



MASTER COURSE OUTLINE

A. DMSG 1402 Ultrasound Cross-Sectional Anatomy I

B. COURSE DESCRIPTION:

This course focuses on a detailed study of the normal anatomy and physiology of the abdomen, neck, musculoskeletal, neonatal brain and non-cardiac chest using ultrasound. Emphasis will focus on structure orientation and its significance in cross-sections of anatomy. Students will be able to determine normal sonographic appearances and recognize variances and sizes of organs and vessels. This course will introduce the hemodynamics patterns and spectral waveforms found in the abdominal vasculature.
(3 Cr – 3 lect, 0 lab)

C. *Core Theme: Critical Thinking

D. RIVERLAND INSTITUTIONAL LEARNING OUTCOMES:

This course addresses the following Riverland Institutional Learning Outcome(s):

- ☒ ILO 1: critical thinking (*Core Theme Goal 2*)
- ☐ ILO 2: awareness of the larger global community (*Core Theme Goal 7 or 8*)
- ☐ ILO 3: ethical, engaged citizenship (*Core Theme Goal 9 or Goal 10*)
- ☐ ILO 4: communication and collaboration (*Discipline Goal 1 and by any learning outcome(s) involving communication or collaboration*)

E. MAJOR CONTENT AREAS:

- Adrenal Glands
- Peritoneal and Retroperitoneal Cavities
- Lung/pleura
- Abdominal Vessels
- Biliary Tree
- GI Tract
- Liver
- Musculoskeletal
- Neck
- Normal Neonatal Brain Anatomy
- Pancreas
- Spleen
- Urinary Trac

F. GOAL TYPE, OBJECTIVES, AND OUTCOMES:

<u>GOAL TYPE</u>	<u>OBJECTIVES</u>	<u>OUTCOMES</u>
	Students will be able to	The student will successfully
<u>*Critical Thinking</u>	understand the differences in scanning planes.	1. explain the importance of using two different scanning planes.
<u>CS</u>	identify the normal anatomy and physiology of the abdomen, neck, musculoskeletal, neonatal brain, and non-cardiac chest.	1. demonstrate an understanding of normal anatomy and physiology as it relates to sonography. 2. describe functions of the abdomen, neck, musculoskeletal, brain, and non-cardiac chest systems.
<u>CS</u>	introduce the hemodynamics patterns and spectral waveforms found in the abdominal vasculature.	1. describe hemodynamic patterns in abnormal vasculature. 2. describe spectral waveforms found in abnormal vasculature.
<u>CS</u>	introduce normal sonographic appearances and sizes of organs and vessels.	1. determine normal sonographic appearances. 2. recognize variances and sizes of organs and vessels.

G. SPECIAL INFORMATION:

This course may require use of the Internet, the submission of electronically prepared documents and the use of a course management software program. Students who have a disability and need accommodations should contact Accessibility Services at the beginning of the semester. This information will be made available in alternative format, such as Braille, large print, or current media, upon request.

H. COURSE CODING INFORMATION:

Course Code X/Class Maximum 20; Letter Grade

Revision date:

AASC Approval date: 11/18/25

*These five MnTC Goals have been identified as Riverland Community College Core Themes. Every course in the Riverland Community College curriculum shall meet outcomes from one of these themes.

**These five MnTC Goals have been identified as Riverland Community College Disciplines. Riverland's MnTC courses also shall meet outcomes from a Discipline Area.

NOTE: The Minnesota Transfer Curriculum "10 Goal Areas of Emphasis" are reflected in the five required discipline areas and five core themes noted in the Riverland Community College program of study guide and/or college catalog.

*Riverland Community College Core Themes	MnTC Goal Number
Critical Thinking (CT)	2

Human Diversity (HD)	7A, 7B, 7A/B
Global Perspective (GP)	8
Ethical and Civic Responsibility (EC)	9
People and the Environment (PE)	10

**Riverland Community College Discipline Areas	MnTC Goal Number
Communication (CM)	1
Natural Sciences (NS)	3
Mathematics/Logical Reasoning (MA)	4
History and the Social & Behavioral Sciences (SS)	5
Humanities and Fine Arts (HU)	6

Riverland