



DMS-514: CLINICAL EXPERIENCE I (FORMERLY DMS-114)

Effective Term

Fall 2024

BOT Approval Date

01/11/2024

Discipline

DMS - Diagnostic Medical Sonography

Course Number

514

Course Title

Clinical Experience I (formerly DMS-114)

Short Title

Clinical Experience I

Credit Status (CB 04)

D - Credit - Degree applicable

Units**Lab Units**

5.00

Total Units

5.00

Hours**Lab Contact Hours**

240-270

Out of Class Hours Lab

0.00

Total Contact Hours

240 - 270

Total Out of Class Hours

0 - 0

Total Student Learning Hours

240 - 270

Is this an existing Extensive Lab?

No

Do you want to propose this for Extensive Lab?

No

Distance Education

No

Catalog Description

This course is a continued clinical externship where students observe staff Sonographers in the clinical environment. Within the course, there is a continued migration, from the prior observation course, into an internship role which provides the student an opportunity to gain more hands-on experience completing ultrasound exams with assistance under the guidance of a trained



preceptor in a sonography department at an affiliated hospital or medical center. The student will observe the functions, procedures, and protocols of an ultrasound department. This clinical course will also include reviewing physician orders and comparing prior imaging exams and lab results, exam protocols, and observing a sonographer complete the requested examination or completing the requested examination with sonographer assistance. The student will demonstrate proper sterile technique and universal precautions. The student will learn the proper functions of the sonography equipment used in the clinical training site. (formerly DMS-114)

Requisites

Prerequisite(s)

Prerequisite(s) (must be taken before)

DMS-504 (with a grade of C or better).

Codes

TOP Code (CB 03)

1227.00* - *Diagnostic Medical Sonography

CIP Code

51.0910 - Diagnostic Medical Sonography/Sonographer and Ultrasound Technician.

Student Accountability Model (SAM) Priority Code (CB 09)

C - Clearly Occupational

Noncredit Category (CB 22)

Y - Credit Course

Repeatability Code

No

Grading Option

Letter grade OR P/NP

Minimum Qualifications

Minimum Qualifications	And/Or
Diagnostic Medical Technology	End

CSU Area(s)

IGETC Area(s)

Learning Objectives

Learning Objectives

Learning Objective
1. Document and follow hospital and department policies and procedures.
2. Examine patient history and complete appropriate paperwork for an exam.
3. Prepare the ultrasound room and prepare a patient for an exam.
4. Develop the skills that are necessary to effectively communicate with all hospital personnel and patients.
5. Distinguish the abdomen and superficial structures using proper sonographic scanning protocols, terminology and annotation on an ultrasound exam.
6. Examine and differentiate the orientation of the transducers scanning plane to the ultrasound machine monitor including sagittal, transverse and coronal imaging and coordinate images with the exam protocols using proper image annotation.
7. Demonstrate proper manipulation and choice of transducers using the TGC, focus, depth and gain on an ultrasound machine to demonstrate student ability to create a proper image for diagnostic purposes.
8. Consider ultrasound physics and instrumentation principles and apply your knowledge when using different scanning techniques.

9. Document proper scanning protocols for abdomen and superficial structures including color flow and doppler use and demonstrate the ability to complete a full abdomen, thyroid and scrotal exam by the end of the semester.
10. Demonstrate proper image optimization.
11. Document proper technologist worksheet or digital worksheet information for each ultrasound exam.
12. Practice sterile technique during interventional procedures
13. Practice confidentiality and HIPAA before, during and after ultrasound exams.
14. Practice AIDET protocol for ultrasound exams.
15. Recognize normal anatomy and pathology for abdominal ultrasound exams.
16. Acquire patient verbal consent before starting an ultrasound exam.
17. Recognize emergent signs and symptoms for your patient during an exam.

Learning Outcome Information

Course Learning Outcomes

Learning Outcome

1. Demonstrate proper protocols for ultrasound exams.
2. Properly prepare exam paper work.
3. Demonstrate proper technique with transducer orientation.
4. Develop understanding of cultural, racial, and ethnic diversity in a patient centered care setting.

