

CMI 376: SECTIONAL ANATOMY IN MEDICAL IMAGING

University of Nevada, Las Vegas
Division of Health Sciences
School of Allied Health Sciences
Department of Health Physics and Diagnostic Sciences

Instructor: Kevin Andrada
Email: kla@unlv.nevada.edu (use through WebCampus)
Office location and hours: Upon Request

Schedule: Semester: Spring 2013
Dates: 01/23/13 – 05/15/2013
Location: MPE 233
Lecture: Wednesdays, 4:00* – 6:45 p.m.
Final Exam: Wednesday, May 15th, 6:00pm – 8:00pm

Credits: 3

Prerequisites: BIO 224

Course Description:

Transverse, coronal, and sagittal anatomy of the head, neck, thorax, abdomen, pelvis, and extremities. Areas of discussion include: skeletal, muscular, circulatory, nervous, lymphatic, and visceral anatomic relationships.

Course Learning Objectives/Outcomes:

1. Predetermine the structures that are expected to be visualized in axial images of the head, neck, thorax, abdomen, and pelvis on the basis of surface anatomy, selected bony anatomy, vertebral level, or other landmarks.
2. Re-examine each organ's gross structure and its physical relationship to neighboring structures in the living human body.
3. Understand and identify the various tissue densities and structures as presented in Magnetic Resonance Imaging (MR), Computed Tomography (CT), Single Photon Emission Computed Tomography (SPECT), Positron Emission Tomography (PET), Ultrasound (US), and fusion imaging.
4. Identify all major structures in contiguous axial slices throughout the head, neck, thorax, abdomen, and pelvis as well as in selected sagittal and coronal images.
5. *Examine and discuss various stages of physiologic function that can be demonstrated on imaging media. Specifically included are the digestive, urinary, and cardiopulmonary systems in their dynamic states.*
6. *Examine the anatomic relationships of structures in the joints of the extremities.*

Resources:

Required:

1. Kelley, L. and Petersen, C: Sectional Anatomy for Imaging Professionals. Mosby. 3rd ed. 2013
 2. Kelley, L. and Petersen, C: Sectional Anatomy for Imaging Professionals WORKBOOK. 3rd ed. 2013
- or**
3. Kelley, L. and Petersen, C: Sectional Anatomy for Imaging Professionals. Mosby. 2nd ed. 2007
 4. Kelley, L. and Petersen, C: Sectional Anatomy for Imaging Professionals WORKBOOK. 2nd ed. 2007

Supplemental* (not required):

1. Any old Anatomy and Physiology textbooks
2. Online anatomy reference sites, Cross-sectional programs (see examples below)
 - a. www.Imaios.com
 - b. www.Osirix-viewer.com
 - c. Google: RAA viewer
 - d. www.visiblebody.com
 - e. <http://www.bartleby.com/107/>

Course Evaluation Methods:

Quizzes:

A quiz will be administered each week. No make-up quizzes will be allowed without a minimum of 24 hours advanced approval by the instructor. Please send notice through WebCampus (see below) (11 quizzes @ Approx 10pts ea.) *Grades posted by the following Saturday.*

Workbook assignments:

Weekly workbook assignments will be collected on the day of each exam. A portion of the full assignment will be given after each lecture. (4 assignments @ Approx 10pts ea.) *Grades posted by the following lecture.*

Exams:

An examination will be administered following each major topic. No make-up exams will be allowed without a minimum of 24 hours advanced approval by the instructor. **A comprehensive final exam will be given during final's week.** (4 exams @ 200-250pts ea.) *Grades posted by the following lecture.*

Essay: Each student will be required to write an essay (1000-1500 words) on the application of a particular imaging modality (plain film, CT, MRI, SPECT, PET, ultrasound) for the diagnosis of a specific disease. The following information should be included: background information on the disease, description of organs and normal tissues typically visualized on the images, common artifacts to consider, rationale for using the particular imaging modality, a brief discussion of patient preparation, typical treatments for the disease and patient prognosis. Students must choose an imaging modality outside their major. The essay should incorporate figures, tables, charts and/or images. A reference list must be included. Students are strongly encouraged to consult the peer-reviewed literature rather than relying on on-line sources such as Wikipedia.

