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| **Course Credit:** | 1 Credit |
| **Time and Location:** | Thursday: Class 1:00-2:00pm NURS Rm 120 |
| **Instructor:** | Chelsie Wheatley, BSRS, BSDMS, RT(R), RDMS, RVT |
| **Phone:** | 208-241-1599 or 208-282-4042 (Secretary, Alyssa) |

**Overview:** This course will cover sonographic anatomy and scanning procedures of the abdomen and superficial structures. This class will provide a fundamental presentation of topics that are important for students to master to become competent sonographers. Emphasis will be placed on pathology, various disease processes, and their sonographic appearance in the areas of soft tissues, blood vessels, and organs of the abdominal cavities. Study of these things will enable the student sonographer to understand and use this knowledge in a clinical setting.

In this course students will be instructed in the pancreas, gastrointestinal tract, peritoneal cavity and abdominal wall, urinary system, retroperitoneum, abdominal applications of ultrasound contrast agents, ultrasound-guided interventional techniques, emergent ultrasound procedures, and sonographic techniques in the transplant patient. These practices will prepare the students to be prepared for the ARDMS Abdomen (AB) Examination in concurrence with the Abdominal Sonography I course from last semester

**Textbooks:** Hagen-Ansert, Sandra L. *Textbook of Diagnostic Sonography.* 8th Edition, Volume 1. St. Louis, Mo: Elsevier; 2018. ISBN 978-0-323-35375-5

**Method of Presentation:**  Lecture, PowerPoint, Handouts, Workbook, SonoSim, Moodle Supplement

**Code of Ethics:** DMS 4402 adheres to the ISU Code of Conduct.  In particular, academic dishonesty, however small, creates a breach in academic integrity.  A student's participation in this course comes with the expectation that his or her work will be completed in full observance of the ISU Code of Student Conduct.

**Course Learning Objectives/Goals:** This course has been designed to prepare student sonographers for the responsibilities and understanding of abdominal sonographic imaging. The student will learn the pancreas, gastrointestinal tract, peritoneal cavity and abdominal wall, urinary system, retroperitoneum, abdominal applications of ultrasound contrast agents, ultrasound-guided interventional techniques, emergent ultrasound procedures, and sonographic techniques in the transplant patient. They will learn abdominal doppler techniques as well as flow patterns in the vessels. Congenital anomalies of each organ will be discussed, and basic lab values will also be taught. At the conclusion of the course, students will demonstrate knowledge of each item listed above. Ultimately, the student will gain a better understanding of the process involved in obtaining a quality abdominal sonographic exam. This classroom understanding prepares the student for the corresponding laboratory experience.

**Course Learning Outcomes:** Upon completion of this course, the student will be able to:

* Describe the normal anatomy and relational landmarks of the pancreas
* Name the exocrine and endocrine functions of the pancreas
* Describe the laboratory tests used to detect pancreatic disease
* Describe the sonographic technique and patterns of the normal pancreas
* Define the clinical signs and symptoms of pancreatic disease
* Name the congenital anomalies of the pancreas
* List the sonographic findings and differential diagnoses of the following diseases: pancreatitis, pancreatic cyst, and pancreatic tumor
* Describe the anatomy and relational landmarks of the gastrointestinal system
* Discuss the size of wall thickness and diameters of the gastrointestinal tract
* Describe the sonographic technique used to image the gastrointestinal tract and appendix
* Differentiate the sonographic appearances of the pathologies covered in the gastrointestinal chapter
* Describe the normal anatomy of the abdominal wall
* List the peritoneal and retroperitoneal organs
* Compare and contrast the different locations of fluid and their sonographic appearances
* Discuss the pathology and sonographic findings of the peritoneal cavity, mesentery, omentum, peritoneum, and abdominal wall
* Discuss normal anatomic location, function, and sonographic appearance of urinary system organs
* Discus normal physiology of the urinary system
* Describe the sonographic scanning technique to image the urinary system
* Define and discuss the pathologies of the urinary system
* Discuss the role and limitations of sonography in post-renal transplant patients
* Describe clinical signs and symptoms of urinary tract problems and the laboratory tests that are used to evaluate them
* List the adrenal gland hormones and describe the syndromes associated with hypersecretion and hyposecretion
* Describe the sonographic appearance and clinical findings of adrenal tumors, retroperitoneal fibrosis, and retroperitoneal fluid collections
* List the current limitations of ultrasound imaging that may be overcome by the use of ultrasound contrast agents
* Describe how contrast harmonic imaging improves the clinical capabilities of ultrasound contrast agents
* Discuss the advantages and disadvantages of free-hand and needle-guided techniques
* List potential complications of ultrasound-guided interventional techniques
* Discuss techniques for finding the needle tip in ultrasound-guided procedures
* Define the goal of sonography in the assessment of blunt trauma
* Describe the protocol for focused assessment with sonography for trauma (FAST)
* Describe the sonographic findings for aortic dissection, right upper quadrant pain, free fluid in the abdominopelvic region, acute pelvic pain, and scrotal trauma and torsion
* Identify the necessary imaging protocol needed for imaging the transplanted organ
* Recognize and define normal sonographic features of the transplant patient
* Identify and describe immediate complications after transplantation, and those that occur within the months and years to follow

**Academic Dishonesty Policy:**

Academic dishonesty (cheating, plagiarism, etc.) will not be tolerated in this class and may result in suspension or dismissal from this course and from the program. Cases will also be referred to the Dean of Students for possible dismissal from the university.

