ARKANSAS COLLEGE OF OSTEOPATHIC MEDICINE

Course Name: Biomedical Essentials of Comprehensive Osteopathic Medicine-3

Class of/Semester/Year: 2027/Fall/2024

Date Last Revised: June 4, 2024

Approved By: Shannon Ramsey Jimenez

Shannon Ramsey Jimenez, DO

Dean of ARCOM

Note: Final Approval. Schedule subject to change with advance notice.

Office of the Dean
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ARKANSAS COLLEGE OF OSTEOPATHIC MEDICINE

Arkansas Colleges of Health Education
Course Syllabus

Course Name:	Biomedical Essentials of Comprehensive Osteopathic Medicine-3 (BECOM3)
Class of/Semester/Year:	Class of 2027/Fall 2024
Course Designation:	COM 651
Term Dates:	July 29, 2024 – December 13, 2024
Course Dates:	July 30, 2024 – December 10, 2024
Total Contact Hours:	135 Lecture Hours; 18 TBL Hours
Credit Hours:	12 Credit Hours
Assessment/Grading:	Six Written Exams
Location:	Lecture Hall 1, TBL Rooms
Course Director:	Paul McGowan, DO, Caitlin Yoakum, PhD
Office Hours:	By appointment

Syllabus is subject to change

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Course Description:
The Biomedical Essentials of Comprehensive Osteopathic Medicine-3 (BECOM-3) course provides students with foundational science knowledge that are involved in states of health and disease. BECOM-3 integrates pathophysiology basis, clinical considerations, and pharmacologic treatment of the most common disease states that affect the hematologic, and cardiovascular, pulmonary, renal, endocrine, and reproductive. Students will gain a deeper understanding of mechanisms of pathophysiology, pharmacotherapeutics, and clinical presentation of various diseases and abnormal physiological processes. The core competencies of medical knowledge, patient care, professionalism, practice-based learning, and osteopathic principles and practice will be woven into the course. Interdisciplinary, interdepartmental teams of faculty engage with students in various learning activities aimed at an integrated approach to learning. Student learning as well as formative and summative student assessments within the BECOM-3 course are organized around various activities, which could include, but are not necessarily limited to the following: large group classroom application activities; team-based learning (TBL) session, lectures employing audience response technology; computer-based modules; independent guided reading and study; inter-professional activities; and written/computer-based examinations. Furthermore, to enhance student learning and help prepare them for COMLEX Level 1 board exam, we incorporate NBOME evaluations as part of their evaluation grade for each system covered in the course. In keeping with the mission, values, and goals of ARCOM, the BECOM-3 course emphasizes the importance of life-long learning with an aim to foster and support the broader development of osteopathic medical competencies and promote the best osteopathic patient-centered care possible.

Course Goals:
The following course goals reflect broad and enduring knowledge, skills, behaviors, and responsibilities that students should attain as a result of successfully completing the course:

1. Describe the pathological basis, clinical considerations, and pharmacologic treatment ofthe most common disease states that effect the hematologic, cardiovascular, pulmonary, renal, endocrine and reproductive systems.
2. Develop an understanding of more in-depth mechanisms of diseases that affect thesystems above.
3. Develop professional behaviors through positive interactions with peers, faculty and staff.

Course Expectations and Student Responsibilities:
Students should refer to the ARCOM Student Handbook & Clinical Training Manual, as well as the ACHE Student Handbook and ACHE Course Catalog for information regarding professional standards, acceptable conduct, dress code, and program requirements.

Video Capture of Educational Content:
Consistent with the policies surrounding video capture and posting of educational content, recordings of any learning activity are considered a supplemental resource to advance student understanding and for reference at future stages of student education. Recorded materials shouldnot be utilized to replace attendance in the classroom, laboratory, or clinical setting. ARCOM makes no guarantees of reliability for video capture and reserves the right to not allow the recording of learning activities. There is no substitute for class attendance, being actively engaged in the learning process, investing in the comprehension and application of course material, and interacting with instructors and colleagues. Becoming an osteopathic physician involves much more than the acquisition of knowledge and attainment of a professional title. Professionalism, ethics, problem solving, and communication are among the vital skills that are best developed in active and interactive settings. As such, ARCOM expects students to attend all learning activities and offers no guarantees or warranties as to the recording of educational classroom/laboratory

content. There will be no video capture of in-class applications team-based learning (TBL), Foundations of Osteopathic Patient Care (FOPC), or Osteopathic Principles and Practice (OPP). Students are not permitted to render any audio and/or visual recordings of these in-class sessions.

Dress Code:
Students should refer to the ACHE Student Handbook, as well as their course syallbi, for the dress code for campus and academic activities.

Professionalism:

- Students will conduct themselves professionally at all times, during all educational activities conducted on or off campus. This includes interactions with all faculty, staff, students, clinical faculty, guest lecturers, health care providers, patients, and any other member of the ARCOM community. Unprofessional behavior, conduct, or attire inconsistent with the ARCOM dress code will not be tolerated and will result in administrative action. Students aredirected to the ARCOM Student Handbook & Academic Catalog for a full definition of professionalism and list of expected professional behaviors.
- Any unauthorized recording of learning materials and activities used in connection with the ARCOM curriculum or reproduction, rendering, possession, or dissemination of these materials including assessment materials, is considered unprofessional behavior and a violation of copyright. Such behavior is subject to action by the Student Conduct Committee(SCC) for disciplinary action, which may include receiving a grade of "zero" for a graded assessment, course failure, probationary action, suspension, or dismissal from ARCOM.
- Computers, tablets, or notebooks should only be used during lectures to take notes or reference appropriate class topics and reference materials. Students should not be on the internet viewing social media sites, performing online shopping, or playing games, etc. Thisis disrespectful to the lecturer, inhibits peer learning, and is unprofessional behavior.

Diversity, Equity, and Inclusion:
ACHE is committed to a campus environment that is inclusive, safe, and respectful for all persons, and fosters an environment free of harassment and discrimination. To that end, all course activities will be conducted in an atmosphere of friendly participation and interaction among colleagues, recognizing and appreciating the unique experiences, background, and point of view each student brings. Students are expected at all times to apply the highest academic standards to this course and to treat others with dignity and respect.

Attendance Policy:
Osteopathic medical education prepares students for professional clinical practice. Lectures and labs include didactic material, case presentations, patient demonstrations, informal discussions, team-based learning, and the practice of psychomotor skills. Consistent and prompt class attendance is essential for the learner to benefit from the full educational experience.
Therefore, ARCOM Faculty have adopted the following attendance policy:

1. Attendance at all lecture sessions within a given course is strongly encouraged, but not required.
2. Attendance is required for all guest lecturers and team-based learning experiences. A pattern of absenteeism or tardiness for these sessions is considered unprofessional behavior and may result in a referral for disciplinary action for violations of the ACHE Student Code of Conduct consistent with the ACHE Student Misconduct Policy.

3. Since laboratory sessions are designed to develop the clinical and psychomotor skills necessary for success as an osteopathic physician, students are expected to attend all laboratory sessions (as outlined in the course syllabus) and all lectures tied to labs. If, for any reason, a student misses more than 10% of these required sessions for a given course, the student will receive 1% decrease in final average for each percentage missed over 10%.

   Example: A course with 20 laboratory sessions.