Grading:

Your course grade will be based upon the total points accumulated throughout the semester. The points allotted for each exam, including the final, will vary with the subject matter. A final letter grade will be assigned as a percentage of the total points according to the following distribution and scale:

Point distribution:

A.	11 Quizzes @ 10 points each	110 points
B.	4 Workbook Assignment Submissions @ 10 points each	40 points
C.	3 Section Exams @ 200 points each	600 points
D.	1 Final Exam @ 250 points	250 points
E.	1 Essay @ 200 points	200 points
F.	Grand Total =	1200 points

Letter Grade	Points Earned	Percentage	Letter Grade	Points Earned	Percentage
A	935-1000	93.5-100.0	C	735-774	73.5-77.4
A-	895-934	89.5-93.4	C-	705-734	70.5-73.4
B+	865-894	86.5-89.4	D+	675-704	67.5-70.4
B	835-864	83.5-86.4	D	645-674	64.5-67.4
B-	805-834	80.5-83.4	D-	615-644	61.5-64.4
C+	775-804	77.5-80.4	F	0-614	0.0-61.4

Progression Requirements:

Refer to the department policies outlined in the 2010–2012 Undergraduate Catalog:

http://catalog.unlv.edu/preview_entity.php?catoid=4&ent_oid=261&returnto=203

Or

Refer to the department policies outlined in the 2012-2014 Undergraduate Catalog:

http://catalog.unlv.edu/preview_entity.php?catoid=6&ent_oid=415&returnto=541

Progression Requirements

Students must:

1. Maintain a cumulative GPA of 2.50 or higher each semester enrolled and have no negative grade point averages,
2. Receive a grade of C or better in all required RAD, HPS, CMI, or NUC courses,
3. Not register for the same RAD, HPS, CMI, or NUC course more than two times (except HPS 411, CMI 490, RAD 490, and CMI 485).

4. Students who have successfully completed a nationally accredited radiography program prior to their admission to the CT/MRI track of Comprehensive Medical Imaging degree program must pass a national registry in radiography prior to graduation.
 5. Student progression into RAD, CMI, and NUC clinical course work may be limited based upon the availability of clinical sites.
 6. Additional policies for each program are published in the appropriate program policy manual.
 7. All students accepted to a clinical program must be able to pass a national background check and a drug screening test.
- * If you are enrolled in this course but are not majored in a course under the Health Physics and Diagnostic Sciences Department, please refer to the Progression Requirements for your respective major.

Attendance:

Although attendance is not “graded,” it is expected that you are present at each lecture. As mentioned above, there will be a quiz each week during the lecture period.

WebCampus:

This course is listed as an “In Person Supplemental Web” instruction mode. As noted by the schedule above, there will be weekly in person lectures to include quizzes and exams. The supplemental web portion will be provided through WebCampus. Course schedule, lecture notes (each Monday before each respective lecture), supplemental material (as needed), practice material (each Friday before each respective exam), announcements, e-mails, grades, etc. will be available on WebCampus. **Weekly lecture notes are to be printed by the student prior to lecture to use for reference during each lecture. Students are to use the e-mail tool under WebCampus for all communications in order to maintain standardized communications.**

UNIVERSITY-WIDE POLICIES:

