Bossier Parish Community College
Master Syllabus

Course Prefix and Number: SONO 203 **Credit hours**: 2

Course Title: Gynecological Sonography

Course Prerequisites: Enrollment in the DMS program courses is limited to those students who have been selected and admitted to the professional phase of the program. Program courses are sequenced by semester and must be taken as a group each semester per program requirements and policies.

Textbook(s):
Required Textbooks: Diagnostic Medical Sonography Obstetrics and Gynecology: Stephenson & Dmitrevia 4th edition

Course Description:

Gynecological anatomy and physiology are the focus of this course. Comprehensive study of the uterus, ovaries, cervix, vaginal canal, and cul de sac will be included. Students will learn the sonographic scanning techniques and protocols for gynecological imaging.

Learning Outcomes:

A. Identify anatomy, anatomic variants, and sonographic appearances of normal structures of the female pelvis.

1) Pelvic muscles
2) Pelvic vasculature
3) Peritoneal spaces
4) Reproductive organs
5) Suspensory ligaments

B. Evaluate scanning protocol and modification(s) based on the sonographic findings and the differential diagnoses.

1) Indications and contraindications
2) History and physical examination
3) Related imaging, laboratory, and functional testing procedures
4) Clinical differential diagnosis
5) Role of sonography in patient management

To achieve the learning outcomes, the student will or will be able to

- Describe preparation of the patient for a gynecologic sonogram
- Identify the appropriate transducer for an examination
- List the certification options available to a practicing sonographer
- Explain the need for laboratory accreditation
- Order the appearance of embryonic structures

- Relate embryonic structures to the resultant adult organs
- Explain the interconnectivity of the urinary and reproductive systems
- Discuss the normal and abnormal paramesonephric (müllerian) and mesonephric (wolffian) duct development
- Identify criteria to differentiate a bicornuate from a septate uterus
- Compare different uterine fusion anomalies on sonographic, radiographic, and magnetic resonance imaging (MRI) studies
- Explain treatment options for uterine anomalies
- Describe the physiology of the menstrual cycle
- Identify the hormonal changes that occur during the various ovulatory and endometrial phases
- Explain ovum development and its passage from the ovary to the uterus
- Discuss the function of the female cycle
- Identify the bony structures within the pelvic skeleton, pelvic muscles, and pelvic organs
- Differentiate between the true and false pelvis
- List the segments, muscle layers, size and shape, and positional variants of the uterus
- Explain the location of the fallopian tubes, ovaries, suspensory ligaments, ureters, and vasculature within the pelvis
- Describe the normal sonographic appearance of the gynecologic, bowel, and vascular structures
- Summarize changes seen during the female cycle in the flow patterns of the ovaries, uterus, and adnexal vessels
- List indications for the Doppler examination of the pelvis
- Calculate qualitative measurements to include systolic/diastolic (S/D) ratios, resistance index (RI), and pulsatility index (PI)
- Describe the importance of low and high resistance flow in pelvic vessels
- Identify the correct sampling method for obtaining spectral Doppler tracings
- Discuss the flow pattern and formation of a uterine arteriovenous malformation (AVM) and pelvic congestion
- Explain ovarian flow patterns in the presence of torsion and neoplastic processes
- Summarize techniques used to decrease anxiety in the pediatric patient
- Compare the normal pediatric uterine and ovary size and appearance to the adult pelvic organs
- Recognize malignant and benign masses of the bladder, uterus, and ovaries
- Explain the causes of gonadal dysgenesis and ambiguous genitalia
- Relate precocious puberty to hormonal and pathologic origins
- Classify the sonographic findings of hydrocolpos, hematocolpos, hydrometra, hematometra, hydrometrocolpos, and hematometrocolpos
- Predict extrauterine congenital malformations that coexist with uterine malformations
- Identify the sonographic appearance of ovarian torsion
- List benign neoplasms of the vagina, cervix, uterus, and ovaries
- Summarize the results of surgery and trauma to the uterus (i.e., synechiae, uterine, and dehiscence)

- Distinguish extrauterine masses such as abscesses, hematomas, lymphoceles, and appendicitis from uterine masses
- List types of ovarian cysts as well as their cause and their sonographic appearance
- Explain the results and imaging appearance of ovarian torsion
- Describe the etiology and clinical presentation of pelvic inflammatory disease (PID), endometriosis, and adenomyosis
- Discuss the role of ultrasound in diagnosis and management of PID and endometriosis
- Classify the severity of PID and endometriosis using current staging categories
- Give an overview of the role of sonography in the diagnosis and treatment of infertility
- Describe the process of conception as it occurs both naturally and with assisted reproductive technologies (ART)
- Explain the role of sonography in the many and varied routes to assisted reproduction
- Discuss the role of sonography in the three areas of reversible contraception, irreversible contraception, and elective abortion
- Become familiar with complementary imaging terminology
- Differentiate T2 and T1 images
- Describe imaging benefits of magnetic resonance imaging and computed tomography regarding the female pelvic structures
- Understand basic physics of magnetic resonance imaging and computed tomography described in this chapter
- Understand magnetic resonance imaging and computed tomography safety and contraindications
- Offer suggestions to clinicians regarding appropriate referral modality
- Learn magnetic resonance imaging and computed tomography imaging abilities of the female reproductive organs and appendix

Course Requirements: **In order to pass the course, the student must earn 76% of the total possible points on the unit tests for the course and make a minimum score of 70% on the final exam. The student must achieve an overall course average of 76%. Grades will not be rounded. Failure to complete any of the course requirements listed below will result in an "F" for the course.**

The student will:

- Participate in/complete all classroom/laboratory experiences (such as discussion questions; quizzes; section test; case studies; concept mapping; DVD, video, web-site, or reading assignments).
- Be held responsible for the content of the entire course. The final exam is mandatory, will be cumulative, and worth 25% of the overall grade for the course.

Course Grading Scale:

93 –	100%=	A
85 –	92%=	B

76 –	84%=	C
68 –	75%=	D
0 –	67%=	F

Attendance Policy: The college attendance policy (for the classroom) is available at http://catalog.bpcc.edu/content.php?catoid=5&navoid=369#class-attendance

Course Fees: (if applicable)

Nondiscrimination Statement

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