   A student who misses 3 laboratory sessions (15%) will receive an 5% reduction in his/her final average. A student who misses 4 laboratory sessions (20%) will receive a 10% reduction in his/her final average.
4. All simulated events, including standardized patient encounters, simulated patient encounters, and skills events are required, and an absence or tardiness will result in the loss of additional 2% of the final percentage per simulated event, or as otherwise stated by the course director.
5. This attendance policy does not override any assignments that require attendance to perform. Therefore, if a student misses an event that requires an assignment to be submitted based on the educational experience, the student will lose points for not successfully completing the assignment.
6. If a student misses an exam, he/she will receive a grade of zero. A make-up exam will only be administered on a case-by-case basis with the approval of the course director and/or the Dean of ARCOM.
7. Students considered academically "at-risk" may be held to a separate attendance policy administered by the Office of Academic Affairs.
8. Students must be physically present to receive credit for attendance. Virtual attendance of lectures does not count as in-person attendance.
9. Students must refer to the Outlook Live calendar for all course schedules and changes.
10. Students are responsible for all missed learning material/experiences.
11. As it is not possible to replicate lab experiences, faculty members are not obligated to provide makeup learning experiences.
12. There are no excused absences; however, extenuating circumstances (e.g. serious illness/injury, etc.) may be addressed on a case-by-case basis by the ARCOM Dean.
13. Absence from class to attend professional events, such as a state or national conference, may be approved on a case-by-case basis by the ARCOM Dean.
14. Absence from class due to planned events of a personal nature are not excused absences.
15. A pattern of tardiness is unacceptable. While Faculty understand there may be unavoidable instances, tardiness will not be tolerated on exam days or when guest speakers are in attendance. Admittance to the classroom may be prohibited and, in that circumstance, the student would be marked as absent.

This attendance policy will be strictly adhered to. It is expected that students will use good judgment when being absent, only doing so rarely and for legitimate or necessary reasons.

Course Faculty:

Faculty Member	Office	Phone	Email
Paul McGowan, DO	267	N/A	paul.mcgowan@achehealth.edu
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John Togami	GUEST	N/A	Jtogami@salud.unm.edu

Faculty Office Hours:
While faculty maintain an open-door policy, **it is strongly recommended that a student in need of a faculty member's time and attention reserve an appointment directly via e-mail** or telephone communication with the faculty member.

Required Course Resources:

Title	Edition	Authors	ISBN-13
Katzung's Basic and Clinical Pharmacology	16th	Katzung	978-1260463309
Harrison's Principles of Internal Medicine	21st	Jameson J Larry, Fauci Anthony, et al.	978-1264268504
Robbins and Cotran Atlas of Pathology	4th	Klatt	978-0323640183
Robbins and Cotran Pathologic Basis of Disease	10th	Kumar, Abbas, and Aster	978-0323531139
Schaechter's Mechanisms of Microbial Disease	6th	Engleberg, DiRita, and Dermody	978-1975151485

Recommended Resources:

Title	Edition	Authors	ISBN-13
Goodman and Gilman's The Pharmacological Basis of Therapeutics	14th	Brunton, Hilal-Dandan, and Knollman	978-1264258079
Pathophysiology of Heart Disease.	7th	Lilly LS	978-1975120597

Osteopathic Core Competencies:
The faculty and administration of ARCOM attest that Osteopathic Core Competencies are met in this course.

1. **Osteopathic Philosophy/Osteopathic Manipulative Medicine (OPP/OMM):** Demonstrate and apply knowledge of accepted standards in osteopathic manipulative treatment appropriate to the

specialty. Remain dedicated to life-long learning and to practice habits in osteopathic philosophy and OMM.

2. **Medical Knowledge (MK):** Demonstrate and apply knowledge of accepted standards of clinical medicine in the respective area; remain current with new developments in medicine and participate in life-long learning activities.
3. **Patient Care (PC):** Demonstrate the ability to effectively treat patients and provide medical care that incorporates the osteopathic philosophy, patient empathy, awareness of behavioral issues, the incorporation of preventive medicine and health promotion.
4. **Interpersonal and Communication Skills (ICS):** Demonstrate interpersonal and communication skills that enable a physician to establish and maintain professional relationships with patients, families, and other members of health care teams.
5. **Professionalism (PRO):** Uphold the Osteopathic Oath in the conduct of one's professional activities that promotes advocacy of patient welfare, adherence to ethical principles, and collaboration with health professionals, life-long learning, and sensitivity to a diverse patient population; be cognizant of physical and mental health in order to effectively care for patients.
6. **Practice-Based Learning and Improvement (PBL):** Demonstrate the ability to critically evaluate methods of clinical practice; integrate evidence-based medicine into patient care; show an understanding of research methods; improve patient care practices.
7. **Systems-Based Practice (SBP):** Demonstrate an understanding of health care delivery systems; provide effective and qualitative patient care with the system; and practice cost effective medicine.

Grading Information:

Grading point values and scale are consistent with policies outlined in the ARCOM Student Handbook & Academic Catalog. Students will receive a numerical grade (percentage) at the end of the course with 70% or greater required to pass.

Grade Determination and Scheduled Assignments:

Date	Assessment (CC)	Percentage of Final Grade
Monday, August 5, 2024 @8:30 AM - 10:30 AM	Exam #1	**9.20%**
Monday, August 26, 2024 @8:30 AM - 10:30 AM	Exam #2	**16.00%**
Monday, September 23, 2024 @8:30 AM - 11:30 AM	Exam #3	**21.40%**
Friday, October 18, 2024 @8:30 AM - 11:30 AM	Exam #4	**20.60%**
Monday, November 11, 2024 @8:30 AM - 11:30 AM	Exam #5	**15.30%**
Tuesday, December 10, 2024 @8:30 AM - 11:30 AM	Exam #6	**17.60%**
Total		**100%**

Examinations:
There will be a total of 6 written summative examinations. Timing of the six exams will be determined by at least 85 seconds/item, and students will be informed of the total number of items on the exam in advance by the course director.

Make-up Examinations:
Should a student have an excused absence on an examination day and need to take a make-up examination, the make-up exam will cover the same material as the originally scheduled exam but may be of a different format at the course directors' discretion. Said formats include fill in the blank, short answer, true/false, essay, oral, matching, and multiple choice. Multiple formats may also be employed for a single make-up examination.

If a student misses an examination but does not have an excused absence, that student will receive a zero (0) grade for the missed exam.

If a student misses an examination and does not provide a doctor's note by 5:00 pm the day of the exam, that student will receive a zero (0) grade for the missed exam.

A student is not permitted more than one excused exam/course, per the ARCOM Student Handbook.

TBL Module Assignments:
Individual readiness assurance tests (iRAT) and team readiness assurance tests (tRAT) assignments will be given as part of the BECOM-3 TBL modules. **Content from the TBL modules is testable on the subsequent BECOM exams.** The purpose of the TBL modules in BECOM 3 is to allow the students, via small groups, to employ content learned to understand core concepts further and apply said knowledge to some clinical scenarios. It is expected that a greater understanding of course content will be attained through collegial discussions with students and faculty. iRATs while not graded, are considered individual assignments. Any collaboration amongst students, or use of any reference type material during the iRATs, will be considered cheating and dealt with according to the ACHE Policy Manual and Code of Student Conduct.

Course Remediation:
Students who do not pass the course, and are approved for remediation, will take a remediation exam covering only those exam blocks the student did not initially pass.

Course content, sequencing, grading, and examination policies are subject to change by administration with the approval the Curriculum Committee. Students will be given advanced notice of any substantive changes by email and the ARCOM portal.