Academic Misconduct – Academic integrity is a legitimate concern for every member of the campus community; all share in upholding the fundamental values of honesty, trust, respect, fairness, responsibility and professionalism. By choosing to join the UNLV community, students accept the expectations of the Academic Misconduct Policy and are encouraged when faced with choices to always take the ethical path. Students enrolling in UNLV assume the obligation to conduct themselves in a manner compatible with UNLV’s function as an educational institution. An example of academic misconduct is plagiarism. Plagiarism is using the words or ideas of another, from the Internet or any source, without proper citation of the sources. See the *Student Academic Misconduct Policy* (approved December 9, 2005) located at: <http://studentconduct.unlv.edu/misconduct/policy.html>. **Copyright** – The University requires all members of the University Community to familiarize themselves and to follow copyright and fair use requirements. **You are individually and solely responsible for violations of copyright and fair use laws. The university will neither protect nor defend you nor assume any responsibility for employee or student violations of fair use laws.** Violations of copyright laws could subject you to federal and state civil penalties and criminal liability, as well as disciplinary action under University policies. Additional information can be found at: <http://provost.unlv.edu/copyright/statements.html>. Office of the Executive Vice President and Provost Box 451002 • 4505 South Maryland Parkway Las Vegas, Nevada 89154-1002 (702) 895-3301 • FAX (702) 895-4054 <http://provost.unlv.edu/>

Disability Resource Center (DRC) – The Disability Resource Center (DRC) determines accommodations that are “reasonable” in promoting the equal access of a student reporting a disability to the general UNLV learning experience. In so doing, the DRC also balances instructor and departmental interests in maintaining curricular standards so as to best achieve a fair evaluation standard amongst students being assisted. In order for the DRC to be effective it must be considered in the dialog between the faculty and the student who is requesting accommodations. For this reason faculty should only provide students course adjustment after having received an “Academic Accommodation Plan.” If faculty members have any questions regarding the DRC, they should call a DRC counselor.

UNLV complies with the provisions set forth in Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990. The DRC is located in the Student Services Complex (SSC-A), Room 143, phone (702) 895-0866, fax (702) 895-0651. For additional information, please visit: <http://drc.unlv.edu/>.

Religious Holidays Policy – Any student missing class quizzes, examinations, or any other class or lab work because of

observance of religious holidays shall be given an opportunity during that semester to make up missed work. The make-up will apply to the religious holiday absence only. It shall be the responsibility of the student to notify the instructor no later than the end of the first two weeks of classes, February 1st, 2012, of his or her intention to participate in religious holidays which do not fall on state holidays or periods of class recess. This policy shall not apply in the event that administering the test or examination at an alternate time would impose an undue hardship on the instructor or the university which could have been avoided. For additional information, please visit: <http://catalog.unlv.edu/content.php?catoid=4&navoid=164>.

Tutoring – The Academic Success Center (ASC) provides tutoring and academic assistance for all UNLV students taking UNLV courses. Students are encouraged to stop by the ASC to learn more about subjects offered, tutoring times and other academic resources. The ASC is located across from the Student Services Complex, #22 on the current UNLV map. Students may learn more about tutoring services by calling (702) 895-3177 or visiting the tutoring web site at: <http://academicsuccess.unlv.edu/tutoring/>.

UNLV Writing Center – One-on-one or small group assistance with writing is available free of charge to UNLV students at the Writing Center, located in CDC-3-301. Although walk-in consultations are sometimes available, students with appointments will receive priority assistance. Appointments may be made in person or by calling 895-3908. The student's Rebel ID Card, a copy of the assignment (if possible), and two copies of any writing to be reviewed are requested for the consultation. More information can be found at: <http://writingcenter.unlv.edu/>

Rebelmail – By policy, faculty and staff should e-mail students' Rebelmail accounts only. Rebelmail is UNLV's official e-mail system for students. It is one of the primary ways students receive official university communication such as information about deadlines, major campus events, and announcements. All UNLV students receive a Rebelmail account after they have been admitted to the university. Students' e-mail prefixes are listed on class rosters. The suffix is always @unlv.nevada.edu.

Library Resources – Students may consult with a librarian (www.library.unlv.edu/consultation) about research needs. For this class, the subject librarian is Xan Goodman. UNLV Libraries provides resources to support students' access to information. Discovery, access, and use of information are vital skills for academic work and for successful post-college life. Access library resources and ask questions at www.library.unlv.edu/