

OST 580 – Respiratory

Spring Semester 6 - 2024

Updated: 12.22.23 sg

Table of Contents

Course Description	2
Measurable Course Objectives	2
Professional Development and Reflection Skills	3
Specific Content Objectives.....	5
Course Director	6
Course Faculty.....	6
Curriculum Assistants.....	7
Lines of Communication.....	7
Office Hours.....	8
Course Web Site	8
Textbooks and Reference Materials	8
Course-based Academic Support	10
Courses begin and end dates	10
Histology Laboratory	10
Exams/Assessments	13
Course Grades	16
Student Evaluation of the Course	17
Class Ranking.....	17
Academic Honesty and Professionalism	17
Types of Class Sessions.....	18
Mandatory and Optional Class Sessions	18
Absences from Mandatory Class Sessions and Examinations/Assessments	18
Computer-Based Testing.....	18
Medical Student Rights and Responsibilities	19
Remediation	19
Student Safety and Well-being.....	19
Academic Support Resources at MSUCOM.....	20
Requests for Accommodations	20
Title IX Notifications	20

Notice to Students: Although course syllabi at MSUCOM have a consistent format, vitally important details differ by course. For this reason, you must read the syllabus thoroughly at the onset of each course to know what the course will provide and what is expected of you.

Section 1 – Course Information

Course Description

OST 580 – The Respiratory System is a 7 credit hour course.

Much thought and effort went into sequencing the actual lecture hours for the OST 580 Respiratory system – 7 credit course, so there would be a logical flow of material. Integration with the Pediatric content has also been made. The recommendations for successful performance in this course include mastery of all lectures before the session in which they will be covered, and additional reading from standard texts to supplement items that are still confusing and interaction with the faculty.

It is felt that if the student keeps up with material on a daily basis they will have no trouble passing the course with much higher than a 70% level.

Materials learned in preceding courses will be utilized to build upon. Examples include: chest radiography from OST 579, physiology, immunology, pharmacology, microbiology and anatomy from year one, and diseases that may present with chest pain, alteration in respiratory drive, or shortness of breath from any system.

The emphasis in this course is not only learning about respiratory tract diseases, but also to help the student put information learned across the curriculum together into a cohesive thought process.

Philosophy of Instruction: In this course, the successful achievement of learning objectives will require knowledge and skills acquired in other portions of the overall MSUCOM educational program. Students will be expected to apply concepts and vocabulary learned in other courses to problem-solve for exams and assessments in this course.

Google images are a good source of multiple examples of a given disease. You should consult outside examples of each disease presented, where appropriate especially as it relates to images.

Measurable Course Objectives

The American Osteopathic Association has identified osteopathic core competencies (OCC) essential for practice as a future osteopathic physician. These are embedded throughout programmatic objectives and curriculum. The curricular structure also encourages proficiency in the Core Entrustable Professional Activities (EPAs) for Entering Residency as defined by the Association of American Medical Colleges to help build toward that future phase of the journey toward medical practice. By the end of this specific course, learners should be able to achieve the following objectives within each competency domain indicated:

Medical Knowledge

1. Summarize anatomical and physiological structure-function relationships in the respiratory system to differentiate between normal and abnormal function. This includes the nose and nasal cavity, ears, pharynx and oropharynx, salivary glands, larynx, trachea, bronchi, lungs, pleura, thoracic cavity, chest wall, neurovascular supply. (*Biomedical Science – Anatomy, Physiology*)
2. Examine the physiologic basis of health and the pathophysiologic basis of disease through selected respiratory clinical presentations, such as: airway and pulmonary function issues, arterial blood

gasses, dyspnea, etc. This includes recognition of abnormal findings based on history, physical exam, labs, x-rays, and other diagnostic studies. (*Biomedical Science – Pathology, Pathophysiology*)

3. Specify pathogen/host interactions (bacterial, viral, fungal, Mycobacterial, miscellaneous pathogens, coronavirus) that can affect the maintenance of respiratory health along with immune responses at the organismal, systemic, tissue, and cellular levels. This will be explored through both immunocompetent and immune-incompetent hosts. (*Biomedical Science – Microbiology, Immunology*)
4. Explore common respiratory presentations that intersect with clinical disciplines. (*Clinical Science – Family Medicine, Internal Medicine, Pediatrics, Radiology, Emergency Medicine, Otorhinolaryngology, Preventive Medicine, Occupational Medicine, General Surgery, Anesthesiology, etc.*)

Patient Care and Procedural Skills

5. Recommend and interpret common diagnostic and screening tests related to the assessment of respiratory disorders (blood counts, basic and comprehensive metabolic panels, coagulation studies, arterial blood gasses, EKGs, rhythm strips, etc.) using evidence-based and cost-effective principles, with ability to predict and discuss pertinent findings. (*Diagnostic Testing – EPA 3*)
6. Practice formulating a differential diagnosis for selected respiratory clinical presentations, prioritizing diagnoses appropriately based on the patient evaluation (history, physical exam, labs, EKG, and x-rays) and epidemiologic data. (*Differential Diagnosis – EPA 2*)
7. Practice developing an evidence-based, cost-effective, patient-centered care plan to assess and manage selected respiratory clinical presentations such as: pneumonia, COPD and asthma management and acute exacerbations, upper airway emergencies such as croup or epiglottitis, periorbital vs. orbital cellulitis, abscesses or masses, rib or sternal fractures, flail chest, etc. This includes describing the likely outcomes of appropriate interventions and what might happen with inappropriate interventions or lack of intervention. (*Treatment/Management – EPA 4*)
8. Recognize a patient requiring urgent or emergent medical care (e.g., chest pain, shortness of breath, hypoxemia, tension pneumothorax, respiratory failure, airway obstruction, etc.), initiating evaluation (e.g., general appearance, vitals, HEENT, pulmonary and cardiac exams, labs, EKG, ABG interpretation, etc.) and management (e.g., ventilatory support based on clinical condition of patient, administration of epinephrine, naloxone, bronchodilators, intubation, needle decompression, etc.) in those circumstances. (*Urgent Clinical Procedures – EPA 10*)

Professional Development and Reflection Skills

Additionally, the American Osteopathic Association indicates several other competencies on which professional development and reflection across time will foster effective medical practice. These include the ability to work collaboratively as part of an interprofessional team; the maintenance of an inquisitive and scientific approach to learning and medical practice; and the adoption of self-direction in lifelong learning and clinical decision-making. This course will contribute to the development of these longitudinal competencies or skills as indicated:

Osteopathic Principles, Practice, and Manipulative Medicine

Osteopathic medicine approaches patient care with distinct behavioral, philosophical, and procedural perspectives and elements that are based on the osteopathic tenets of body unity, self-regulation, structure-function relationships, and rational treatment. In this course, you build toward osteopathic competency as you:

- Practice appropriate HEENT and thoracic/pulmonary OMT techniques.

