students with various types of diagnostic imaging by utilizing public domain viewers and readily available sample images from major modality manufacturers.
• To perform actual transactions, such as sending images which simulate a real
time imaging environment using software that is available in the public domain.
• To utilize knowledge resources that involve medical imaging.
• To appreciate the importance of medical imaging for future efforts involving
electronic master patient records and gain an understanding of the complexity
involved.
• To understand the role of health information professionals in the management of
digital medical images.
• To understand the impact of recent legislation with regard to patient privacy and
security.

Course Outline

• Introduction to Medical Digital Imaging
• Managing Medical Digital Imaging Information
• Medical Imaging in the Practice of Medicine
• Standards in Medical Imaging
• Regulations Affecting the Management of Medical Digital Imaging in a Clinical Setting
• PACS, RIS, HIS, and Workflow Analysis
• Future Technologies in Medical Imaging

Textbook


Course Requirements and Grading

Lecture Exercises 60%
Final Project 30%
Participation 10%
**ADA Accomodations**

Any student with a disability that will require accommodation under the terms of federal regulations must present a written accommodation request to the instructor on or before the second-class meeting. Copies of the School’s ADA Compliance Policy, ADA Policy on Auxiliary Aids and Reasonable Accommodation, and ADA Grievance Procedures are available through the School Office (ISB 205; 940 / 565-2445). It is also recommended that the student register with the Office of Disability Accommodation (University Union 318-A; 940 / 565-4323).

**Academic Misconduct**

The UNT Graduate Catalog includes the following under Academic Misconduct: The term "cheating" includes, but is not limited to, (1) use of any unauthorized assistance in taking quizzes, tests or examinations; (2) dependence upon the aid of sources specifically prohibited by the instructor in writing papers, preparing reports, solving problems or carrying out other assignments; (3) the acquisition, without permission, of tests or other academic material belonging to a faculty or staff member of the university. The term "plagiarism" includes, but is not limited to, the use, by paraphrase or direct quotation, of the published or unpublished work of another person without full and clear acknowledgement. Plagiarism also includes the unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers or other academic materials. Penalties for academic misconduct range from reducing the grade for a test or assignment to revoking an academic degree already granted. Penalties and the appeals process are explained in the UNT Graduate Catalog and the UNT Code of Student Conduct and Discipline.