Program Learning Outcomes

Learning Outcome

Apply knowledge of proper use of ultrasound equipment and demonstrate image improvement through manipulating the instrumentation of the equipment.

Complete the American Registry of Diagnostic Medical Sonographers Physics and Instrumentation exam and one or more specialty exams of Abdomen and Obstetrics/Gynecology.

Demonstrate professional and ethical behavior in the workplace.

Document proper imaging of the abdomen, small parts, obstetrics and gynecology ultrasound exams.

Show discretion with and implement HIPPA laws for all patients.

Use effective communication with patients, staff, and physicians.

Institutional Learning Outcomes

Aesthetic Awareness: The student will identify and evaluate how aesthetic expression leads to an appreciation of social and cultural context as well as the values of art and nature.

Communication: The student will effectively express and exchange ideas through listening, speaking, reading, writing, visual works, and other modes of interpersonal expression.

Critical Thinking: The student will analyze problems, gather and synthesize relevant information, evaluate ideas, information, and evaluate alternative points of view to create, innovate and implement effective solutions.

Cultural Awareness and Humility: The student will demonstrate knowledge of and sensitivity toward individuals of diverse ethnicity, age, gender, sexual orientation, and religious affiliations, as well as toward those individuals with diverse abilities and socio-economic classes to respectfully interact with individuals of diverse perspectives, beliefs and values while being mindful of the limitation of their own cultural frameworks.

Information and Technology Literacy: The student will access, interpret, evaluate, and apply relevant information sources and digital media effectively, and in an ethical and legal manner.

Scientific Awareness: The student will apply the scientific method of inquiry to assess potential solutions for real-life challenges by employing science-based knowledge and methodologies in daily life.

Social Awareness: The student will recognize and analyze the interconnectedness of global, national, and local concerns, analyzing cultural, political, social, and environmental issues from multiple perspectives and appreciate similarities and differences among cultures.

**Civic
Personal
and Professional Responsibility**

Content

Course Lab Content

I. Hospital and Department Orientation.

- A. Hospital policy and procedures.
- B. Department policy and procedures.
- C. Paperwork procedures for patients.
- D. Hospital emergency codes.

II. Machine Manipulation.

- A. Annotation.
- B. TGC.
- C. Focus.
- D. Depth.
- E. Gain.
- F. Transducer orientation.
- G. Color flow and doppler.

III. Exam Documentation.

- A. Evaluate physicians orders.
- B. Prepare proper exam documentation forms.
 - 1. Patient history, including signs and symptoms.
 - 2. Laboratory test results.
 - 3. Previous imaging studies completed.
 - 4. Completing appropriate worksheet for the exam ordered.
- C. Enter patient information into ultrasound machine and prepare room for exam.
- D. Scanning Protocols and examinations.
 - 1. Scanning Techniques.
 - a. Perform ultrasound examinations on patients.
 - b. Use proper instrumentation techniques and choice of transducer for the examination to be completed.
 - c. Obtain images using various scanning planes indicating the scan plane with appropriate image annotation.
 - d. Follow approved protocols for the examination ordered.
 - 2. Scanning Protocols.
 - a. All organs are to be scanned in the sagittal and transverse scanning plane with coronal images used as needed. Each image is to be stored for future review prior to submission to the radiologist.
 - b. Proper annotation including image orientation, organ being imaged and location within the organ being imaged.
 - 3. Organs to be scanned by the student include but are not limited to:
 - a. Liver.
 - b. Gallbladder.
 - c. Biliary tract.
 - d. Kidneys and adrenal glands.
 - e. Pancreas.
 - f. Spleen.
 - g. Abdominal arterial and venous systems including color flow and doppler.
 - h. Small parts to include breast, thyroid and scrotal examinations.
- 4. Examination Worksheets.
 - a. Patient Name.
 - b. Medical record number.
 - c. Ordering Physician.
 - d. Signs and Symptoms.
 - e. Laboratory results and previous imaging examination results.
 - f. Information on images taken, organ size, and normal or abnormal appearance.