Interprofessional Education for Collaborative Practice

The Interprofessional Education Collaborative has identified the core competencies necessary for health care professionals. These include effective communication skills, fostering shared values and ethics for practice, knowledge of team roles and responsibilities, and ability to engage in teamwork and team-based practice. This course encourages interprofessional competency as you:

- Interact with medical and health professionals from various fields and roles in learning techniques for response to urgent and emergent respiratory system concerns.

Self-Directed and Lifelong Learning

We want students to grow into strong, self-directed future clinicians. Self-directed learning is a 4-step, sequential process. OST 580 is organized into 4 sessions, each focusing on topics like ultrasound skills and lifesaving airway techniques to assure that learners are prepared to treat their first patient who says, “I can’t breathe.” You’ll engage in the 4 steps of self-directed learning in each session as follows:

1. **Self-Assessment of Learning Needs** – Sessions begin with flipped video content for guided self-study in preparation for a later clinical integration session. These videos often contain learning objectives and self-assessment questions and/or resources to guide further learning.
2. **Identification, Analysis, & Synthesis of Information** – By completing self-assessments and considering learning objectives, students gain a sense of learning needs. They’re encouraged to seek clarifying information with provided resources, through independent research, or through dialogue with faculty and peers during scheduled events or other communications.
3. **Appraisal of Information Credibility** – To formally synthesize and appraise personal knowledge, students participate in a faculty-facilitated clinical integration session at the end of each session. These often include multifaceted activities such as areas as practice with diagnostic and clinical skills, discussion of related cases or scenarios, and team- or problem-based activities.
4. **Feedback on Information-Seeking Skills** – Students receive formative feedback throughout the session through completion of self-assessment activities and while they participate in clinical integration sessions. Additionally, students receive summative feedback through the completion of internally developed unit exams.
5. **Lilly Project:** “Bridging the Gap Between Teaching and Learning”, Drs. Sadisivan, Hughes, Kelly and DiCarlo have created 3 most important topics to be included for development of the self-directed

learning and self assessment process related to: Hypoxemia, Differentiating Asthma from COPD and Pleural Disease.

Societal and Cultural Awareness and Advocacy

We strive to provide sensitive, responsive patient care to a socially diverse patient population in varied clinical settings across the lifecycle. We also encourage future practitioners to advocate for and maximize the health of individuals and populations at large. This course fosters these goals as you:

- Explore social determinants of health that may impact disease processes, therapies, and outcomes (e.g., healthcare access and quality, education access and quality, economic stability, social and community context, neighborhood and built environment, etc.).
- Discuss patient care participants or advocates in complex health scenarios or cases (e.g., social workers or case managers, pharmacist, physical or occupational therapists, etc.).

Specific Content Objectives

In terms of concrete studies, the [Comprehensive Osteopathic Medicine Licensing Examination of the United States \(COMLEX-USA\) master blueprint](#) is available online. We also provide session-level objectives and these specific content objectives to lend more focus to your studies:

- 1. Recognition of patient and clinical presentations including, but not limited to:**
pneumonia – pleural fluid – masses – abscesses – simple pneumothorax – tension pneumothorax – flail Chest – rib fracture – sternal fracture – foreign body blockage – wide mediastinum – hilar adenopathy – apical mass – silhouette sign – referred pain – suspicious radiograph
- 2. Differentiation between presentations and procedures including, but not limited to:**
normal & abnormal adult & pediatric CXR – normal & abnormal sinuses (CT and plain films) – normal & abnormal mastoids – normal & abnormal epiglottis – normal & abnormal tracheal Shadow – normal & abnormal retropharyngeal space – periorbital & orbital cellulitis – obstructive & restrictive lung disease – invasive & non-invasive ventilation – BIPAP & CPAP – pleural effusion, pneumonia, & pulmonary edema – asthma & asthma from COPD – tension pneumothorax & cardiac tamponade
- 3. Identification of factors related to the following tests and concepts:**
histologic and pathologic images of diseases – the left and right side of an image – different types of breath sounds – appropriate HEENT and thoracic/pulmonary OMT techniques – pharmacologic mechanisms of action – appropriate endotracheal tube size for intubation – initial ventilator settings – limitations of pulse oximetry – common microbiologic specimens given a gram stain or a clinical scenario– FiO₂ – the mechanism that causes digital clubbing
- 4. Performance of skills including, but not limited to:**
converting lbs. to kg. – calculating PiO₂ – calculating dose of intramuscular epinephrine – predicting oxygen saturation and/or PaO₂ – determining the A-a gradient at various altitudes, needle decompression – airway management (nasopharyngeal, oropharyngeal airway; bag valve mask, laryngeal mask airway) –endotracheal intubation of pediatric and adult mannequins - obtaining M mode Thoracic Ultrasound images, and recognition of pneumonia, pneumothorax, pleural effusion, pulmonary edema, pericardial effusion on ultrasound images – matching of physical exam to CXR and

HEENT imaging – predicting cyanosis based on hemoglobin and oxygen saturation – oral presentation of patient cases – matching clinical images to anatomic specimens – writing proper medication order

5. Determination of the following given a clinical vignette with appropriate laboratory studies:

immediate procedural corrective actions – appropriate diagnostic testing and interpretation – physiologic basis of a patient’s presentation – prioritization of a differential diagnosis – treatment/management plan – the outcome of appropriate versus inappropriate interventions

Course Director

(Note - Preferred method of contact is shown in italics)

Name: Mary Hughes, D.O.

