Course Description: A method of instruction providing detailed education, training and work-based experience and direct patient/client care, generally at a clinical site. Specific detailed learning objectives are developed for each course by the faculty. On-site clinical instruction, supervision, evaluation, and placement is the responsibility of the college faculty.

Text, References, and Supplies:
Society of Diagnostic Medical Sonography Educational Foundation, SCAN® (Sonography Clinical Assessment Notebook), Dallas, Texas.

Course Goals/ Objectives:
The following list of course goals will be addressed in the course. These goals are directly related to the performance objectives.

- complies with policies and guidelines of the program and clinical affiliate.
- demonstrate legal and ethical behavior.
- demonstrate interpersonal and teamwork skills with fellow professionals.
- demonstrate appropriate safety practices within the clinical setting.
- demonstrate communication skills necessary in the occupation.
- evaluates patient needs and responds appropriately.
- demonstrates patient acoustic characteristics, selecting, maintaining, and adjusting equipment to provide optimal sonographic evaluation.
- identifies, evaluates, and provides quality examinations to all patients, applying professional judgement and discretion.
- functions as an efficient and effective employee in a health care environment.
- demonstrates clinical competency by successfully completing required performance objectives associated with abdominal, small parts and obstetrics and gynecologic imaging.

Objectives: The student will:

1. Comply with policies and guidelines of the program and clinical affiliate.
   1. Complies with program attendance policies and procedures as stated in the Midland College Handbook.
   2. Complies with clinical affiliate policy and protocol in the performance of ultrasound exams.

2. Demonstrates appropriate legal and ethical behavior in the workplace.
   1. Maintains appropriate medical records as required by law.
   2. Maintains patient confidentiality and patient’s right to privacy.
   3. Performs within the Scope of Practice as outlined in the student handbook.

3. Demonstrates interpersonal and teamwork skills with fellow professionals.
   1. Conveys findings to physician/radiologist using proper medical terminology.
   2. Seeks supervision and guidance from fellow sonographers when necessary.
   3. Works with nursing and other ancillary staff in efficiently providing care.
   4. Shares knowledge with physicians, fellow sonographers, and other students.
   5. Is receptive to suggestions or corrections and responds appropriately.

4. Demonstrate appropriate safety practices within the clinical setting.
   1. Provides a safe environment for patients, coworkers and self.
   2. Utilizes Universal Precautions as published by the CDC.
   3. Utilizes proper lifting and transfer techniques.
4. Demonstrates proper hand washing and infection control procedures.
   5. Demonstrates prudent use of ultrasound and adheres to ALARA principles.

5. Demonstrate communication skills necessary in the occupation.
   1. Introduces self to patient and attending family members.
   2. Explains examination to patient and attending family members at an appropriate level.
   3. Obtains pertinent clinical information from the patient.
   4. Elicits patient cooperation while performing the examination.
   5. Provides required information to other health care workers involved in the patient’s care and treatment.

6. Evaluates patient needs and responds appropriately.
   1. Evaluates the patient’s comfort and climate requirements.
   2. Protects the patients modesty.
   3. Anticipates patient’s needs and provides required assistance.
   4. Implements emergency life support as necessary.
   5. Seeks supervision and guidance as needed.
   6. Ensures and provides for the patient’s protection.

7. Demonstrates patient acoustic characteristics, selecting, maintaining, and adjusting equipment to provide optimal sonographic evaluation.
   1. Selects appropriate transducer and equipment for the examination.
   2. Sets and adjusts equipment parameters to obtain appropriate images.
   3. Obtains required images and views of anatomy and pathology to demonstrate to radiologist/physician.
   4. Annotates and identifies images with correct patient identification and orientation.
   5. Operates and maintains recording/photographic devices.

8. Identifies, evaluates, and provides quality examinations to all patients, applying professional judgement and discretion.
   1. Implements examination protocols as required by the clinical affiliate.
   2. Demonstrates sonographic anatomy and pathology.
   3. Describes anatomy and pathology using sonographic terminology.
   4. Creates optimal images on each and every patient.
   5. Correlates sonographic findings with appropriate patient history and laboratory data.
   6. Implements additional sonographic images of other organs or systems that may contribute to or be affected by any abnormal findings in the requested exam.

9. Functions as an efficient and effective employee in a health care environment.
   1. Performs record keeping as required by the clinical affiliate.
   2. Utilizes phone and computer systems effectively within the scope of the ultrasound department.
   3. Transports and transfers patients and equipment as necessary.
   4. Observes and reports incidents and equipment malfunction as necessary.
   5. Attends inservice meetings and staff meetings as necessary.
   6. Familiarizes self with department and facility policy.
   7. Demonstrates speed and efficiency while obtaining appropriate images and exams.