Cheating includes, but is not limited to, (1) use of any unauthorized assistance in taking quizzes, tests, or examinations; (2) dependence upon the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or completing other assignments; or (3) the acquisition of tests or other academic materials belonging to the university faculty or staff without permission.

Plagiarism includes, but is not limited to, the use of, by paraphrase or direct quotation without correct recognition, the published or unpublished works of another person. The use of materials generated by agencies engaged in "selling" term papers is also plagiarism.

Many components of DMS 4402 are designed to be highly interactive.  Students are encouraged to take full advantage of the many resources available including Internet sites, handouts and workbooks, other textbooks and journals, faculty, and peers. This interactive collegial learning environment is conducive for life-long learning.

***What does this mean:***  I have allowed ‘printed material’ from the Web site to be available to the student.  This can present problems if not used properly.  Material from quizzes and tests should be used for your OWN study endeavors. Additionally, tests cannot be reviewed after they have been taken except in my presence. Failure to follow these instructions will result in a failure of the course.

***When students submit their efforts for grading, they are attesting that they have abided by these rules.***

**Classroom Procedure:**

1.  **Attendance:**  You are expected to attend class regularly.  It is your responsibility to maintain a level of attendance which will allow you to derive maximum benefit from the instruction.  Excessive absences (>10%) will result in a lower course grade if you are borderline between two grades.  Conversely, if you have good attendance and are border line between two grades, I will award the higher grade.

2.  **Grading Procedure:**

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| **Assessment Method** | **Percentage Value** |
| Test #1 = Chapters 12-14 | 20% |
| Test #2 = Chapters 15-16 | 20% |
| Test #3 = Chapters 17-20 | 20% |
| Final = Cumulative | 30% |
| Assignments (article quiz x 2) | 10% |
| Total | 100% |

**This grading Scale will be used:**

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| +/- System |  |
| 93-100% A | 73-76% C |
| 90-92% A- | 70-72% C- |
| 87-89% B+ | 67-69% D+ |
| 83-86% B | 63-66% D |
| 80-82% B- | 60-62% D- |
| 77-79% C+ | 59% Below F |

*Note: A grade of C or better is required in this course in order to receive a degree from the Department of Radiographic Science.*

The minimum requirements to earn a passing grade are successful completion of all tests (70% minimum).  Tests and Quizzes will be a combination of either written or computer based.  Tests will be scheduled to be taken in a computer lab on campus.  The lab in the nursing building on the ground floor is the lab I try to schedule for tests; however, the Turner Lab is close to our classroom, and is the one I will try to schedule if the nursing building lab is not available. It is the student’s responsibility to know when and where tests are scheduled.  Dates are posted in the Web Course Calendar and reminders will be given in class.  Students may use their own wireless laptops if they have one if tests are given in class; otherwise, students are required to use a lab computer when testing.

3. **Computer Account:** All students are required to have an ISU student computer account.  There is no fee required for this account. Obtain the account at the Computer Center, which is located in the basement of the College of Business Building or in the Rendezvous Lab.

4.  **Make-up:** If you are unable to sit for an examination, you may request a make-up exam.  You must inform me that you will not be present for the examination **prior** to the scheduled time.  An additional 10% drop in the test grade will result if prior notification is not given and is not accepted by me prior to taking the test.  The highest grade you can receive for a make-up exam is 89% unless you provide me with an acceptable excuse. An acceptable excuse is defined **as very** sick; a death in the immediate family; some unforeseen circumstance that would prohibit you from taking the exam. The key is to communicate with me directly via email, phone, or in person. Do not speak to another faculty member or the department secretary. I’m very easy to catch with email, but make sure your email is received by me prior to the test deadline.

*In addition, it is a requirement to take all tests offered during the semester.  An incomplete will be issued for the class if a test is not taken.*

**Cell phone policy:** Cell phones should not be used in class. They should be place in silent or vibrating mode or turned off. Additionally receiving and retrieving text messages should not occur during class or in labs. Failure to follow this policy will result in a deduction of grade up to 10% at the discretion of the instructor. If you need to communicate to someone outside of the class in an emergency situation please inform the instructor so accommodations to this policy may be made.

**Disability Services:** Students with disabilities who wish to have accommodations provided by the University must self-identify with Disability Services (236-3599) in order to have accommodations provided. Information and applications are available in the Center and may be picked up in person or requested by telephone. The URL is <http://www.isu.edu/ada4isu/>

**Academic Freedom and Responsibility Syllabus Statement:** In carrying out its educational mission, Idaho State University is committed to adhering to the values articulated in Idaho State Board of Education Policy III.B. Membership in the academic community imposes on administrators, faculty members, other institutional employees, and students an obligation to respect the dignity of others, to acknowledge the right of others to express differing opinions, and to foster and defend intellectual honesty, freedom of inquiry and instruction, and free expression on and off the campus of an institution.