Phone: 517-353-3211

Email: hughesm@msu.edu (preferred method)

Address: 909 Wilson Road, B311E West Fee Hall, East Lansing, MI 48824

Course Faculty

Name	Email	Phone	Site
Nik Butki, D.O.	butkinik@msu.edu	517-884-9629	DMC Lead
Mark Delano, MD	delanom@msu.edu	517-884-3232	EL
Stephen DiCarlo, Ph.D.	dicarlos@msu.edu	517-884-5051	EL
Brett Etchebarne, MD, Ph.D.	madcow@msu.edu	517-353-3211	EL
Martha Faner, PhD	fanermar@msu.edu	313-578-9669	DMC
John Fitzsimmons, M.D.	fitzsi10@msu.edu	517-353-4547	EL
Pat Flaherty, D.O.	flaher13@msu.edu	586-263-6174	
Brett Gerstner, D.O.	gerstne8@msu.edu		
Nicole Geske, Ph.D.	geskenic@msu.edu		EL
Helen Grim, MS RRT	grimhelen@gmail.com	N/A	EL
Peter Gulick, D.O.	gulick@msu.edu	517-353-3211	EL
Diana Hristova, M.D.	hristov3@msu.edu		DMC
Laryssa Kaufman, M.D.	lkaufman@msu.edu	517-353-3211	EL
Bryan Kelly, DO	Kellyb13@msu.edu		EL
Frances Kennedy, DVM, MS	kennedyf@msu.edu	517-432-0467	EL
Paul Kowalski, M.D.	pauljk@msu.edu	517-353-3453	EL
J’Aimee Lippert, DO	boseljai@msu.edu		
Carrie Nazaroff, Ph.D.	tatarcar@msu.edu	586-263-6743	MUC
Reza Nassiri, D.Sc.	nassiri@msu.edu		EL
Robert Prodinge, D.O.	proding1@msu.edu	517-353-3211	EL
Raquel Ritchie, Ph.D.	rritchie@msu.edu	586-263-6296	MUC
Melissa Rosenberg, M.D.	rosen119@msu.edu	517-353-3100	EL
Janice Schwartz, PhD	schwa317@msu.edu	517-884-9671	DMC
Richard Strabbing, D.O.	rstrabbing@michiganentallergy.com	616-786-4008	EL
John Taylor, Ph.D.	tayl3736@msu.edu		
Sarah Tilden, Ph.D., B.S.	tildensa@msu.edu		DMC
Carol Wilkins, Ph.D.	mindockc@msu.edu	517-353-4927	EL

Curriculum Assistants

Site	Name	Email	Phone
East Lansing	Stephanie Goodrich	goodrics@msu.edu	517-432-5637
MUC	D'Ann Zona	zonadann@msu.edu	586-263-6711
DMC	Smita Deb	debsmita@msu.edu	517-884-9628

Lines of Communication

- **Administrative/mechanical course questions:**

Email Dr. Hughes directly with issues that are of an individual nature, and not content related. Dr. Hughes will be checking email intermittently throughout the day and will answer as they come in – doubtful that questions that come in after 10pm will be answered before the next am however.

Dr. Hughes will be working clinically during the course as well, and does not have email access when working as the patients require her undivided attention.

In addition, if there is some valid reason that you will be missing a clinical integration session and/or exam you must contact Dr. Hughes directly. You have been given her office phone number, and also have her email address. This does not relieve you of the responsibility to complete a college excused absence form.

Email can be used for all times except 5pm the evening before exam through 0600am day of exam. After 0600am Dr. Hughes will be at MSU setting up for the day's experiences. Between 0600am and the end of the day she will be unavailable to receive phone calls, but any messages left during this time will be reviewed at the end of the day. It is also helpful for you to leave a phone # if it is something that we need to discuss verbally.

- **Content questions:** The preferred way, at least in the beginning to obtain answers to questions is to email any question to the course director at hughesm@msu.edu.

If it is something that Dr. Hughes is comfortable answering she will reply, and copy the reply to the whole class, with the question (minus the name of the one submitting the question) through the course communication tool. If it is something that needs further discussion from the faculty that taught that particular topic, then it will be forwarded on for faculty review, and the student that sent the question will be notified that such has happened. Either Dr. Hughes or the faculty answering will reply to the email, and again send the answer on course communication tool as well.

Questions received before 9am will be answered by 10 pm daily to the best of our abilities.

No content questions will be answered after 5pm on the evening before an exam as there will not be time to get a reply to the whole class.

- For absences/missed exams (see excused absence information below)
- Please set your notifications in D2L to immediate to receive posted News announcements. You may choose to receive notifications by email or SMS.

Office Hours

Questions concerning OST580 may be discussed individually by making an appointment with the Course Coordinator, Dr. Mary Hughes, by phone at 517 353-3211 or via e-mail: hughesm@msu.edu. The course coordinator is available by appointment.

Course Web Site

The URL for the Course website is: <https://d2l.msu.edu>

Textbooks and Reference Materials

Required

- iClicker Student Cloud subscription. Free to all MSU students when the student indicates their institution is MSU the subscription cost is waived.

iphone users - <https://apps.apple.com/us/app/reef-polling-by-i-clicker/id899690067>

Android users – go to the Google playstore to download the iclicker student app.

<https://www.iclicker.com/students/apps-and-remotes/apps>

- Mary Hughes, DO, OST580 Course Pack SS24
- Moore KL/Dalley AF/Agur AMR, [Clinically Oriented Anatomy](#), 9th ed., 2023, Lippincott Williams & Wilkins, ISBN: 978-1975154066
- Gilroy, et al, [Thieme Atlas of Anatomy](#), 4th ed., 2020, Thieme Medical Publisher, ISBN: 9781684202034
- Ross MH, Pawlina W, [Histology: A Text and Atlas](#), 8th ed., 2020, Wolters Kluwer, ISBN: 9781496383426
- Kumar, Abbas, and Asteria, [Robins & Cotran Pathologic Basis of Disease](#), 10th ed., 2020, Elsevier Science/WB Saunders Co., ISBN: 9780323531139
- Sadler, [Langman's medical Embryology](#), 15th ed., 2024, Lippincott Williams & Wilkins, ISBN: 9781975179960
- Weinberg, SE., [Principles of Pulmonary Medicine](#), 7th ed., 2018, Elsevier ISBN: 9780323523714
- Marcdante, K., Kliegman, R.M., [Nelson Essentials of Pediatrics](#), 8th Edition, 2019, Elsevier/Saunders, ISBN: 9780323511452
- Levitzky, [Pulmonary Physiology](#), 9th ed., 2018, McGraw-Hill Medical, ISBN: 9781260019339
- Paramothayan, Shanthi, [Essential Respiratory Medicine](#), 2019, Wiley-Blackwell, ISBN: 9781118618349

Required Article Readings for airway quiz- link available on the D2L site and MSU library website.