4. Demonstrates
clinical competency by successfully completing required performance objectives.

1. Demonstrates, identifies and evaluates the following liver structures in multiple planes:
   a. Right lobe
   b. Left lobe
   c. Caudate lobe
   d. Porta hepatitis
   e. Hepatic veins
   f. Portal veins
   g. Diaphragm
   h. Hepatorenal space (Morrison’s pouch)
   i. Relational anatomy
   j. Liver pathology

2. Demonstrates, identifies and evaluates the following biliary tree structures in multiple planes:
   a. Gallbladder (neck, body, and fundus)
   b. Intrahepatic bile ducts
   c. Extrahepatic bile ducts
   d. Relational anatomy
   e. Biliary pathology

3. Demonstrates, identifies and evaluates the pancreas and related structures in multiple planes:
   a. Pancreatic head, neck, body and tail
   b. Splenic vein
   c. Superior mesenteric vein
   d. Common bile duct
   e. Pancreatic duct
   f. Relational anatomy
   g. Pancreatic pathology

4. Demonstrates, identifies and evaluates structures of the urinary tract in multiple planes:
   a. Right kidney and ureter
   b. Left kidney and ureter
   c. Bladder
   d. Prostate gland
   e. Relational anatomy
   f. Kidney, bladder, and prostate pathology

5. Demonstrates, identifies and evaluates the great vessels in multiple planes:
   a. Proximal, mid and distal aorta
   b. Bifurcation
   c. Inferior vena cava
   d. Iliac arteries
   e. Relational anatomy
   f. Pathology

6. Demonstrates, identifies and evaluates anatomy and pathology and accurately measures structures and pathology utilizing high frequency transducers (small parts):
   a. Thyroid, parathyroid, neck
   b. Breast
   c. Scrotum, penile Doppler, prostate
   d. Abdominal wall, hernias
e. Noncardiac chest, thorax
   f. Congenital hip dysplasia, infant spine
   g. DVT, dialysis access graphs, pseudoaneurysm
   h. Musculoskeletal - shoulder, knee, carpal tunnel, Achilles

7. Demonstrates, identifies and evaluates the organs of the female pelvis in multiple planes using the transabdominal technique:
   a. Uterus and endometrium
   b. Right and left ovaries
   c. Cervix and vagina
   d. Posterior cul-de-sac
   e. Bladder
   f. Relational anatomy
   g. Gynecologic pathology

8. Demonstrates, identifies and evaluates structures found in first trimester pregnancies and pelvic organs in multiple planes using transabdominal and transvaginal techniques:
   a. Uterus and decidual reaction
   b. Cervix and vagina
   c. Ovaries and adnexal structures
   d. Posterior cul-de-sac
   e. Gestational sac(s)
   f. Yolk sac
   g. Embryo
   h. Cardiac activity
   i. Crown rump length
   j. Relational anatomy
   k. First trimester pathology

9. Demonstrate, identifies and evaluates structures found in second and third trimester pregnancies utilizing prescribed techniques.
   a. Head, skull, brain, lateral ventricles, cisterna magna, cerebellum
   b. Face, lips, orbits, nose
   c. Spine, fetal skeleton
   d. Heart, thorax, lungs
   e. Stomach, kidneys, bladder, bowel, umbilical cord, umbilical cord insertion
   f. Maternal/fetal environment, fluid, placenta, uterus, fetal lie, cervix

10. Demonstrate appropriate measurement technique and application for all anatomic structures and pathology.
    a. Liver, CBD, kidneys, spleen, aorta, IVC, pancreas
    b. Bladder, prostate, bladder volume, prostate volume
    c. Uterus, ovaries, endometrium
    d. Gestational sac, crown-rump length, yolk sac, fetal heart rate
    e. Biparietal diameter, head circumference, abdomen circumference, HC/AC ratio, Femur length, amniotic fluid index, humerus length, other long bone measurements, ocular and binocular diameter, cerebellar diameter, cisterna magna, lateral ventricle, fetal heart rate, estimated fetal weight

11. Demonstrates, identifies and evaluates anatomy, prepares sterile environment, and assists physician with ultrasound guided procedures.
    a. Biopsy
    b. Aspiration/drainage/amniocentesis
    c. Venous/arterial access
    d. Brachytherapy
    e. External version monitoring

Student Contributions and
Class Policies:

and is required in compliance with the policies outlined in the Midland College Handbook. The total number of clinical hours required for this course is 360. The student is expected to maintain an accurate accounting of clinical time via a time sheet, log of clinical experiences and complete all documentation demonstrating proficiency for all assigned clinical competencies. Falsification of time sheet or clinical hours will result in dismissal from the program.

Evaluation of Students:

Final grade will be a criterion-referenced standard percentage, not curved, composed of 25% from attendance, 40% from clinical instructor evaluations (20% from each rotation), 20% from performance objectives (percent completed divided by the number of required objectives) and 15% for case studies (7.5% each). **If the clinical faculty feels that the clinical evaluation is unfair or in error, they may adjust the grade accordingly.**

Course Schedule:

TBA

SCANS Information:

The following SCANS skills will be taught and/or reinforced for this course:

**Foundation**

*Basic Skills* reading; writing; listening; speaking

*Thinking Skills* decision making; problem solving; reasoning

*Personal qualities* responsibility; self-management; integrity and honesty

**Workplace Competencies**

*Technology* selects technology; applies technologies to task; maintains and troubleshoots equipment

Instructor Information:

Attendance is essential to your success
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