Biomedical Essentials of Comprehensive Osteopathic Medicine-3 Course Schedule:
Refer to the OUTLOOK Student Calendar for official (up to date) schedule

Day	Date	Time	Session #	Title	Instructor
Tue	Jul 30	9 AM	0	Introduction to BECOM3	P. McGowan/ Yoakum
Tue	Jul 30	10 AM	1	Intro to Pharmacology: Drug Discovery, Development & Regulation - *Virtual TEAMS*	*Harris
Tue	Jul 30	11 AM	2	Pharmacodynamics & Drug Receptors - *Virtual TEAMS*	*Harris

Tue	Jul 30	1 PM	3	Pharmacokinetics: Absorptions, Distribution, Time Course of Drug Action - *Virtual TEAMS*	*Harris
Wed	Jul 31	10 AM	4	Pharmacokinetics: Absorptions, Distribution, Metabolism & Excretion - *Virtual TEAMS*	*Harris
Thu	Aug 1	10 AM	5	Pharmacogenomics	*Harris
Thu	Aug 1	11 AM	6	Introduction to Autonomic Nervous System	*Harris
Thu	Aug 1	1 PM	7	Pathology Perspective of Inflammation	Nagra
Fri	Aug 2	9 AM	8	Pharmacology of Parasympathetic/Cholinergic Drugs	*Harris
Fri	Aug 2	10 AM	9	Pharmacology of Adrenoceptor Agonists	*Harris
Fri	Aug 2	11 AM	10	Pharmacology of Adrenoceptor Antagonist & Sympathetic Drugs	*Harris
Fri	Aug 2	1 PM	11	Mechanisms of Cell Injury & Death	Ree
Fri	Aug 2	2 PM	12	Cell Response to Injury & Tissue Repair	Ree
Mon	Aug 5	8:30 AM		**BECOM3 Exam# 1**	
Tue	Aug 6	1 PM	13	Pathology of Red Cell Disorders I	*L.Ziegler
Tue	Aug 6	2 PM	14	Pathology of Red Cell Disorders II	*L.Ziegler
Tue	Aug 6	3 PM	15	Pathology of Red Cell Disorders III	*L.Ziegler
Wed	Aug 7	9 AM	16	Pathology of Red Cell Disorders IV	*L.Ziegler
Thu	Aug 8	10 AM	17	G6PD/Hemolytic Anemia/Pharmacological Management	TBD Pharm
Thu	Aug 8	11 AM	18	Malaria & Tickborne Illnesses I	P. McGowan
Thu	Aug 8	1 PM	19	Malaria & Tickborne Illnesses II	P. McGowan
Fri	Aug 9	1 PM	20	Hematology of White Cell Disorders	P. McGowan
Fri	Aug 9	2 PM	21	Pathology of White Cell Disorders I	Nagra
Mon	Aug 12	9 AM	22	Pathology of White Cell Disorders II	Nagra
Mon	Aug 12	10 AM	23	Hematology White Cell Disorders III	Nagra
Tue	Aug 13	11 AM	24	EBV/CMV Infections, EBV-Related B-Cell Neoplasms, Lymphoproliferative Disease, & Amyloidosis	P. McGowan
Tue	Aug 13	1 PM	25	Anti-Herpes Group Pharmacologic Management	*C. Pineda
Tue	Aug 13	2 PM	26	Pathology of Thymic & Splenic Disorders	Nagra
Wed	Aug 14	8 AM	27	Fever & SIRS/Sepsis I (*Asynchronous*)	J. McGowan
Thu	Aug 15	11 AM	28	Fever & SIRS/Sepsis II	J. McGowan
Tue	Aug 20	10 AM	29	Pathology of Platelet & Coagulation Disorders I	Nagra
Tue	Aug 20	11 AM	30	Pathology of Platelet & Coagulation Disorders II	Nagra
Tue	Aug 20	1 PM	31	Pathology of Platelet & Coagulation Disorders III	Nagra
Thu	Aug 22	10 AM	32	Pharmacology of Hemostasis, Anticoagulants, & Thrombolytics I	*Togami
Thu	Aug 22	11 AM	33	Pharmacology of Hemostasis, Anticoagulants, & Thrombolytics II	*Togami
Thu	Aug 22	1 PM	34	TBL: Hematology (Hemostasis) Disorders (Path/Pharm)	Nagra
			35		
			36		
Mon	Aug 26	8:30 AM		**BECOM3 Exam# 2**	

Tue	Aug 27	10 AM	37	Introduction to Cardiac Pathology I	Nagra
Tue	Aug 27	11 AM	38	Introduction to Cardiac Pathology II	Nagra
Tue	Aug 27	1 PM	39	Introduction to Cardiac Pathology III	Nagra
Thu	Aug 29	1 PM	40	ECG: Chamber Enlargement	*L.Ziegler
Thu	Aug 29	2 PM	41	ECG: Supraventricular & Ventricular Dysrhythmias, Conduction Abnormalities: Bundle Branch & AV Blocks	*L.Ziegler
Fri	Aug 30	1 PM	42	Antiarrhythmic Agents I-*Virtual TEAMS*	*Koka
Fri	Aug 30	2 PM	43	Antiarrhythmic Agents II-*Virtual TEAMS*	*Koka
Tue	Sep 3	9 AM	44	Ischemic Heart Disease I	*Adjei
Tue	Sep 3	10 AM	45	Ischemic Heart Disease II	*Adjei
Tue	Sep 3	11 AM	46	Treatment of Angina & Coronary Artery Disease	*Adjei
Thu	Sep 5	10 AM	47	Atherosclerosis, Vascular Damage & Thrombosis	Rojas
Thu	Sep 5	11 AM	48	Pharmacologic Treatment of Dyslipidemias-*Virtual TEAMS*	*Koka
Thu	Sep 5	1 PM	49	Vasodilators & Drugs Used to Treat Angina-*Virtual TEAMS*	*Koka
Fri	Sep 6	10 AM	50	Pediatric Cardiology I: Transition from Fetal Circulation to Adult Circulation & the Pathophysiology of Congenital Heart Lesions	Nassri
Fri	Sep 6	11 AM	51	Pediatric Cardiology II: Acquired Heart Disease, SVT, & CHF in the Pediatric Patient	Nassri
Tue	Sep 10	10 AM	52	Introduction to Vascular Pathology I	P. McGowan
Tue	Sep 10	11 AM	53	Introduction to Vascular Pathology II	P. McGowan
Tue	Sep 10	1 PM	54 55 56	TBL: Cardiovascular Disorders	Nagra
Wed	Sep 11	9 AM	57	General Valvular Disease I	*Adjei
Wed	Sep 11	10 AM	58	General Valvular Disease II	*Adjei
Thu	Sep 12	8 AM	59	Pathophysiology of Hypertension	Akins
Thu	Sep 12	9 AM	60	Antihypertensive Drugs I-*Virtual TEAMS*	*Koka
Thu	Sep 12	10 AM	61	Antihypertensive Drugs II-*Virtual TEAMS*	*Koka
Mon	Sep 16	10 AM	62	Acute & Chronic Heart Failure I	*Adjei
Tue	Sep 17	10 AM	63	Acute & Chronic Heart Failure II	*Adjei
Tue	Sep 17	11 AM	64	Drugs Used in Heart Failure	*Shumate
Tue	Sep 17	1 PM	65	Diuretic Agents-*Virtual TEAMS*	*Koka
Wed	Sep 18	9 AM	66	Infective Endocarditis/Myocarditis/Pericarditis/ Endovascular Infections I	P. McGowan
Wed	Sep 18	10 AM	67	Infective Endocarditis/Myocarditis/Pericarditis/ Endovascular Infections II	P. McGowan
Mon	Sep 23	8:30 AM		**BECOM3 Exam #3**	
Tue	Sep 24	1 PM	68	Upper Respiratory Tract Infections I (*Asynchronous*)	J. McGowan
Wed	Sep 25	9 AM	69	Upper Respiratory Tract Infections II	J. McGowan
Thu	Sep 26	10 AM	70	Introduction to Lung Pathology I	Nagra