- [Pre-oxygenation and Prevention of Desaturation During Emergency Airway Management](#), Scott D. Weingart, Richard M. Levitan, Vol 59 (3); March 2012, Annals of Emergency Medicine, p. 165
(Reading is **REQUIRED** if quiz is to be taken) Keep this article for years 3 and 4.

Required Article Readings for S6UE3- links available on the D2L site

- Kim J, Amar S. **Periodontal disease and systemic conditions: a bidirectional relationship.** *Odontology*. 2006 Sep;94(1):10-21. doi: 10.1007/s10266-006-0060-6. PMID: 16998613; PMCID: PMC2443711. (Reading is **REQUIRED and tested**)
<https://pubmed.ncbi.nlm.nih.gov/16998613/>
<https://ezproxy.msu.edu/login?url=https://doi.org/10.1007/s10266-006-0060-6>
- Bui FQ, Almeida-da-Silva CLC, Huynh B, Trinh A, Liu J, Woodward J, Asadi H, Ojcius DM. **Association between periodontal pathogens and systemic disease.** *Biomed J*. 2019 Feb;42(1):27-35. doi: 10.1016/j.bj.2018.12.001. Epub 2019 Mar 2. PMID: 30987702; PMCID: PMC6468093. (Reading is **REQUIRED and tested**)
<https://pubmed.ncbi.nlm.nih.gov/30987702/>
<https://ezproxy.msu.edu/login?url=https://doi.org/10.1016/j.bj.2018.12.001>

Required Article Readings for S6UE5- links available on the D2L site and MSU library website.

- [Head & Neck Lymphatic Article](#), Eric Schwetschenau, Daniel J. Kelley, Temple University School of Medicine, Philadelphia, Pennsylvania. *Am Fam Physician*. 2002 Sep 1;66(5):831-839. (Reading is **REQUIRED and tested**)

Optional Readings

- Goodman, L. R., [Felson's Principles of Chest Roentgenology A Programmed Text](#), 5th ed., 2020, Elsevier Saunders, ISBN: 978-0323625678
- Behrman, [Nelson Textbook of Pediatrics](#), 21st ed., 2020, Elsevier Health Sciences, ISBN: 9780323529501
- West, [Pulmonary Pathophysiology](#), 9th ed., 2017, Lippincott Williams & Wilkins, ISBN: 9781496339447
- Bordow, Ries & Morris, [Manual of Clinical Problems in Pulmonary Medicine](#), 7th edition, 2014, Lippincott Williams & Wilkins, ISBN: 9781451116588
- Longo, Fanci, Kasper, [Harrison's Principles of Internal Medicine](#), 20th ed., 2018, McGraw-Hill Book Company, ISBN: 9781259644030
- Katzung, B.G, [Basic and Clinical Pharmacology](#), 15th ed., 2021, McGraw Hill Book Company, ISBN: 978-1260452310
- Brunton, L.L., [The Pharmacological Basis of Therapeutics](#), 14th ed., 2022, McGraw Hill Book Company, ISBN: 978-1264258079
- Rhodes & Bell, [Medical Physiology: Principles for Clinical Medicine](#), 5th ed., 2018, Lippincott Williams & Wilkins, ISBN: 9781496310460
- Broadus, V. Courtney, MD; Mason, Robert J. et al., [Murray and Nadel's Textbook of Respiratory Medicine](#) 7th ed, 2021, Saunders, ISBN: 9780323655873
- M. Cloutier, [Respiratory Physiology](#), 2nd ed., 2019, Elsevier, ISBN: 978-0-323-59578-0 (Chapter 8-Oxygen and Carbon Dioxide Transport) and (Last chapter - Self study and examination questions) - (Reading is strongly recommended)
- Hyatt, Robert E., [Interpretation of Pulmonary Function Test: a practical guide](#), 5th ed., 2020, Wolters Kluwer Health, ISBN: 9781975114343
- Peter Gulick, DO, - Nahid P, Mase SR, Migliori GB, et al; [Treatment of drug-resistant tuberculosis. An official ATS/CDC/ERS/IDSA clinical practice guideline.](#) *Am J Respir Crit Care Med*. 2019;200(10):e93-

e142. (<https://doi.org/10.1164/rccm.201909-1874ST>)

*Article that will be of interest if you are traveling to areas where Multi-drug resistant TB is prevalent. Will not be tested on this article in particular.

- Carol Wilkins, Ph.D. - Respiratory/Derm/GU Lab – materials in coursepack

Radiology teaching resources for practicing your thought process

Entire teaching series on Chest radiography with great examples and demonstrations.

<https://www.med-ed.virginia.edu/courses/rad/cxr/index.html>

<https://radiologyassistant.nl/chest/chest-x-ray/lung-disease>

Airway supplemental resources

- Mary Hughes, DO -
<https://youtu.be/IdmMR8JxmFo> Chest tube insertion
https://youtu.be/JBg_1xT3WVA How to set up a chest drain
<https://youtu.be/FDxZyR9abAs> Pigtail catheter insertion
<https://youtu.be/00-T8PcbStE> Transvenous pacer
<https://youtu.be/T6Z9DvPPmXg> Ultrasound guided Pericardiocentesis

Helpful respiratory web sites may be available on D2L under the “Content” tab – in the links folder.

Course-based Academic Support

The course faculty are here to facilitate your learning. Please feel free to contact the Course Director with any personal issues you may have involving this course. Additional academic support resources can be accessed through MSUCOM Academic and Career Guidance and MSUCOM Personal Counseling.