5. Presentation to radiologist.

- a. All images sent to the radiologist via establish protocols set up at the clinical affiliation sight.
- b. Examination order and sonographer worksheet to be included with the images.
- c. Discuss any abnormal or unusual findings with the radiologist.
- d. Follow strict protocols set by the clinical affiliation site for patients with urgent requests or findings.

IV. Communication.

A. Develop proper and effective communication skills.

1. Coworkers.
2. Hospital personnel.
3. Physicians.

B. Communication with diverse patient populations.

1. Language.
2. Cultural Traditions.
3. Health Literacy.
4. Cultural Assumption.

C. Discuss examination findings with clinical preceptor.

D. Develop proper and effective communication skills for discussing examination findings with the radiologist.

E. Patient care protocol -A.I.D.E.T.

- a. Acknowledge.
- b. Introduce yourself.
- c. Duration of exam.
- d. Explain exam/procedure.
- e. Thank patient.

F. Informed consent.

V. Emergency procedures .

A. Emergency patient safety .

B. Emergency codes.

C. Preparation for entering an isolation room.

D. Protocols for cleaning a chemical spill.

E. Emergency communication skills

1. Preceptors
2. Hospital staff
3. Physicians
4. Diverse patient populations
 - a. Elderly
 - b. Disabled
 - i. Deaf
 - ii. Blind
 - iii. Immobile
 - c. Language

VI. Body Mechanics.

A. Proper body mechanic positions the sonographer should use while scanning the patient.

B. Proper lifting skills for moving patients from bed to gurney, bed to wheelchair, wheelchair to bed.

VII. Complete assisted exams with progression to Independent scanning.

A. Independent scanning of complete abdomen ultrasound examination by the end of the semester.

VIII. Daily time sheet and examination log.

A. complete student time sheet each day and have log initialed by clinical preceptor.

B. Complete separate examination log for each type of examination performed throughout the semester and have log initialed by clinical preceptor.

Methods of Instruction

Method

Observation and Demonstration

Integration

In the hospital imaging exam room, while scanning a hospital patient, the instructor or preceptor will demonstrate proper use of machine knobology during each ultrasound exam using: TGC, depth, gain, focus, measurement cursors, color doppler, power doppler, pulse-wave doppler, dynamic range, dual screen, annotation, patient demographics, review images, delete images, and zoom images.

Method

Observation and Demonstration

Integration

In the hospital imaging exam room, the instructor or preceptor will demonstrate proper probe cover use for sterile procedures and transvaginal exams. Proper use will include standard and aseptic technique of placement on the transducer, removal from the transducer, and disinfection procedure using the Trophon sterilizer or Cidex soak solution.

Method

Observation and Demonstration

Integration

The instructor or preceptor will perform an ultrasound exam or assist the student with protocols and image optimization, then review abdomen and/or superficial anatomy structures with the student after leaving the exam room and viewing images from the PACS archive in the work area. The preceptor will also teach the student the methods of examination write up used at their clinical site.

Method

Observation and Demonstration

Integration

Didactic learning from the prior patient care course has set the foundational knowledge of protocols for lifting or moving a patient. At the clinical site, the student will observe as the instructor or preceptor demonstrates use of proper body mechanics when lifting or moving a patient: before, during, and after an ultrasound exam. Proper techniques include, bending at the knee to lift, keep the back straight, keeping neck straight, keeping scanning arm less than 30 degrees abduction, using ergonomic chairs correctly, using ergonomic features on the ultrasound machine (swivel screen, mobile key board, height adjustment).

Method

Observation and Demonstration

Integration

Students will build on didactic foundational knowledge of proper exam protocols. The instructor or preceptor will demonstrate these protocols in clinical practice: evaluation of physician's orders, documentation of patient history, and completing appropriate paperwork to document the examination findings.

Method

Field Experience

Integration

Instructors or preceptors will review methods of success in the clinical environment that they learned from fundamentals and patient care courses. Students will put into practice, arriving to clinical training on time each day they are assigned to be there.