Thu	Sep 26	11 AM	71	Introduction to Lung Pathology II	Nagra
Thu	Sep 26	1 PM	72	Introduction to Lung Pathology III	Nagra
Thu	Sep 26	2 PM	73	Pulmonary Pathology - Obstructive I	A.Ziegler
Thu	Sep 26	3 PM	74	Pulmonary Pathology - Obstructive II	A.Ziegler
Wed	Oct 2	9 AM	75	Pulmonary Pathology - Restrictive I	A.Ziegler
Wed	Oct 2	10 AM	76	Pulmonary Pathology - Restrictive II	A.Ziegler
Thu	Oct 3	9 AM	77	Diffuse Pulmonary Hemorrhage, Pulmonary Granulomatosis Syndromes, Pulmonary Hypertension & Pulmonary Emboli-Clinical Considerations I	A.Ziegler
Thu	Oct 3	10 AM	78	Diffuse Pulmonary Hemorrhage, Pulmonary Granulomatosis Syndromes, Pulmonary Hypertension & Pulmonary Emboli-Clinical Considerations II	A.Ziegler
Thu	Oct 3	11 AM	79	Drugs Used for the Management of Asthma & COPD-*Virtual TEAMS*	*Koka
Fri	Oct 4	9 AM	80	TBL: Pathology of Obstructive & Restrictive Lung Diseases	A. Ziegler/ *L.Ziegler
			81		
			82		
Mon	Oct 7	9 AM	83	Community-Acquired (CAP) & Atypical Pneumonia (Overview)	A. Ziegler
Mon	Oct 7	10 AM	84	Cystic Fibrosis	Nassri
Tue	Oct 8	9 AM	85	Typical & Atypical Mycobacterial Pulmonary Infections	*H. Bell
Tue	Oct 8	10 AM	86	Pediatric Respiratory Infections	Nassri
Tue	Oct 8	1 PM	87	Pharmacology of Cell-Wall Synthesis & Membrane Inhibitors	*L. Pineda
Tue	Oct 8	2 PM	88	Pharmacology of Nucleic Acid & Protein Synthesis Inhibitors	*L. Pineda
Wed	Oct 9	9 AM	89	Pharmacology of Anti-Mycobacterial Drugs	TBD Pharm
Wed	Oct 9	10 AM	90	Pneumonia in Special Populations & Pneumonia Complications I	A. Ziegler
Thu	Oct 10	10 AM	91	Pneumonia in Special Populations & Pneumonia Complications II	A. Ziegler
Thu	Oct 10	11 AM	92	Pharmacology of Anti-Fungal Drugs	TBD Pharm
Thu	Oct 10	1 PM	93	Lung Neoplasia	P. McGowan
Thu	Oct 10	2 PM	94	Basic Principles for Cancer Chemotherapy	White
Tue	Oct 15	8 AM	95	Anticancer Drugs I	White
Tue	Oct 15	9 AM	96	Anticancer Drugs II	White
Tue	Oct 15	10 AM	97	Pharmacotherapy of Pulmonary Neoplasms	TBD Pharm
Fri	Oct 18	8:30 AM		**BECOM3 Exam #4**	
Mon	Oct 21	9 AM	98	Renal Pathology I	Nagra
Tue	Oct 22	9 AM	99	Renal Pathology II	Nagra
Tue	Oct 22	10 AM	100	Renal Pathology III	Nagra
Tue	Oct 22	11 AM	101	Renal Pathology: Glomerular Lesions Associated with Systemic Disease & Tubulointerstitial Disease	Nagra

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Thu	Oct 24	8 AM	102	Upper & Lower Urinary Tract Infections I (*Asynchronous*)	J. McGowan
Thu	Oct 24	9 AM	103 104 105	TBL: Pathology of Renal Disorders	Nagra
Fri	Oct 25	9 AM	106	Upper & Lower Urinary Tract Infections II	J. McGowan
Fri	Oct 25	10 AM	107	Genitourinary Neoplasia	P. McGowan
Fri	Oct 25	11 AM	108	Urinary Bladder Disorders	P. McGowan
Tue	Oct 29	9 AM	109	Inflammatory & Neoplastic Disorders of Prostate & Testes-Pathology	P. McGowan
Tue	Oct 29	10 AM	110	Pathology of Benign & Neoplastic Disorders of Ovaries & Uterus I	P. McGowan
Tue	Oct 29	11 AM	111	Pathology of Benign & Neoplastic Disorders of Ovaries & Uterus II	P. McGowan
Tue	Oct 29	1 PM	112	Benign & Malignant Disorders of Ovaries & Uterus; HPV & Carcinoma of Cervix - Clinical Considerations I	*T. Bell
Tue	Oct 29	2 PM	113	Benign & Malignant Disorders of Ovaries & Uterus; HPV & Carcinoma of Cervix - Clinical Considerations II	*T. Bell
Thu	Oct 31	1 PM	114 115 116	TBL: Path/Pharm of Male & Female Reporductive Tract Disorders	P. McGowan
Tue	Nov 5	10 AM	117	Non-Neoplastic Disorders of the Breast	Gooden
Tue	Nov 5	11 AM	118	Breast Neoplasms	P. McGowan
Tue	Nov 5	1 PM	119	Sexually-Transmitted Infections (STIs)	P. McGowan
Wed	Nov 6	10 AM	120	Non-Sexually Transmitted Infections (NSTI), Listeria Monocytogenes & Strep Agalactiac Group B in the Pregnant Patient	P. McGowan
Thu	Nov 7	10 AM	121	Human Immunodeficiency Virus (HIV)/Acquired Immunodeficiency Syndrome (AIDS)	*H. Bell
Thu	Nov 7	11 AM	122	AIDS: Opportunistic & Viral Infections/Cancer	*H. Bell
Thu	Nov 7	1 PM	123	Pharmacology of Anti-Retroviral Therapy Drugs (ART)	*L. Pineda
Mon	Nov 11	8:30 AM		**BECOM3 Exam #5**	
Tue	Nov 12	8 AM	124	Menopause I	Jimenez
Tue	Nov 12	9 AM	125	Menopause II	Jimenez
Tue	Nov 12	1 PM	126	PCOS	Rojas
Tue	Nov 12	2 PM	127	Gestational Diabetes & Hypertension	Rojas
Wed	Nov 13	9 AM	128	HELLP, Eclampsia & Preeclampsia	Rojas
Thu	Nov 14	9 AM	129	Placental Abnormalities	Rojas
Thu	Nov 14	10 AM	130	Missed & Spontaneous Abortions	Rojas
Thu	Nov 14	11 AM	131	Toxicology & Teratogenicity	*Koka
Thu	Nov 14	1 PM	132	Perinatal/Pediatric/Geriatric Pharmacology	TBD Pharm
Thu	Nov 14	2 PM	133	Congenital & Perinatal Infections (Overview)	Nassri
Wed	Nov 20	9 AM	134	Endocrine Pathology: Hyper-and Hypo Pituitarism	P. McGowan