Courses begin and end dates

OST580 begins on 1/8/24 and ends on 2/29/24. See addendum for detailed daily course schedule.

Histology Laboratory

Specific Procedures for the Histology Laboratory

The Histology Lab Session will be held at each campus in the following locations:

EL – Room E200 Fee Hall

DMC – Room G031

MUC – Room 211 of the UC-4 Building

Students will team up in groups of 2-3 to share the laboratory workstations. You will need your Histology Lab Manual, your required histology text (Pawlina) and your iClicker polling device. The Lab Session is computer-based. The Histology Lab Website uses virtual slides (digitized microscope slides), Image Series

obtained from virtual slides, and images from other designated sources. The Histology Lab Website is available at any time via your personal computer. The website address and login credentials needed to access the Histology Lab Website are posted on the course D2L site.

Individual Readiness Quiz

The Histology Laboratory Session will begin with a brief Individual Readiness Quiz, which will be administered via the iClicker polling system. This quiz will consist of four multiple choice questions drawn from the preparatory material indicated in the section entitled "In preparation for the pre-lab quiz, be sure to study the following in your Pawlina textbook" within the "Preparation" section of the Histology Lab Manual. **No make-ups will be offered for this quiz.** See the **"iClicker Policy"** section of this syllabus for more information.

Histology Lab Schedule

Your College will assign you to a specific 1 hour, 50 minute lab section. Your lab section assignment will be posted on the course D2L site. It is essential that you attend only the lab section to which you have been assigned. Please consult the **"Absences from Mandatory Sessions and Examinations/Assessments"** section of this Syllabus for information regarding missing a Lab Session due to illness or emergency. The process for seeking a change in your lab section assignment is to contact your site Curriculum Assistant or complete the Request for a Group Change form.

Preparation for the Laboratory Session

To make your time during the Histology Lab Session productive, it is essential that you prepare beforehand. The Lab Manual, found in your coursepack, includes an "Introduction" to the Lab Session and a specific "Preparation" assignment for you to work through before the Lab Session. You should also skim through the detailed directions within the Lab Manual in order to obtain some idea of what will be covered during the Lab Session.

Resources to have available during the Laboratory Session

Your Histology Lab Manual is the essential guide to the structural features you will be examining during the Lab Session, and to their significance. Both the Lab Manual and the Histology Lab Website will frequently refer to pertinent material in the required histology textbook (Pawlina); so you should have that textbook available during the Lab Session. You will also need your iClicker polling device.

Missed Mandatory Laboratory Session

No students will be excused from a mandatory session without permission from the course coordinator **prior** to the administration of the session. Students who miss a mandatory session due to a certifiable health problem or for another reason satisfactory to the course coordinator; (i.e. death in the immediate family) must be able to document the reason for their absence.

There are some Mandatory Session items that are one time experiences and will not be able to be made up. The content but not the hands on may be able to be discussed. However these will require approval by the course director in advance, or on the day of the session. **It will be your responsibility to contact**

the course director by 7am on the day of the session if you are unable to attend. Contact numbers are provided in the syllabus.

Makeup for missed mandatory/unexcused sessions will be at the discretion of the course coordinator. Generally they will be on a weekend day in EL in person with Dr. Hughes for as much of the session as can be reasonably done keeping in mind that some of the specialized equipment used for some of these lab experiences will not be available for the weekend makeup. It is possible that two weeks of mandatory sessions will be combined into one weekend makeup day. Attendance will be required to receive a P grade in the OST 580 course. Without an excused absence from the course coordinator, there will be no makeup session available resulting in an N grade.

Anatomy Lab Experiences

Attendance during the faculty proctored anatomy labs is expected. This is the only time in OST 580 Respiratory System you will have with the anatomy faculty before Session 4 and the Anatomy Practical Exam. There are a number of objectives for you to review, most of which you saw in your prior anatomy course. While many of these may readily return from the deep recesses of your brain, many may not. Remember that objectives can be demonstrated on the exam on a donor, bucket specimen, bone, and radiograph or as a landmark within a clinical scenario. The Anatomy Gross Lab will be available for independent review as the lab schedule permits. **Please note that the lab schedule for these dates and times will be posted on D2L and or the lab doors at your specific sites.** All anatomy lecture material, all anatomy lab material as well as the anatomy covered during Session 4 will be tested on the clinical practical exam.

Along with in house created resources such as lab videos and a virtual lab guide, there will be several resources used to give you as close to a donor experience as is technologically possible.

- **VH Dissector (VHD) Pro 6:** MSUCOM is provided each member of the Class of 2026 an extended license for the VH Dissector Pro 6.0 program (expiring May 2024). Each student will receive an email from TolTech (support@toltech.net) with their product key and download instructions.

Built on real anatomy from the National Library of Medicine's Visible Human Project®, the VH Dissector Pro software is a one-of-a-kind product that provides students the ability to interact with correlated 3D and cross-sectional views of over 2,000 anatomical structures. The platform is an excellent resource for learning the complex three-dimensional structure of the human body and is especially useful for learning the cross-sectional anatomy needed to interpret CT, MRI and Ultrasound images.

- **Anatomy & Physiology Revealed (APR) Student User License:** Available at a special discounted price for MSUCOM students. Use this link to purchase APR at the MSU discounted price of \$48. <https://www.mheducation.com/highered/custom/product/1264401906.html>. Use this first day of class registration video to log in: <https://video.mhhe.com/watch/4GGsJKnCghbtpXpH5xwzrk>. APR is one of several digital resources that will be used to illustrate real human gross anatomy.
- **MSU Online Library Resources:** All of these resources can be accessed in the MSU Library Medical Ebooks Collection using the following link: <http://libguides.lib.msu.edu/medicalebooks> .
- **Select pages from the following textbooks are required reading for the course:**
 - Clinically Oriented Anatomy, 9th ed., 2023, Moore, Dalley, & Agur, Lippincott, Williams & Wilkins
 - Gray's Anatomy for Students, 4th ed., 2020, Drake, Vogl, Elsevier

- Videos from the following resources are required viewing for the course:
 - Clinically Oriented Anatomy, 9th ed., 2023, Moore, Dalley, & Agur, Lippincott, Williams & Wilkins
 - Acland's Video Atlas of Anatomy, Wolters Kluwer

Recording of any presentations is expressly prohibited. Because we will use cadavers in some presentations, we cannot have any recording being done. Not even for personal use. Any recording of cadaveric content is a violation of the Willard Body Program agreement. There will also be real patient data, even if de-identified, and recording of this content is also prohibited. Any student discovered to have done so will be subject to disciplinary action up to and including dismissal from COM. There will be no testing materials taken from the cases directly, only from the lecture content. The cases are designed to help you work with the material you have just learned to see how you might use it in a real life scenario.