Students will be instructed on how to complete a daily written time log and exam log that will be turned into the instructor in person at the end of the semester. Time logs will also be recorded through Trajecsyst as a daily clock in and out. If a time log is missed for any reason, the student will be instructed on how to enter a "time exception" entry. Exam log information will also be transferred at minimum of weekly to the cloud based tracking system Trajecsyst.

Instructions will be given in class and written in the CMS on how to keep paper clinical time logs and exam logs.

Instructions for Trajecsyst will be demonstrated in class and written instructions posted within the CMS on how to clock in and out using the cloud-based Trajecsyst

Method

Discussion

Integration

Instructors and preceptors are typically faced with a diverse patient population on any given day in a hospital environment. Students will have had an observation semester of clinical to begin to gather experience. Students will continue to learn to recognize patient scenarios that were presented in prior patient care courses; they will gain their own experience, and observe instructors or preceptors as they interact with patients in this environment. Students are tasked with developing their own understanding of cultural, racial, and ethnic diversity in a patient centered care setting.

The article "Seven Steps to Become a More Culturally Sensitive Nurse" will be re-posted in the CMS. Students will revisit and read the article and post a written response to discuss patient demographics for their hospital or imaging center. They will be instructed to describe and give examples of how they will implement these steps in clinical practice and their future career.

Method

Lab Activities

Integration

The Msjc Faculty member will work with their assigned student in the on-campus lab. The faculty will instruct the student on reviewing protocols, or learning new concepts in ultrasound imaging.

Methods of Evaluation

Method

Class Performance

Integration

In the hospital imaging exam room, while scanning a hospital patient, the instructor or preceptor will observe the student as they demonstrate proper use of machine knobology as a cumulative, end of the semester evaluation, during ultrasound exams using: TGC, depth, gain, focus, measurement cursors, color doppler, power doppler, pulse-wave doppler, dynamic range, dual screen, annotation, patient demographics, review images, delete images, and zoom images. Each competency will be evaluated using the following rubric:

5 = Grade A Excellent; Student is on time, takes initiative in the department, understands and properly uses equipment knobology. Student is professional, follows instruction and demonstrated proficiency in all required tasks.

4 = Grade B Above Average; Student on time, has begun to take initiative in the department, and is beginning to properly use equipment knobology. Student is professional, follows instruction, and has demonstrated 90% of all the required tasks.

3 = Grade C Average; Student on time, is working on but not taking initiative in the department, is professional in learning to follow instructions and demonstrates willingness to learn, and has demonstrated at least 80% of required tasks.

2 = Grade D Below Average; Student is often tardy, has multiple absences, shows no interest in taking Initiative within the department, appearance and behavior is not professional, and is not following instruction.

1 = Grade F Poor; Student is not meeting objectives. Student is not making acceptable progress.

Method

Class Performance

Integration

In the hospital imaging exam room, the instructor or preceptor will observe the student performing an interventional procedure or endovaginal exam. The student will be evaluated on proper probe cover use for sterile procedures and transvaginal exams. Proper use will include standard and aseptic technique of placement on the transducer, removal from the transducer, and disinfection procedure using the Trophon sterilizer or Cidex soak solution. A competency will be signed off as pass or fail. Any student who fails the competency will be put on probationary period using a SPS- Student Plan for Success. If the student fails the competency for proper probe cover use, the student may be dismissed from the program for patient safety concern.

Method

Class Performance

Integration

After completing an ultrasound exam that the student observed, the instructor or preceptor will discuss each ultrasound case with the student. The student will visually point to the screen to identify abdomen, superficial anatomy structures, and verbalize scanning protocols for the abdomen and small parts examination using proper sonographic terminology. Students should progress and improve their scanning skills and demonstrate the ability to increase their independence and require less individualized instruction while scanning abdominal, thyroid, breast, and scrotal ultrasound examinations.