Thu	Nov 21	9 AM	135	Endocrine Pharmacology I: Growth Hormone, Prolactin, Gonadotropins, ACTH, TSH - *Virtual TEAMS*	*Koka
Thu	Nov 21	10 AM	136	Endrocrine Pharmacology II: Hypothalamus & Posterior Pituitary	*Koka
Thu	Nov 21	1 PM	137	Endocrine Pharmacology III: Gonadal Hormones - *Virtual TEAMS*	*Koka
Thu	Nov 21	2 PM	138	Endocrine Pharmacology IV - *Virtual TEAMS*	*Koka
Mon	Nov 25	8 AM	139	Hyper-and Hypo Thyroidism, Autoimmune Thyroiditis, & Thyroid Neoplasms	P. McGowan
Mon	Nov 25	9 AM	140	Drugs for Thyroid Disorders	*Koka
Tue	Nov 26	9 AM	141	Renal Pathology, Secondary to Endocrine	P. McGowan
Tue	Nov 26	10 AM	142	Hyper-and Hypo-Adrenalism	P. McGowan
Tue	Nov 26	11 AM	143	Endocrine Neoplasms	P. McGowan
Tue	Nov 26	1 PM	144	Adolescent Development, Tanner Staging, & Associated Endocrine Changes	Nassri
Mon	Dec 2	9 AM	145	Drugs to Treat Disorders of Adrenal Cortex	TBD Pharm
Mon	Dec 2	10 AM	146	Pathology of Endocrine Pancreas I	P. McGowan
Mon	Dec 2	11 AM	147	Pathology of Endocrine Pancreas II	P. McGowan
Tue	Dec 3	8 AM	148	Antidiabetic Drugs	*Conklin
Tue	Dec 3	9 AM	149	Calcium Homeostasis	P. McGowan
Tue	Dec 3	10 AM	150	Drugs to Treat Disorders of Parathyroid and Ca^{+2} and PO_4 Homeostasis	TBD Pham
Tue	Dec 3	1 PM	151 152 153	TBL: Pathology & Pharmacology of Endocrine Pancreas & Parathyroid Disorder/Dysfunction	P. McGowan
Tue	Dec 10	8:30 AM		**BECOM3 Exam #6**	
				Peer-to-Peer Evaluation Due Date	

ARKANSAS COLLEGE OF OSTEOPATHIC MEDICINE

Appendix:

BECOM3 Fall 2024 Learning Objectives with *Core Competency:*

(Any changes to the below learning objectives will reflect on lecturers' presentation slide)

0. Introduction to BECOM-3; *MK*

0.1 Introduction to the BECOM 3 course, how the course is structured, what is different this year, etc.

0.2 Basic introduction to pharmacology, pathophysiology, & immuno/micro blocks.

1. Intro to Pharmacology: Drug Discovery, Development & Regulation; *MK*

1.1. Describe the terms pharmacology, pharmacokinetics, pharmacodynamics, therapeutics, pharmacogenetics and toxicology.

1.2. Discuss the process of drug development and regulation – preclinical studies, Phase I – III clinical studies, Phase IV post-marketing surveillance, IND and NDA applications.

1.3. Describe the terms agonists, antagonists, receptors, inverse agonists, using examples.

2. Pharmacodynamics & Drug Receptors; *MK*

2.1. Discuss the different types of drug receptors, signaling mechanisms and cellular responses.

2.2. Describe the relationship between drug concentrations and responses.

2.3. Describe how drug receptors are important in producing therapeutic or toxic responses to drugs.

3. Pharmacokinetics: Absorptions, Distribution, Time Course of Drug Action; *MK*

3.1. Describe the pharmacokinetic processes of Absorption and Distribution of Drugs.

3.2. Discuss concepts of drug dose, target (or therapeutic) concentrations and factors that affect them.

3.3. Discuss Bioavailability, Half-Life, Volume of Distribution and Clearance, and how they relate to concentrations in blood.

4. Pharmacokinetics: Absorptions, Distribution, Metabolism & Excretion; *MK*

4.1. Describe the terms biotransformation, metabolism, and excretion/elimination.

4.2. Discuss the processes of Phase I and Phase II drug metabolism.

4.3. Describe the terms Potency, Efficacy, Loading Dose and Maintenance Dose for Drugs, and discuss how these concepts apply to rational drug dosing regimens.

4.4. Discuss the terms ED50, LD50/TD50 and Therapeutic Window and how they affect therapeutic dosing strategies.

5. Pharmacogenomics; *MK*

5.1. Describe the terms pharmacogenetics and pharmacogenomics.

5.2. Discuss genetic variations in drug metabolizing enzymes (pharmacokinetics).

5.3. Discuss genetic variations in drug targets (pharmacodynamics).

5.4. Discuss genetic variations in drug pathways.

5.5. Describe the term Epigenetics and how it is involved in ADME genes.

6. Introduction to the Autonomic Nervous System; *MK*

6.1. Recognize the anatomical organization and functions of the ANS.

6.2. Describe the steps in the synthesis, storage, release, and termination of action of the major autonomic transmitters.

6.3. Describe the physiological effects of neurotransmitters in the sympathetic and parasympathetic nervous systems, mentioning the target receptors.

6.4. List the pre- and post-synaptic receptors and excitatory and inhibitory neurotransmitters involved in the ANS.

6.5. List the determinants of blood pressure and describe the baroreceptor reflex response for the following perturbations: (1) blood loss, (2) administration of a vasodilator, (3) a vasoconstrictor, (4) a cardiac stimulant, (5) a cardiac depressant.

7. Pathology Perspective of Inflammation; *MK*

7.1. Describe the morphological patterns of the various types of acute inflammation (serous, fibrinous, purulent, and ulcerative).
7.2. Discuss the various outcomes of acute inflammation.
7.3. List causes and morphological changes of chronic inflammation.
7.4. Discuss the role of macrophages in chronic inflammation and describe the various pathways involved in macrophage activation.
7.5. Describe the role of lymphocytes, eosinophils, and mast cells in chronic inflammation.
7.6. Discuss the causes and morphological features of granulomatous inflammation.

8. Pharmacology of Parasympathetic/Cholinergic Drugs; *MK*

8.1. Describe the parasympathetic nervous system, including neurotransmitters, their synthesis, and cholinergic receptors.
8.2. List clinically used drugs that are agonists at the cholinergic receptors; discuss mechanisms of action, therapeutic uses, adverse effects, and drug interactions.
8.3. List clinically used drugs that are cholinesterase inhibitors; discuss mechanisms of action, therapeutic uses, adverse effects, and drug interactions.
8.4. List clinically used drugs that are cholinergic antagonists; discuss mechanisms of action, therapeutic uses, adverse effects, and drug interactions.

9. Pharmacology of Adrenoceptor Agonists; *MK*

9.1. List the receptors and neurotransmitters involved in the SNS and target organs.
9.2. List clinically used drugs that are agonists, and sympathomimetics at the adrenergic receptors.
9.3. Discuss the pharmacology of alpha- and beta-agonist and sympathetic drugs including mechanism of action, adverse effects, clinical uses, and contraindications.

10. Pharmacology of Adrenoceptor Antagonists & Sympathetic Drugs; *MK*

10.1. List the receptors and neurotransmitters involved in the SNS and target organs.
10.2. List clinically used drugs that are antagonists at alpha- and beta-adrenergic receptors.
10.3. Discuss the pharmacology of alpha- and beta-antagonist drugs including mechanism of action, adverse effects, clinical uses, and contraindications.

11. Mechanisms of Cell Injury & Death; *MK*

11.1. Describe the stages of cell injury (reversible, point of no return and irreversible damage) and the morphological changes in each stage
11.2. Compare and contrast cellular death by apoptosis and necrosis
11.3. Describe the cytoplasmic and nuclear morphological changes of cell necrosis
11.4. Explain the fate of necrotic cells and how that can lead to degenerative calcification
11.5. Describe the morphological patters of tissue necrosis (coagulative, liquefactive, gangrenous, caseous, fat and fibrinoid necrosis)
11.6. Provide example how leaked cell content during necrosis can be used as biomarker for specific damage.
11.7. Describe the role of caspases in apoptosis and the clearance of the apoptotic cells
11.8. Compare and contrast intrinsic and extrinsic apoptotic pathways
11.9. Describe the cellular morphological changes in apoptosis
11.10. Define hypertrophy, hyperplasia, metaplasia, and atrophy
11.11. Discuss the impact of pathological hypertrophy on cardiac myocyte perfusion and susceptibility to injury
11.12. Explain the effects of short-term hypoxia on acute survival proteins.
11.13. Discuss the energy requirements of the cancer cells and why O2 therapydoes not increase cancer growth.
11.14. Describe the detrimental impacts ofpersistent hypoxia on cell functionsand survival.
11.15. Discuss the clinical relevance of ischemia reperfusion injury and therole of ROS in such

injury.