Exams/Assessments

The successful achievement of learning objectives will require knowledge and skills acquired in other portions of the overall MSUCOM educational program. Students will be expected to apply concepts and vocabulary learned in other courses to problem-solving for exams/assessments in this course.

In order to maintain security of assessments, you may NOT post questions on the discussion board regarding exam questions or quiz questions. Kindly email your questions to the course coordinator.

All Points are approximate

Assessments	Projected Points	Material to be Covered for 580 (other courses as defined by their syllabi)
S6UE1 (OST580, OST583, and OST559) Mon., Jan. 22, 2024	TBD	Lectures for Session 1 only for 580
Histology Quiz (iClicker Student Polling) Weds., Jan. 31, 2024	4	Histology Content Assigned for Pre-Lab Prep (Counts for both methods of grade calculation) (NO MAKE UP AVAILABLE)
S6UE2 (OST580 & OST559) Mon., Feb. 5, 2024	TBD	Covers online modules Session 2
S6UE3 (OST580 & OST559) Mon., Feb. 12, 2024	TBD	Covers online modules Session 3 except I Can't Breathe modules and Airway Lab pre-lecture
S6UE5 (OST580) Comprehensive Anatomy Practical FINAL Weds., Feb. 28, 2024	60	Content from OST580 Session 1-4 content only. Information from the Anatomy, Ultrasound, Respiratory/Derm/GU/ and Intubation labs as well as lectures from all sessions, but with major emphasis on upper airway, trauma, infectious diseases, radiology, ENT and may be related to peds or adult patients in regards to topics covered in the upper airway emergencies lecture.

Assessments	Projected Points	Material to be Covered for 580 (other courses as defined by their syllabi)
S6UE6 (OST580) Comprehensive Written FINAL Thurs., Feb. 29, 2024	TBD	(Content from OST580 Session 1-4 No content from Dr. Wilkins or Dr. Taylor on comp final) All Lecture and Lab Sessions and may include materials covered in other courses that relate to a pulmonary disorder that was presented in this course.
D2L Article Reading on-line Pre-Oxygenation article, Tues., Feb. 20, 2024 OPEN: 11:00-11:55 AM	5	(Counts for both methods of grade calculation) (NO MAKE UP AVAILABLE)
D2L Anatomy Thorax and Head and Neck Lab related Quiz on-line Fri., Jan. 19, 2024 OPEN: 8:00 – 8:15AM	8	(Counts for total score grade calculation) (NO MAKE UP AVAILABLE)
Board Review Prep work Lilly Project Introduction 1-8-2024	2 bonus points	None of these Lilly project points will count towards comprehensive score calculation – all will count towards initial grade calculation. NO MAKEUP AVAILABLE FOR ANY PART OF THIS
Completion of hypoxemia pre-quiz with <u>100%</u> score.	4 pts, not bonus	
Completion of hypoxemia post-test 1 with <u>100 %</u> score.	5 pts, not bonus	
Completion of Asthma/COPD pre-quiz (1st attempt).	2 pts., not bonus	
Completion of Asthma/COPD post-quiz with <u>100 %</u> score.	2 pts., not bonus	
Completion of Pleural pre-quiz (1st attempt).	2 pts., not bonus	
	Lilly Project Total = 15 pts.	
Completion of Pleural post-quiz with <u>100%</u> score.	2 bonus points	

Content from Anatomy will be tested on written exams during the week of presentation. In addition, there will be an Anatomy quiz during the scheduled labs only.

If you have concerns about a particular question on either of the final exams it needs to be brought to the attention of the course director within 24 hours; and for all other exams within 24 hours of the exam, or 24 hours of the exam display session.

Exam material will come from all labs, lectures, handouts, presentations, assigned readings and the self-study material presented from Anatomy. There will be slides and/or radiographs similar to those used in lecture on examinations. You are strongly encouraged to review radiology, especially as it pertains to the respiratory system. Approximately 20 films/photos from disorders discussed in class will be tested on the practical exam in Anatomy. **They will not be the exact films or photos used in class, but will be classic examples of the disorders, as no two patients look exactly alike on x-ray or in person. In addition, clinical photographs of certain disorders will be used on the practical exam. Pathology and histology content will have significant numbers of images as well.** This will help prepare you for your boards, both Parts 1 and 2.

Each Histology Laboratory session will begin with a **brief Individual Readiness Quiz (IRQ)**, which will be administered via the i>Clicker Student Polling system. **No make-ups are offered for lab quizzes (IRQs) or potential bonus quiz(zes).**

Practice for the Practical Portion of the Final Exam

Sample practice stimuli will be posted. Of course the same items will not be used on the actual practical portion of the final exam, but it will give you an idea of what to expect. The actual anatomy portion will not be all simple identification; rather it will be part identification and part incorporation of clinical scenarios and interpretation of usual pulmonary lab tests & radiographic images much like you might see on the boards. In addition, the entire anatomy laboratory experience is designed to assist you in clinical integration which will be necessary for successful completion of the anatomy clinical practical exam.

All material from Anatomy, Ultrasound, Respiratory/Derm/GU, Intubation labs and radiology lectures may be tested on the practical exam at the end of the course, along with content taught in the course (i.e. everything is fair game).

Missed Exams

There will be a makeup exam for each exam given (if excused). No makeup exams will be provided to any student who does not receive an excused absence from the course director. If you miss the exam but not the session you will be required to only make up the exam. Again, all will need course director approval – see Section 2 on absence from required sessions and exams.

Please note that unexcused absences for exams results in a grade of 0 points for the exams missed.

