

Jackson College
DMS 148 Echo Clinical II
Course Syllabus
5 Credit hours/32 Hospital Hours
Online/Externship
Spring 2014

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COURSE DESCRIPTION:

Students receive 512 hours of supervised clinical experience in an approved clinical education center. This course provides hands-on experience in intermediate level cardiac imaging and use of cardiovascular equations. Successful completion of scanning proficiencies is required to remain in the program. This course is the second in a series of three clinical courses that has the final objective of independent performance and evaluation of the adult echocardiogram.

CONT'D This course provides hands-on experience in more advanced cardiac imaging, patient care, and application of knowledge and skills acquired in DMS 144 and previous DMS courses.

Within the clinical site, students will continue to learn and practice department policies and procedures. Students will continue to learn by observing the sonographer in the echo procedure. Students will learn by dialogue and application the intermediate scanning skills required for more advanced scanning. Students will continue to learn by observance, practice and dialogue carried out by the echocardiographer and the cardiologist.

Formulas and calculations presented in DMS 144 will apply to this level of scanning in this semester. Application of these formulas will be practiced and with continued guidance at the clinical site, these calculations will be performed during scanning until the student is comfortable doing them independently. At this level, the student is expected to and will begin to feel confident at scanning the echo exam in its entirety with minimal assistance. Critical thinking in the form of assessing and analyzing the echocardiogram is expected in this course.

CO-REQUISITE REQUIREMENT

DMS 144

CLINICAL COORDINATORS

Billie Jo Cortright, RDCS
Lindsay Mercer, RDCS

TEXTS REQUIRED

Reynolds, Terry, The Echocardiographer's Pocket Reference, Arizona Heart Institute.
It is required that the students have the pocket reference with them on clinical days

CLINICAL ATTIRE

Refer to the 'Clinical Manual' for complete description and guidelines.

COURSE OBJECTIVES

By the end of this course students should be competent in these areas:

- Successfully demonstrate scanning skills as stated on the DMS 148 Competency forms (scanning task sheets).
- Successfully demonstrate competency in the affective domain as described on the DMS 148 mid-term and final clinical evaluation.
- Demonstrate success in the critical thinking processes required for assessing and analyzing the echocardiogram.

Course Objectives Weeks 1 – 8

- Student will continue to practice and perfect objectives assigned to them in DMS 142, Clinical I.
- Student will demonstrate increased awareness of patient rights and responsibilities as stated by their practicing institution.
- Student will optimize the 2D image using depth, gain, DGC, zoom, harmonics, and other machine functions for image optimization.
- Student will perform ejection fraction calculations using 2D or m-mode images and correlate its accuracy with a visual assessment of the 2D real time study.
- Student will perform Doppler studies using correct placement of Doppler gate for each valve study.
- Student will perform with assistance, the Doppler and Color Doppler application for calculation of aortic and mitral stenosis, and all valvular insufficiencies. These include pressure half time, deceleration time, Bernoulli and continuity equation.
- Student will recognize abnormal Doppler and CDI patterns such as valvular stenosis, regurgitation, and shunts.
- Student will recognize the aliasing pattern and perform correction using baseline or velocity scale.
- Student will demonstrate and apply knowledge of normal and abnormal Doppler values.
- Student will continue to recognize and acquire the routine imaging planes and anatomy for the complete echo. This will include not only the "easy to scan patient", but also the difficult to scan patient.
- Student will recognize varying respiratory patterns in the IVC in the subcostal window, and apply these patterns to giving an estimation of RA pressure and RVSP.

- Students will recognize common abnormal m-mode patterns, such as LAE, LVE, RVE, LVH, decreased mitral leaflet mobility, aortic leaflet calcification and decreased mobility.
- Student will demonstrate ability to take a visual look at the echo and recognize and assess its characteristics to being a normal vs abnormal study.

Course Objectives Weeks 8 - 16

- All of the above objectives for weeks 1-8.
- Student will continue to apply their knowledge and skills for patient care and communication.
- Student will continue to help sonographer in any way possible; such as patient transfer, portable scanning, and department maintenance.
- Student demonstrates continued confidence in scanning, needing less prompting or 'hints' from the attending sonographer.
- Student will be increasingly proficient in Doppler and formulas, and acquire the ability to perform these calculations with greater independence.
- Student will recognize without assistance- wall motion abnormalities and decreased global systolic function.
- Student will display critical thinking skills as outlined on the critical thinking assessment document.
- Student will display ability to obtain additional images and extend the exam due to findings on the echo.
- Student will perform wall motion index studies if the clinical site performs this task.
- Student displays professionalism as well as a positive attitude toward themselves, coworkers, physicians, and most important---the patients.