11.16. Define free oxidative radicals and provide examples of abnormal conditions (including aging, exposure to radiation, toxins, inflammation, and ischemia reperfusion injury) that result in accumulation of oxidative radicals.
11.17. Describe the normal and inflammation or NO-dependent cascades for generating ROS.
11.18. Discuss the impacts of highly reactive components such as hydroxyl radical, hypochlorite and peroxynitrite in cell injury.
11.19. Provide examples of endogenous andexogenous free radicals "scavengers".
11.20. Describe the causes and consequences of protein misfolding, endoplasmic stress, DNA damage and membrane permeability defects in ROS-mediated cell injury.

12. Cell Response to Injury & Tissue Repair; *MK*

12.1. Describe the various abnormal intra- cellular accumulations (fatty changes, cholesterol deposition, proteins, glycogen, and pigments).
12.2. Compare the etiologies of dystrophic and metastatic tissue calcifications; describe the morphological changes associated with pathologicalcalcification.
12.3. Discuss the molecular processes involved with cellular aging.
12.4. Compare the regeneration abilities of labile, stable, and permanent tissues.
12.5. List and discuss the steps involved intissue repair by scarring.
12.6. Discuss the molecular signaling involved in angiogenesis and how targeting such signals can be therapeutically used.
12.7. Describe the morphological changes observed in connective tissue deposition during various stages.

13. Pathology of Red Cell Disorders I; *MK*

13.1. Distinguish between the predisposing factors, pathogenesis, morphologic appearance, and complications of common anemias.
13.2. Recognize the predisposing factors, pathogenesis, morphologic appearance, and complications of hemolytic anemias.
13.3. Demonstrate the predisposing factors, pathogenesis, morphologic appearance, and complications of anemias due to diminished erythropoiesis.
13.4. Interpret the predisposing factors, pathogenesis, morphologic appearance, and complications of polycythemias.
13.5. Explain the contribution of iron to red blood cell development and function.
13.6. Describe behaviors and conditions that lead to iron deficiency.
13.7. Contrast the morphology and laboratory parameters of normal red cells versus iron deficient cells, and other types of anemia.
13.8. Discuss the pathophysiology of hereditary spherocytosis.
13.9. Discuss the pathophysiology of anemias of chronic diseases or anemia of inflammatory response and the contribution of hepcidin to this condition.
13.10. Identify the microanatomies of pathologic RBC forms with examples ("teardrop cell" or "helmet cell"), associated pathology and key clinical features.
13.11. Outline treatment options for iron deficiency anemia and anemia of chronic disease.
13.12. Describe sideroblastic anemia, along with its lab findings and pathophysiology.

14. Pathology of Red Cell Disorders II; *MK*

14.1. *See previous session*.

15. Pathology of Red Cell disorders III; *MK*

15.1. *See previous session.*

16. Pathology of Red Cell disorders IV; *MK*

16.1. *See previous session.*

17. **G6PD/Hemolytic Anemia/Pharmacological Management;** *MK*
    - 17.1. Describe the primary site of action of the drugs used in the treatment of Malaria.
    - 17.2. Describe the mechanism of action ofcommonly prescribed drugs in Malaria.
    - 17.3. Describe the pharmacokinetic and pharmacodynamic properties of antimalarial drugs.
    - 17.4. Discuss how certain antimalarial drugs can induce serious hemolyticevents in G6PD deficient patients.
    - 17.5. Discuss why hemolytic anemia is more common in G6PD deficient men compared to women when treated with certain drugs.
    - 17.6. Discuss why red blood cells are more susceptible to certain drugs compared to other cells in the body in the G6PD deficient individuals.
    - 17.7. List the drugs which should be avoided in G6PD deficient patients.
    - 17.8. Discuss the importance of pharmacogenomics screening in the treatment of Malaria.
18. **Malaria and Tickborne Illness I;** *MK*
    - 18.1. Compare and contrast organisms that invade RBCs, including their presentation and symptoms, diagnosis, and basic treatment.
    - 18.2. Discuss the complication of hemolytic anemia that can develop with organisms that invade RBCs.
19. **Malaria and Tickborne Illness II;** *MK*
    - 19.1. Identify underlying diseases that may confer survival advantages against malaria.
    - 19.2. Discuss malaria prophylaxis and therapy.
    - 19.3. Compare and contrast tick-borne infections, including organism, presentation and symptoms, diagnosis, complication, and basic treatment.
20. **Hematology of White Cell Disorders I;** *MK*
    - 20.1. Describe the maturational pathway of WBCs, naming and describing the morphology of the cells present at each stage for each WBC type.
    - 20.2. Identify normal hematological cells as well as abnormal cells with key characteristics, and what they mean, on peripheral blood smear.
    - 20.3. Define leukocytosis.
    - 20.4. Describe and contrast common causes for neutrophilia, lymphocytosis, monocytosis, eosinophilia, and basophilia.
    - 20.5. Define and contrast left shift, leukemoid, and leukoerythroblastic reactions.
    - 20.6. Explain the causes and mechanisms that lead to different subtypes of leukopenia, specifically neutropenia and lymphopenia.
    - 20.7. Describe selected conditions related to WBC pathology.
21. **Pathology of White Cell Disorders I;** *MK*I
    - 21.1. Illustrate the predisposing factors, pathogenesis, morphologic appearance, and complications of leukopenia.
    - 21.2. Recognize the predisposing factors, pathogenesis, morphologic appearance, and complications of leukocytosis.
    - 21.3. Interpret the predisposing factors, pathogenesis, morphologic appearance, and complications of lymphadenitis.
    - 21.4. Discuss the predisposing factors, pathogenesis, morphologic appearance, and complications of histiocytosis.
    - 21.5. Describe the features that characterize cases of acute leukemia and lymphoma.
22. **Pathology of White Cell Disorders II;** *MK*
    - 22.1. Illustrate the predisposing factors, pathogenesis, morphologic appearance, and complications ofprecursor B-cell and T-cell neoplasms.
    - 22.2. Explain the predisposing factors, pathogenesis, morphologic appearance, and complications ofperipheral B-cell neoplasms.

22.3. Compare the predisposing factors,pathogenesis, morphologic appearance, and complications of plasma cell neoplasms with other lymphoid neoplasms.
22.4. Recognize the predisposing factors,pathogenesis, morphologic appearance, and complications of peripheral T-cell and NK-cell neoplasms.
22.5. Differentiate the predisposing factors, pathogenesis, morphologic appearance, and complications of Hodgkin Lymphoma compared to non-Hodgkin Lymphoma.
22.6. Demonstrate how understanding the molecular pathogenesis of leukemia and lymphoma can suggest targets for therapeutic intervention.

23. Pathology of White Cell Disorders III; *MK*
23.1. Recognize the predisposing factors, pathogenesis, morphologic appearance, and complications of acute myeloid leukemia.
23.2. Illustrate the predisposing factors, pathogenesis, morphologic appearance, and complications of myeloproliferative disorders.
23.3. Identify the morphologic appearance of a blast and be able to distinguish acute myeloid leukemia from chronic myelogenous leukemia.
23.4. Recognize the predisposing factors,pathogenesis, morphologic appearance, and complications of myelodysplastic syndromes.