A final, summative evaluation will be done at the end of the semester using the following competency rubric:

Is student able to identify the following anatomy on the monitor as the sonographer is scanning:

Pancreas
Aorta, Celiac, Sma
Liver right lobe
Liver left lobe
Portal vein
Hepatic veins
Gallbladder
Common bile duct
Kidneys
Spleen
Thyroid
Testes/epididymis

5 = Grade A Excellent; Student is on time, takes initiative in the department, understands and properly uses equipment knobology. Student is professional, follows instruction and demonstrated proficiency in all required tasks.

4 = Grade B Above Average; Student on time, has begun to take initiative in the department, and is beginning to properly use equipment knobology. Student is professional, follows instruction, and has demonstrated 90% of all the required tasks.

3 = Grade C Average; Student on time, is working on but not taking initiative in the department, is professional in learning to follow instructions and demonstrates willingness to learn, and has demonstrated at least 80% of required tasks.

2 = Grade D Below Average; Student is often tardy, has multiple absences, shows no interest in taking Initiative within the department, appearance and behavior is not professional, and is not following instruction.

1 = Grade F Poor; Student is not meeting objectives. Student is not making acceptable progress.

Method

Class Performance

Integration

At the clinical site, the instructor or preceptor will observe the student as he/she demonstrates use of proper body mechanics when lifting or moving a patient: before, during, and after an ultrasound exam. Evaluation are included in the competencies and signed off on #28 in the end of the semester evaluation: Proper techniques include, bending at the knee to lift, keep the back straight, keeping neck straight, keeping scanning arm less than 30 degrees abduction, using ergonomic chairs correctly, using ergonomic features on the ultrasound machine (swivel screen, mobile key board, height adjustment).

Clinical Techniques:

Yes No

28. Does the student demonstrate proper body mechanics?

Method

Papers

Integration

The instructor or preceptor will observe the student performance on evaluation of physician's orders, documentation of patient history, and completing appropriate paperwork for documentation of the examination findings. The student will be graded at the end of the semester on competency #2: Student demonstrates accuracy with room preparation and paperwork and #6: Student properly prepares exam paperwork.

Method

Final Performance

Integration

Students will be graded as competencies on promptness (arrival time), appearance, actively pursuing information from preceptor, and participation in the department. Students time log clocks will be reviewed and approved by their assigned clinical faculty member. Final grading will be assigned as points for total number of required clinical hours, accurate records, both written and uploaded to Trajecsyst. The final evaluation rubric is contained in the clinical manual. Clinical preceptors will complete and sign the evaluation for their student. Grading and documents will be reviewed by the clinical coordinator.

Rubric:

Student Attendance:

Number of days absent: _____

Number of days tardy: _____

Please grade student in each area using the following grading scale:

5 = Grade A Excellent

Student on time, takes initiative in the department, understands and properly uses equipment knobology. Student is professional, follows instruction and demonstrated proficiency in all required tasks.

4 = Grade B Above Average

Student on time, has begun to take initiative in the department, and is beginning to properly use equipment knobology. Student is professional, follows instruction, and has demonstrated 90% of all the required tasks.

3 = Grade C Average

Student on time, is working on but not taking initiative in the department, is professional in learning to follow instructions and demonstrates willingness to learn, and has demonstrated at least 80% of required tasks.

2 = Grade D Below Average

Student is often tardy, has multiple absences, shows no interest in taking Initiative within the department, appearance and behavior is not professional, and is not following instruction.

1 = Grade F Poor

Student is not meeting objectives. Student is not making acceptable progress.

Method

Other

Integration

Instructors and preceptors will observe how students interact with all patients including diverse patient populations. Students will be evaluated by how they communicate effectively with both hospital personnel and patients who have a different cultural, racial, or ethnic diversity than they do. A patient centered care setting is always the goal in healthcare. Evaluation of online posts in LMS Discussion will be graded by a complete answer to the prompt that includes thoughtful consideration of the "Seven Steps to Become a More Culturally Sensitive Nurse". Responses should include examples of: how they will implement steps to becoming culturally sensitive in areas such as: Language, Cultural Traditions, Health Literacy, and/or Cultural Assumption.