Makeup exams 1 and 2 will be held on TBD

Makeup exam 3 and 4 will be held on TBD

Makeup Final Written Exam and Anatomy Practical will be held on TBD

All exams will be computer based this year 2024 with the exception of the anatomy practical exam provided there are no infectious disease restrictions.

Course Grades

The course faculty determine the threshold for satisfactory performance in each preclerkship course. Your course grade will be determined by the following formula:

- **P-Pass**—means that credit is granted and that the student achieved a level of performance judged to be satisfactory by the instructor.

Option 1: To obtain a “P” grade for this course, a student must obtain 70% or greater of total points offered which includes all written exams; comprehensive written final; comprehensive anatomy clinical practical final; Anatomy D2L Quiz, Histology iClicker Student Polling plus any supplemental points if given during the course such as from the Lilly project and the pre-oxygenation quiz. Also must have attended all mandatory sessions when initially offered or completed makeup if had an excused absence.

OR

Option 2: 70% of the total points available on a combination of the Comprehensive Written Final, Comprehensive Anatomy Clinical Practical, Histology given in lab, Preoxygenation article quiz and must have attended all mandatory sessions when initially offered or completed makeup if had an excused absence.

****If bonus questions are available they will only apply to the ‘all points’ method. The Lilly project board prep material points will only count towards the ‘all points’ method.**

- **N-No Grade**—means that no credit is granted and that the student did not achieve a level of performance judged to be satisfactory by the instructor. A student who accumulates less than 70% by either means will receive an “N” grade. A student who does not attend all required sessions when initially scheduled and does not have an excused absence will receive an N grade.

All remediation exams for semester 6 are scheduled Tuesday, March 26 or Wednesday, March 27, 2024.

- You must have a minimum overall average (option 1) of 65% to be eligible to sit for the remediation exam.
- Remediation - Since all of the courses in the MSUCOM curriculum are required, any student receiving an “N” grade must remediate the course. Remediation is at the discretion of the course director and also requires meeting college eligibility requirements, and enrolling in the remediation class. It will be a computer based examination, will require the student to take both the written and clinical anatomy portions of the exam if the student did not pass the clinical anatomy portion in addition to failing the course by both options for completion. If the student scored above a 70% on the original anatomy clinical practical exam they completed, but did not pass the class, they will only be required to take the computer based written examination. The two examinations will be administered on the same day, in consecutive fashion if needed. To pass the remediation the student taking both exams will achieve 70% of the total points they sat for. The number of points in total remains to be determined but will be ~ 100-150 for the written portion and ~60 for the anatomic portion. If the student is only taking the written exam, then only the written exam points from this administration will determine their grade. If the student failed due to failing to complete mandatory sessions these will be remediated by faculty as available before April 4 or 5, 2024 if eligible, and if this is the only reason for the N grade a student will not

be required to participate in written exams given for remediation. A written paper may be required as part of this remediation process for a missed and unexcused session. Please refer to the remediation policy information provided in Section 2 of this syllabus for information on College requirements and eligibility determination.

Student Evaluation of the Course

We want your feedback on how to improve this course.

- Informal Feedback: Feel free to approach the Course Coordinator, Mary Hughes, DO, or any of the other course faculty with your reactions and suggestions.
- Formal Evaluation: In addition to the above, we ask every student in the class to complete formal on-line course evaluation upon conclusion of the course. Student feedback provides Course Coordinators with valuable information regarding their performance, the performance of their colleagues, and the quality of the course. The information gained from these evaluations is used to continuously improve future offerings of this course. Students can access the evaluation system at: [MSUCOM Pre-clerkship Evaluation System](#).

Letters of Commendation

Those in the 85 – 99th percentile will automatically receive performance letters to their student file, provided by the course coordinator. Other students may receive letters of commendation if requested within 2 weeks of course completion.

Class Ranking

For purposes of class ranking only, the Grader System (student portal) will add the points earned for all point experiences. If a student passes via the Comprehensive total option know that the percent total of all possible points will be used for class rank purposes, not the comprehensive totals percent of points.

Section 2 – Policies

Please refer to the Student Handbook at <https://com.msu.edu/current-students/student-handbook-course-catalog> for these and other policies.

Academic Honesty and Professionalism

Every student is responsible for their behavior and is expected to adhere to all MSU and MSUCOM policies of academic honesty and professionalism, as outlined in the MSUCOM Student Handbook and the MSU Medical Student Rights and Responsibilities. These documents may be found on the MSUCOM website. Additional guidance on academic integrity may be found on the MSU Ombudsperson's website at <https://ombud.msu.edu/sites/default/files/content/Academic-Integrity-at-MSU-updated-August-2017.pdf>

Incidents of academic dishonesty or professional misconduct will be addressed by the faculty, administration, or staff; such action may include, but is not limited to: giving a failing grade, referring a student for judicial review, directing the student to the Associate Dean of Medical Education, evaluation by the Committee on Student Evaluation, and other actions outlined in the Medical Student Rights and Responsibilities document.

Types of Class Sessions

MSUCOM designates lectures and other class sessions by their delivery method. While additional terms may be used in a specific course, the following will provide general guidance to the type of session:

- Live or livestream lecture: broadcast at a designated time; intended to be viewed synchronously
- Online Lecture: recorded content, may be viewed asynchronously
- Webinar: more interactive session where student participation is expected
- Lab: may refer to on-site clinical skills training or online lab session; see details

Changes to Course Schedule or Requirements

Due to external circumstances, the course requirements published in the course syllabus and/or course schedule may be subject to change. Timely notification Communication regarding changes will be provided to enrolled students via the course D2L site and/or email. Any changes made will consider the MSU Code of Teaching Responsibility and the MSU Medical Students Rights and Responsibilities.

Mandatory and Optional Class Sessions

All lectures and other class sessions are considered to be integral to the course, and students are expected to attend, view, or participate in each session. Some sessions are designated as “mandatory” in that attendance at the session on the scheduled date and time is required. Depending on the course, a student may earn points for attending or participating in a mandatory session or may lose points for failing to attend or participate. Availability of make-up points for missed sessions is at the discretion of the course coordinator. Optional class sessions are offered by faculty to assist students in learning or reviewing course content.