24. EBV/CMV Infections, EBV-Related B-Cell Neoplasms, Lymphoproliferative Disease, & Amyloidosis; *MK*
24.1. Discuss epidemiology, clinical presentation, and diagnosis of EBV/CMV infections in normal and immunocompromised hosts.
24.2. Explain and outline what other viruses also fit into the Herpesviridae group (HSV 1&2, Varicella, and HHV 6-8).
24.3. Discuss the role EBV may play in B cell neoplasms, oral hairy leukoplakia, nasopharyngeal carcinoma, and lymphoproliferative diseases.
24.4. Define “B symptoms” and what disease processes they are found in along with the variety of illnesses they can mimic.
24.5. Compare and contrast the different types of amyloidosis.

25. Anti-Herpes Group Pharmacologic Management; *MK*
25.1. Describe the antiviral therapies active against various Herpes-group viruses, along with their major indications, mechanisms of action, pharmacokinetics, adverse effects, drug resistance and drug interactions; discuss for what Herpes viruses there are very little therapeutic options.
25.2. Discuss the pharmacology of antivirals for treatment of HSV infections, describing their mechanism of action, adverse effects, clinical uses, and contraindications.
25.3. Discuss the pharmacology of antivirals for treatment of CMV infections, describing their mechanism of action, adverse effects, clinical uses, and contraindications.

26. Pathology of Thymic & Splenic Disorders; *MK*
26.1. Explain how deficits of thymic development produce types of developmental disorders.
26.2. Recognize the predisposing factors, pathogenesis, morphologic appearance, and complications of thymic hyperplasia.
26.3. Compare thymoma and lymphoma and describe the clinicopathologic features of thymic neoplasms.
26.4. Describe the clinicopathologic features of congenital splenic anomalies, infarction, and rupture.
26.5. Recognize the predisposing factors, pathogenesis, morphologic appearance, and complications of splenomegaly.

27. Fever & SIRS/Sepsis; *MK*
27.1. Compare and contrast, including clinical presentation, physical exam findings, and diagnostic modalities and findings in a patient with, systemic inflammatory response syndrome (SIRS),

sepsis, severe sepsis, septicemia, bacteremia, septic shock, multi-organ dysfunction syndrome (MODS).

27.2. Describe the broad etiology of systemic inflammatory response syndrome (SIRS) and include infectious and noninfectious conditions.

27.3. Describe the inflammatory cascade and the complex process that involves humoral and cellular responses, complement, and cytokine cascades.

27.4. Describe the host response to infectious stimuli and role of innate immune response, including a description of the immunocompromised groups that fare worse with sepsis.

27.5. Explain the treatment and management of patient's with these conditions.

28. Fever & SIRS/Sepsis Interactive Session; *MK*

28.1. Compare and contrast, including clinical presentation, physical exam findings, and diagnostic modalities and findings in a patient with, systemic inflammatory response syndrome (SIRS), sepsis, severe sepsis, septicemia, bacteremia, septic shock, multi-organ dysfunction syndrome (MODS).

28.2. Describe the broad etiology of systemic inflammatory response syndrome (SIRS) and include infectious and noninfectious conditions.

28.3. Describe the inflammatory cascade and the complex process that involves humoral and cellular responses, complement, and cytokine cascades.

28.4. Describe the host response to infectious stimuli and role of innate immune response, including a description of the immunocompromised groups that fare worse with sepsis.

28.5. Explain the treatment and management of patient's with these conditions.

29. Pathology of Platelet & Coagulation Disorders I; *MK*

29.1. Differentiate the manifestations of hemorrhage: hematoma, petechiae, purpura, ecchymoses.

29.2. Recognize the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of bleeding disorders caused by vessel wall abnormalities.

29.3. Illustrate the predisposing factors, pathogenesis, clinicopathologic morphologic and complications of platelet quantity.

29.4. Describe the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of platelet function.

30. Pathology of Platelet & Coagulation Disorders II; *MK*

30.1. Compare the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of abnormalities of clotting factors.

30.2. Recognize the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of disseminated intravascular coagulation.

30.3. Examine the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of transfusions.

31. Pathology of Platelet & Coagulation Disorders III; *MK*

31.1. *See previous session.*

32. Pharmacology of Hemostasis, Anticoagulants and Thrombolytics I; *MK*

32.1. Describe the primary site of action ofthe anticoagulant drugs prescribed to prevent thrombosis.

32.2. List the classes and the most commonly prescribed anticoagulantdrugs.

32.3. Describe the mechanism of action of each class and the most commonly prescribed anticoagulant drugs.

32.4. Describe the route of administration and dosage of most commonly prescribed anticoagulant drugs.

32.5. List and describe the specific indications and contraindications for most commonly prescribed oral and intravenous anticoagulant drugs.

32.6. List the adverse/side effects of commonly prescribed anticoagulant drugs.

32.7. Describe the pharmacokinetic properties of most commonly prescribed anticoagulant drugs in context of patient's pharmacogenomics information.
32.8. Discuss how rate of onset of anticoagulation effects and pharmacogenomics influences the choice of Warfarin.
32.9. Discuss the need for regular monitoring of anticoagulant responses to Heparin and Warfarin using a PTT and INR, respectively.
32.10. Discuss how the lack of antidote for newer oral anticoagulants increases the risk of serious bleeding.

33. Pharmacology of Hemostasis, Anticoagulants & Thrombolytics II; *MK*
33.1. Describe the primary site of action of the thrombolytic drugs.
33.2. List the most commonly prescribed thrombolytic drugs.
33.3. Describe the mechanism of action of thrombolytic drugs.
33.4. Describe the route of administration and dosage of thrombolytic drugs.
33.5. List and describe the specific indications and contraindications forthrombolytic drugs.
33.6. List the adverse/side effects of thrombolytic drugs.
33.7. Describe the pharmacokinetic properties of thrombolytic drugs.

34 – 36. TBL: Hematology (Hemostasis) disorders (Path/Pharm); *MK, PRO*
Focused application of content from sessions above within a team-based learning environment including iRAT, tRAT and GAPs. Attendance at these sessions is mandatory.

37. Introduction to Cardiac Pathology I; *MK*
37.1. Name the predisposing factors, pathogenesis, clinicpathologic appearance, and complications of congenital heart diseases.
37.2. Explain the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of heart failure.
37.3. Identify the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of heart disease.
37.4. Describe the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of hypertensive heart disease.
37.5. Discuss the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of valvular heart disease.
37.6. Recognize the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of cardiomyopathies.
37.7. Identify the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of ischemic heart disease.

38. Introduction to Cardiac Pathology II; *MK*
38.1. *See previous session*.

39. Introduction to Cardiac Pathology III; *MK*
39.1. *See previous session*.

40. ECG: Chamber Enlargement; *MK*
40.1. Define and differentiate the terms "p mitrale" and "p pulmonale".
40.2. Describe common pathophysiologic changes that lead to atrial and ventricular enlargement.
40.3. List and describe the established criteria for atrial and ventricular chamber enlargement from the electrocardiogram.
40.4. Explain how vector depolarization forces are altered in atrial and ventricular chamber enlargement and how these changes lead to specific changes on the EKG.
40.5. Given a 12-lead EKG, be able to identify right vs. left atrial and ventricular chamber enlargement.

