DMS 275 SONOGRAPHIC SCANNING TECHNIQUES

SPRING 2008

Instructor: Tim S. Gibbs RT (r,f), RDMS, RVT, CTNM  Phone:
Office: C&L 102  Email:

Text:
UNDERSTANDING ULTRASOUND PHYSICS

LECTURE LAB SEMESTER
Hrs per week: 4.0 Hrs per week: Credit Hrs:

PREREQUISITE: Current enrolment in DMS

PURPOSE OF THE COURSE:
Upon successful completion of this course, the students will be able to identify and or describe the components and function of a pulse-echo ultrasound system, apply the instrumentation applications to optimize sonographic images, understand the Doppler effect and spectral analysis, perform basic quality assurance measurements using an ultrasound Q.A. phantom, describe the typical sonographic appearance of the most common artifacts, and recognize the bioeffects and safety considerations associated with the use of diagnostic ultrasound.

Resources:
There is a library in the DMS office for students. It includes textbooks and journals. It is also recommended that you utilize the web for information as well. The University of California, Irvine (UCI) Medical Library will also have books and journals that we may not have. Download author’s guideline at www.jdms.org
COURSE OBJECTIVES

Upon completion of this course, the student should be able to demonstrate a 72% or greater overall competency of the following objectives.

- Without reference, describe the components of a pulse-echo ultrasound system and their functions.
- Identify and differentiate the various ultrasound modes such as A-mode, B-mode, M-mode and Real-Time.
- Identify basic facts concerning hemodynamics.
- Describe the Doppler effect and its use in detecting and quantifying the presence, direction, speed and characteristics of blood flow in vessels.
- Differentiate continuous-wave, pulsed-wave, and color-flow Doppler instruments.
- Define duplex ultrasound.
- Given a spectral tracing define and identify the major imaging artifacts.
- Describe routine maintenance procedures of an ultrasound machine.
- Given a tissue-equivalent phantom be able to perform basic image-performance quality control tests on an ultrasound machine.

METHODS OF INSTRUCTION

- Lecture/ discussion
- Audiovisual materials
- Demonstrations
- Quiz’s and cumulative final exam

EVALUATION METHODS

- Quiz’s ................................20 %
- Cumulative final exam.................................80 %

NOTE: No “extra credit” assignments will be given for this course.

GRADING SCALE

A........... 94 -100
B...........85 - 93
C ..........75 – 84
D ..........70 – 74
F ..........  0 – 69

Successful completion of this course is defined as the average of 72% or higher.
COURSE POLICIES

Attendance:
Since the DMS Program is preparing you for a professional position, it is expected that you behave professionally. Chronic absenteeism as well as tardiness is unacceptable.
You will be penalized five points for not attending each class. Absentee points are deducted from your overall point total prior to grading. There will be few exceptions – medical, legal.
However, this will be entirely up to the discretion of the instructor and will not be guaranteed.
Each individual circumstance will be considered.
If you need to miss a class, please obtain notes and handouts from your classmates. This is a brief eight week course with one holiday (7 weeks!).

Tardy:
Students that walk in late for whatever reason, distract other students and the instructor. If the classroom door is closed, you are tardy. Two points will be deducted from your 700 point total.
If the door is locked, class has begun. You may have to wait for the break to join your class.
There will be no additional time given to complete an exam or assignment for those who arrive late.

Cell Phones and Beepers:
Please refrain from using these electronic devices during lecture. The use of these items disrupts the learning process for your fellow students as well as interrupts your instructor’s concentration.
If you have personal circumstances and require cell phone use, please set your phone to vibrate during class time and let me know. Students whose cell phone rings (audible or loud vibrate) during class will loose 5 points per occurrence.

Tests:
One Major test will be given in this course (final). Weekly quizzes will be given. Students must not be absent for an announced examination unless there is a major emergency and the instructor contacted prior to absence. Make up examination for an excused absence will be given the next day the student is at school or as designated by the instructor.

All students are required to write their name, assigned student number and date on all test answer sheets. Failure to include this information will result in a subtraction of two percentage points from the students’ grade on that particular test.
Conduct:
The student represents the Diagnostic Medical Sonography Program at Orange Coast College, and as such assumes the obligation to conduct himself/herself in a professional manner at all time. (College guidelines and professional code of conduct stated in the Student Policy Manual)

Cheating: any student involved in academic dishonesty, as defined by the college standards will receive a grade of “zero” for that test. This grade will be computed in the final course grade. Any student suspended or expelled due to academic dishonesty will have the right to due process as set forth in the program and/or college guidelines.

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Appearance:
All students are expected to abide by the Program and or College’s Student dress policy.

Assignments
All assignments due are to be turned in at the beginning of the class period. Assignments turned in after the due date will be lowered one letter grade for each week not turned in.

Course or instructor concerns: the proper channels for students to voice complaints is outline in the DMS Student Policy Manual.

THIS SYLLABUS IS SUBJECT TO CHANGE.
Course Schedule:

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<th>WEEK</th>
<th>DATE</th>
<th>TOPIC</th>
<th>CHAPTERS</th>
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<tr>
<td>1</td>
<td>April 4, 2008</td>
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<td>1-6</td>
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<tr>
<td>2</td>
<td>April 11, 2008</td>
<td>No physics lecture</td>
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<td>3</td>
<td>April 18, 2008</td>
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<td>7-9</td>
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<td>8</td>
<td>March 19, 2008</td>
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I have received a syllabus for DMS 275 Physics and instrumentation review and a copy of the “Examples of Violations of Academic Honesty” from OCC faculty handbook. I have read all these items.

Date ______________________________

Signature ____________________________________________