GRADING PROCEDURE: Students will be graded on various aspects concerning their clinical course:

1. **Clinical log sheets** must be completed and submitted monthly for a grade to be issued at the end of the semester.
2. **Clinical time sheets** (calendars) must be completed, signed by clinical instructor weekly and submitted monthly in order for a grade to be issued at the end of the semester.
3. **Clinical evaluations** will be completed and submitted at mid and end of the semester in order for a grade to be issued. All evaluations must contain the student's and the CI's signature in order to be used for grading purposes.
 - a. Student's grades will be based on his/her ability to complete satisfactorily the performance objectives that are stated in the accumulated evaluations.
 - b. Final documents that are submitted beyond their due date will result in an INCOMPLETE "I" grade being submitted to the registrar's office.

4. **Tri-weekly** assessments are used for communicating to the student's instructor/s that the student is maintaining progress, and that there is no need for immediate concern, conference or communication. Failure to submit this assessment (on time) will be cause for implementation of the student warning process.
5. **Adherence to the policies and guidelines** outlined in the 'Clinical Manual' will be taken into consideration as part of the student's clinical grade.
6. **Tardiness/Absence:** Reports of excessive tardiness (>1 incident per 2 week period) or absences (>1 incident per 2 month period) will affect your clinical grade.

Students must obtain a grade of 2.0 or better in this course to remain in the program. Failure to achieve this 2.0 grade will result in the student's dismissal from clinical as well as the program.

ASSOCIATE DEGREE OUTCOMES The goals of this course include the successful achievement of measurable outcomes defined by Jackson Community College as vital to the educated individual at the Associates Degree level. The ADO's assessed in this course are:

- **ADO 9** - Students will be guided toward skills and behaviors that will assist them in being a participating and supportive member of the health care team.
- **ADO 7** – Critical Thinking

CLINICAL ROTATION Students should be advised that clinical rotations to other clinical affiliates might be required to complete this course.

Clinical Happenings Forum (8)	24 pts		95-100%	4.0
Private Clinical Forum (8)	24 pts		90 -94%	3.5
Mid-term evaluation	50 pts		84-89%	3.0
Final evaluation	100 pts		80-83%	2.5
Case Study I	20 pts		75-79%	2.0
Case Study 2	20 pts		70-74%	1.5
Scanning sheets 3-14	60 pts			
Critical Thinking Assessment	50 pts	Total points 348		

Scanning task sheets, the final evaluation, and the critical thinking assessment must all meet the minimum grade requirement SEPARATELY in order to pass this clinical course. Each one of these three (3) areas of assessment possesses measures of competency that rely on successfully completing the other two (2) assessments in order to meet the goals and objectives in this clinical course. For instance, the student might be competent in their scanning skills, but be incompetent at analyzing what they scanned. This student cannot move forward to Clinical III without achieving success in all three (3) areas within the time allowed in this course.

If at any time within the clinical course, the student ceases to progress, and this indication is given on the bi-weekly evaluation, or mid-term evaluation, a monitoring process will begin immediately. A conference will be held with the student to notify them of the deficiency, timelines will be implemented for meeting objectives, and the student will need to show progress

in the area of deficiency. If no progress is made within the timeframe stated, the student warning process will be implemented. See DMS Handbook. The clinical courses in the cardiac sonography program require that students meet stated goals within designated timeframes. It is not possible to move forward in the program when progress has ceased, or if progress does happen at the rate that is required.

STUDENT'S RESPONSIBILITIES: Students are expected to arrive at their clinical site on time and ready to work. Students need to review their course objectives frequently to assure that they are met. Objectives may be demonstrated during clinical visits by the program coordinator/instructor. It is the responsibility of the student to adhere to the DMS Handbook concerning policies for days missed due to illness or scheduled vacation. The student is responsible to keep track of their clinical hours on the provided calendar and have this calendar signed by their clinical instructor weekly.

ACADEMIC HONESTY POLICY: Academic honesty is expected of all students. It is the ethical behavior that includes producing their own work and not representing others; works as their own, either by plagiarism, by cheating, or by helping others to do so. Plagiarism is the failure to give credit for the use of material from outside sources. Plagiarism includes but is not limited to:

- Using data, quotations, or paraphrases from other sources without adequate documentation
- Submitting others; work as your own
- Exhibiting other behaviors generally considered unethical

Cheating means obtaining answers/material from an outside source without authorization.

Cheating includes, but not limited to:

- Plagiarizing in all forms
- Using notes/books without authorization
- Copying
- Submitting others; work as your own or submitting your work for others
- Altering graded work
- Falsifying data
- Exhibiting other behaviors generally considered unethical

COLLABORATION: While JCC encourages students to collaborate in study groups, work teams, and with lab partners, each student should take responsibility for accurately representing his/her own contribution. Students may be allowed to assess each other's contributions.

CONSEQUENCES/PROCEDURES: Faculty members who suspect a student of academic dishonesty may penalize the student by taking appropriate action up to and including assigning a failing grade for the paper, project, report, exam, or the course itself. Instructors should document instances of academic dishonesty in writing to the Dean of Faculty.

STUDENT COMPLAINTS/ACADEMIC

<http://www.jccmi.edu/administration/deans/StudentComplaintProcess.htm>