Method

Class Performance

Integration

In the hospital imaging exam room, the instructor or preceptor will observe the student performing an interventional procedure or endovaginal exam. The student will be evaluated on proper probe cover use for sterile procedures and transvaginal exams. Proper use will include standard and aseptic technique of placement on the transducer, removal from the transducer, and disinfection procedure using the Trophon sterilizer or Cidex soak solution. A competency will be signed off as pass or fail. Any student who fails the competency will be put on probationary period using a SPS- Student Plan for Success. If the student fails the competency for proper probe cover use, the student may be dismissed from the program for patient safety concern.

Method

Class Work

Integration

The Msjc faculty will evaluate the student based on completion of the set protocol or improvement goal for the week that was scheduled for on-campus clinical. Evaluation will be documented as excellent, proficient or needs improvement. If student is evaluated as "needs improvement", the Msjc faculty will schedule another on-campus lab day.

Assignments**Assignment Type**

Other

In-class and/or outside of class

Outside of class

Formative or Summative

Formative

Assignment

In the hospital imaging exam room, demonstrate use of machine knobology using: TGC, depth, gain, focus, measurement cursors, color doppler, power doppler, pulse-wave doppler, dynamic range, dual screen, annotation, patient demographics, review images, delete images, and zoom images.

Assignment Type

Other

In-class and/or outside of class

Outside of class



Formative or Summative

Formative

Assignment

In the hospital imaging exam room, demonstrate proper probe cover use for sterile procedures and transvaginal exams. Proper use will include standard and aseptic technique of placement on the transducer, removal from the transducer, and disinfection procedure using the Trophon sterilizer or Cidex soak solution.

Assignment Type

Other

In-class and/or outside of class

Outside of class

Formative or Summative

Formative

Assignment

While observing the preceptor perform an ultrasound exam, the student will visually identify abdomen and superficial anatomy structures. In addition, observe scanning protocols for the abdomen and small parts examinations. Discuss these patient cases with your clinical faculty using proper sonographic terminology.

Assignment Type

Other

In-class and/or outside of class

Outside of class

Formative or Summative

Formative

Assignment

Demonstrate use of proper body mechanics when lifting or moving a patient. Proper techniques include, bending at the knee to lift, keep the back straight, keeping neck straight, keeping scanning arm less than 30 degrees abduction, using ergonomic chairs correctly, using ergonomic features on the ultrasound machine (swivel screen, mobile key board, height adjustment).

Assignment Type

Reading

In-class and/or outside of class

Outside of class

Formative or Summative

Formative

Assignment

Read and evaluate physician's orders, document patient history on a technologist worksheet or computer entry, and complete documentation of the examination measurements and findings on a technologist worksheet or digital worksheet.

Assignment Type

Writing



In-class and/or outside of class

Outside of class

Formative or Summative

Summative

Assignment

Arrive to clinical training on time each day you are assigned to be there. Provide a daily written time log that will be turned into your instructor in person at the end of the semester. Time log information will also be transferred daily to the cloud based tracking system Trajecsyst.

Document daily time logs on paper log and in Trajecsyst to meet the American Registry of Diagnostic Medical Sonographers requirements for eligibility.

Mt. San Jacinto College Student Name: _____

Diagnostic Medical Sonography Facility: _____

Time Sheet Date Arrival Time

Depart Time

Total Time

Assignment Type

Writing

In-class and/or outside of class

Outside of class

Formative or Summative

Formative

Assignment

Continued Development in understanding cultural, racial, and ethnic diversity in a patient centered care setting. Follow up on your knowledge and clinical experience over the last semester. Using the CMS Discussion, recall the article from DMS 504 "Seven Steps to Become a More Culturally Sensitive Nurse(Sonographer)". How will you implement these steps in your clinical practice and future career?