Absences from Mandatory Class Sessions and Examinations/Assessments

It is the responsibility of the student to know which class sessions are deemed as mandatory and comply with the MSUCOM policy regarding absences from mandatory sessions and examinations. This policy may be found in the MSUCOM Student Handbook on the MSUCOM website. Requests for an excused absence must be submitted via the [student portal](#).

Computer-Based Testing

It is the responsibility of each student to know and comply with the MSUCOM policy on computer-based testing. This policy may be found in the MSUCOM Student Handbook on the MSUCOM website.

Administration of quizzes, examinations, and other assessments may be self-proctored, virtual proctored, or classroom proctored. Regardless of the proctoring method, you are expected to take the exam in a quiet, private setting. Just like in a proctored exam, you are not to access notes, textbooks, references, your phone, or other materials, and you are not to interact with fellow students or others. Remember that integrity is defined as what you do when no one is looking.

You are also expected to not record, photograph, take screen shots, make notes of, or otherwise attempt to make a copy of any exam item for any purpose, including your personal use. A student who is

discovered to have cheated or breached exam security will be subject to formal disciplinary action, up to and including dismissal from MSUCOM.

If you have concerns or evidence of an exam security breach on this or any exam, you may report that to an MSUCOM administrator or through the online concern form.

Medical Student Rights and Responsibilities

If problems arise between instructor and student, both should attempt to resolve them by informal, direct discussions. If the problems remain unsolved, the Associate Dean for Medical Education and/or the MSU Ombudsperson may be consulted. The MSU Medical Student Rights and Responsibilities (MSRR) document defines processes for additional steps, including submission of a formal grievance. The MSSR may be found in the MSUCOM Student Handbook and online at splife.studentlife.msu.edu.

iClicker Student Policy

It is your responsibility to know and comply with the iClicker Student Policy. This policy may be found in the MSUCOM Student Handbook. If you forget your device or if it does not work, for whatever reason, no make-up experiences will be provided, and no points will be given.

If iClicker Student is used to take attendance for an on-campus event, you will be expected to arrive to the physical location on time and to stay for the duration of the assigned activity. If iClicker Student is used to take attendance for an online event, you will be expected to start the session at the scheduled time and participate for the duration of the assigned activity.

As a matter of professionalism, please note that under no circumstances should you provide access to your iClicker Student account to another student by sharing your device and/or account login, nor should you accept another student's device or login credentials to access iClicker Student on their behalf. Answering questions or checking in for attendance on behalf of another student by using their device or account is considered to be academic dishonesty and may result in disciplinary action up to and including dismissal from the college.

Remediation

The MSUCOM Policy for Retention, Promotion and Graduation requires successful completion of each required course to progress in the curriculum. If you receive an "N" grade in a course, that grade will be recorded on your official transcript; you must meet the course requirement by successfully remediating or repeating the course.

Eligibility to attempt remediation of the course is determined by criteria described in the "Course Grades" section of the syllabus. If you are not eligible to attempt remediation, or if you fail the remediation, you must retake the course, provided you are eligible to continue in the program as determined by the Committee on Student Evaluation.

Student Safety and Well-being

The MSUCOM website and Student Handbook provide information on student safety, campus security, access to medical care and counseling services, and to policies on injuries and exposures. If you have an

injury or acute illness on campus, an incident report should be completed. The form is available on the MSUCOM intranet or from Academic Programs.

Academic Support Resources at MSUCOM

As a way to acclimate you to the curriculum at MSUCOM, we have created a program called On Target: <https://michiganstate.sharepoint.com/sites/OnTargetforAcademicSuccess>

On this site you will find semester roadmaps which gives a general overview of each semester, tools needed to be successful in the curriculum and targeted resources for your unique learning situation. In each semester's road map, you will also find course expectations, tips for success, potential trouble spots, longitudinal course integration, and specific course study guides.

Requests for Accommodations

Michigan State University is committed to providing equal opportunity for participation in all programs, services and activities. Requests for accommodations by persons with disabilities may be made by contacting the Resource Center for Persons with Disabilities (RCPD) at 517-884-7273 or online at rcpd.msu.edu. Once eligibility for an accommodation has been determined, you may be issued a Verified Individualized Services and Accommodation (VISA) form. Each VISA includes an expiration date; to request an accommodation, you must have an active VISA. You may work with RCPD to renew a VISA.

During the preclerkship curriculum, the college will help to coordinate accommodations for additional testing time. Provide your VISA to Nancy Thoma, thoman@msu.edu, A333 East Fee Hall at the start of the term and/or at least two weeks prior to the assessment event (test, project, labs, etc.). Requests for accommodations received with less notice will be honored whenever possible. You may choose whether or not you wish to use accommodations for a particular event. For other accommodations, you may also review your VISA with the course coordinator and curriculum assistant assigned to that course.

Title IX Notifications

Michigan State University is committed to fostering a culture of caring and respect that is free of relationship violence and sexual misconduct, and to ensuring that all affected individuals have access to services. For information on reporting options, confidential advocacy and support resources, university policies and procedures, or how to make a difference on campus, visit the Title IX website at titleix.msu.edu.

Limits to confidentiality. Essays, journals, and other materials submitted for this class are generally considered confidential pursuant to the University's student record policies. However, you should be aware that University employees, including instructors, may not be able to maintain confidentiality when it conflicts with their responsibility to report certain issues to protect the health and safety of MSU community members and others. Instructors must report the following information to other University offices (including the Department of Police and Public Safety):

- Suspected child abuse/neglect, even if this maltreatment happened when you were a child;
- Allegations of sexual assault, relationship violence, stalking, or sexual harassment; and
- Credible threats of harm to oneself or to others.

These reports may trigger contact from a campus official who will want to talk with you about the incident that you have shared. In almost all cases, it will be your decision whether you wish to speak with that individual. If you would like to talk about these events in a more confidential setting, you are encouraged to make an appointment with the MSU Counseling and Psychiatric Services.

Addendum: Course Schedule

Course schedule for the current semester will be posted to D2L. Changes to the course schedule will be noted on the class academic calendar ("Google calendar") and communicated to students via D2L and/or email. The schedule for the most recent offering of this course will be posted on the MSUCOM website under Current Students/Preclerkship Curriculum.