Assignment Type

Writing

In-class and/or outside of class

Outside of class

Formative or Summative

Formative

Assignment

The student will maintain a paper and cloud-based Trajecsyst examination log keeping track of all exams observed, preformed with assistance or performed without assistance. Each type of examination will be tracked on separate forms. This will enable the clinical coordinator to review student experience and areas that need more work. Mt. San Jacinto College Student Name: _____ Diagnostic Medical Sonography Facility: _____ Clinical Experience Exam Log Exam Type: _____ A=Assisted U= Unassisted O= Observed Date A U O Amount of student Scan Time in Minutes Student Images Included YES/NO Detailed Description of Exam findings & patient Medical record number Clinical Instructor Initial

Assignment Type

Other



In-class and/or outside of class

In-class

Formative or Summative

Formative

Assignment

Once per semester, schedule and attend an on campus clinical day with your Msjc faculty preceptor. Work directly with your faculty to improve protocols or learn new concepts.

Course Materials

Textbooks

Saunders, C. BA, RDMS; Francis, T. BA RDMS, RVT (2023). Diagnostic Medical Sonography Clinical Manual Mt. San Jacinto College. ISBN: N/A. updated 2023 MSJC printshop.

Other Resources

Hagen-Ansert, Sandra L. MS, RDMS, RDCS, FASE, FSDMS. Workbook for Textbook of Diagnostic Sonography, 9th Edition (2023). ISBN: 9780323826501.

Class Size Information

Class Size

30

Class Size Category

F - Individualized, skills#based instruction/field practice 30

Diversity and Inclusion

Explain how diversity and inclusion(e.g., gender, culture/race, sexuality, etc.) is infused into the course.

Students put prior patient care, didactic knowledge, and the observation course DMS 504, into practice in this clinical course. The inherent active learning in a clinical internship enables students to gain experience caring for diverse patient populations where gender, culture, race, and disabilities have an impact on patient care. Course objectives and learning outcomes are supported through observation and practice within the hospital environment. Discussion boards in the CMS, prior foundational knowledge of patient care scenarios, and case studies are also put into practice that seeks to foster knowledge, empathy, and patient advocacy in developing future healthcare professionals. Sonography students and graduates will encounter scanning patients from diverse populations, disabilities, and patients who may appear one gender, but have unaltered reproductive organs or have had surgical alterations.

Describe how assignments, instruction, evaluation, course content, and interactions are contextualized for diverse learners promoting an equitable course.

The course resources are offered in multiple forms to offer diverse learning methods to students. Audio learners can utilize voice-over lectures; Visual learners can utilize power-point diagrams, textbook, lab demonstrations, and videos; Hands-on learners can utilize lab simulation and practice concepts or protocols in the campus lab.

Interactions

Explain how the course will incorporate student-to-student interaction.

Some students may have other students at their clinical site, this is an opportunity to watch each other scan and offer support and encouragement. Typically a DMS student is the only DMS student within the Imaging department during this clinical course, so interaction with classmates at the clinical site is rare. Opportunities for student to student interaction are encouraged through personal text messaging and provided within the CMS Discussion resource where students can share experiences, thoughts, and mentor each other.

Explain how the course will incorporate instructor-to-student interaction.

This course provides opportunities for students to observe preceptors or clinical instructor demonstrations of patient care and scanning protocols, then practice what was observed. Instructors interact through observation opportunities for students where students may ask questions at the end of the exam during the worksheet write up and review with the radiologist. The CMS houses

announcements, syllabi, voice-over lectures, and course schedule through modules. Instructors and Preceptors use real-life experience stories during clinical experiences to enhance student learning. The instructor encourages use of office hours or meeting after class if student needs assistance or guidance.

Explain how the course will incorporate student-to-content interaction.

This course has a clinical manual that students can print or view digitally. This manual contains clinical objectives and a list of competencies so that students know what is expected and how they will be evaluated and graded. Students are encouraged to review didactic learning that is taken concurrently with this course and to explore excellent video content online. CMS hosts student resources for exam protocols, how to videos, and instructor announcements for any text resources or journal content.

Explain how the course will incorporate student-to-self interaction (metacognitive).

This course provides opportunities for students to think about how they will make a plan that provides the best patient care and diagnostic interpretation from beginning to end of their interaction with each patient they care for. Students are encouraged to reflect real-life clinical experiences in this process and share in the online discussion forum.

Key: 1222