41. ECG: Supraventricular & Ventricular Dysrhythmias, Conduction Abnormalities: Bundle Branch and AV Blocks; *MK*

41.1. Identify common physiologic and cellular mechanisms responsible for development of conduction deficits that occur within the AV node and bundle branches.
41.2. Given a 12-lead ECG or rhythm stripidentify common atrioventricular blocks including: 1st Degree, 2nd Degree (Type 1, Type 2), 3rd Degree, hemiblock and AV dissociation.
41.3. Given a 12-lead ECG identify common interventricular conduction abnormalities including: right bundle branch block, left bundle branch blocks, left fascicular blocks (anterior and posterior), bifasicular blocks, and trifascicular blocks.
41.4. Identify common physiologic and cellular mechanisms responsible for development of supraventricular and ventricular dysrhythmias.
41.5. Describe the key electrocardiographic features required to differentiate dysrhythmias that arise from supraventricular versus ventricular structures.
41.6. Describe the relative merits of rate versus rhythm control in the treatment of atrial fibrillation.
41.7. Given a 12-lead ECG or rhythm strip identify common supraventricular dysrhythmias including: atrial flutter/fibrillation, reentrant junctional and AV nodal tachyarrhythmia.
41.8. Given a 12-lead ECG or rhythm strip identify common ventricular dysrhythmias including ventricular flutter, ventricular tachycardia, and ventricular fibrillation.
41.9. Define torsade des pointes and explain the physiologic basis forgeneration of this dysrhythmia.
41.10. Explain why ventricular dysrhythmias are much more lethal than supraventricular dysrhythmias.

42. Antiarrhythmic Agents I; *MK*

42.1. Demonstrate understanding of cardiac action potential and identify the primary site of action of antiarrhythmic drugs.
42.2. List the different classes and subclasses of the antiarrhythmic drugs as per the Vaughn-Willaims classification including miscellaneous agents.
42.3. Describe the mechanism of action of commonly prescribed class I and III antiarrhythmic drugs.
42.4. List and describe the indications, adverse/side effects of class I and III antiarrhythmic drugs.
42.5. Describe the possible contraindications of antiarrhythmic drugs in the presence of heart block or congestive heart failure, and the precautions to be taken while administration of Class I and III antiarrhythmic drugs.

43. Antiarrhythmic Agents II; *MK*

43.1. Describe the primary site of action of the class II, IV, and miscellaneous antiarrhythmic drugs
43.2. List the different class II, IV, and miscellaneous antiarrhythmic drugs.
43.3. Describe the mechanism of action of commonly prescribed class II and IV antiarrhythmic drugs.
43.4. List and describe the indications, contraindications, adverse/side effects of class II, IV and miscellaneous antiarrhythmic drugs.
43.5. Describe the utility of antiarrhythmic drugs in combination with electrical cardioversion or implantable cardioverter-defibrillators and ablation procedures.

44. Ischemic Heart Disease I; *MK*

44.1. Define ischemic heart disease; correlate with atherosclerosis of the coronary arteries.
44.2. Explain the relationship between myocardial oxygen demand and delivery and myocardial ischemic disease states.
44.3. Explain how ischemic heart disease can progress while remaining entirely free of symptoms for many years.

44.4. Describe the clinical progression and correlations between ischemia and impaired relaxation (diastolic dysfunction); impaired contraction (systolic dysfunction); myocardial stunning; and myocardial hibernation.
44.5. Describe the four clinical syndromes associated with ischemic heart disease (e.g., stable angina, myocardial infarct, MI).
44.6. Describe the mechanism of stable angina; contrast the microscopic differences between exercise induced angina and unstable angina.
44.7. Describe the general mechanism ofunstable angina and specific mechanisms of plaque change (and cellular basis of plaque disruption).
44.8. Define acute coronary syndromes and correlate unstable angina and MI; differentiate acute coronary syndromes.
44.9. Differentiate two types of myocardial infarcts (e.g., STEMI, NSTEMI) and compare and contrast the ECG findings.
44.10. Describe the gross and microscopic features of acute myocardial infarction and remote myocardial infarction, and at what point gross ormicroscopic pathology appears.

45. Ischemic Heart Disease II; *MK*

45.1. Describe the histologic features of acute myocardial infarction and explain how the histologic features change from initial infarction through fibrosis.
45.2. Describe the morphology of a myocardial infarct based upon age (to simplify: evaluate the kinetic changes in morphologies in myocardial infarct, e.g., 4-12 hours;12 hours to 3 days; 3-7 days; 7-10 day; 10+ days; 8 weeks).
45.3. Describe the clinicopathologic basis of monitoring enzymes released from cardiac myocytes (CK-MB, troponin I).
45.4. Identify short term and long-term complications of myocardial infarction.
45.5. Define reperfusion of myocardial infarct; explain complications, microscopic morphology of reperfusion.
45.6. Contrast the behavior of the myocardium that has been subjectedto chronic ischemia alone from that of re-perfused myocardium following therapy for infarction.
45.7. Differentiate mechanical, structural, and electrical complications of a MI, clinicopathologically.
45.8. Identify common conduction abnormalities that develop in response to myocardial ischemic conditions (i.e. bundle branch block, AV nodal reentry).
45.9. Define and explain the mechanism of sudden cardiac death.
45.10. Define chronic ischemic heart disease.

46. Treatment of Angina & Coronary Artery Disease; *MK*

46.1. Describe the incidence and prevalence of coronary artery disease in the U.S.
46.2. Describe the generally accepted theories regarding the pathogenesis and progression of atherosclerosis.
46.3. Identify the major risk factors for development of coronary artery disease and explain how these factors are interrelated.
46.4. Describe the clinical approach to diagnosis of coronary atherosclerosis.
46.5. Describe the treatment regimens and therapies that may reduce or limit coronary atherosclerosis.
46.6. Describe common clinical presentations of angina and coronary artery disease and the typical approach to clinical management of these disorders.
46.7. Distinguish between various forms of angina and describe underlying pathophysiological differences among these anginal states.

47. Atherosclerosis, Vascular Damage & Thrombosis; *MK*

47.1. Explain how environmental factors, including elevated cholesterol and LDL complexes,

infection, and smoking, can contribute to endothelial cell injury.

47.2. Describe the positive feedback loop in which damaged endothelial cells cause further endothelial damage.

47.3. Describe the role of hypertension in the development of atherosclerotic heart disease.

47.4. Predict the local and distant consequences that are likely to follow rupture of an atherosclerotic plaque.

47.5. Describe the morphologic changes ofatherosclerosis and discuss how atrophic changes in the vessel wall may result in aneurysm formation.

47.6. Discuss the steps in thrombus formation and its predisposing factors.

47.7. Compare and contrast aortic aneurysms and aortic dissections in terms of their predisposing factors, the sites of involvement, and patient populations likely to be affected.

47.8. Describe the clinical consequences of an abdominal aortic aneurysm.

48. Pharmacologic Treatment of Dyslipidemias; *MK*

48.1. Describe the primary site of action ofthe drugs prescribed for the treatment of hyperlipidemias.

48.2. List the classes and the most prescribed drugs used in the treatment of primary and secondary Hyperlipidemias.

48.3. Describe the mechanism of action ofeach class and the most prescribed drugs used in the treatment of Hyperlipidemias.

48.4. Describe the route of administrationand dosage of antihyperlipidemic drugs.

48.5. List and describe the indications and contraindications for most commonly prescribed antihyperlipidemic drugs.

48.6. List the adverse/side effects of antihyperlipidemic drugs and discussthe interaction between these drugs and Digoxin, oral anticoagulant, and other relevant drugs.

48.7. Describe the pharmacokinetic and pharmacodynamic features of commonly prescribed antihyperlipidemic drugs.

48.8. Discuss how pharmacogenomics can influence the choice and the dose of the drug.

48.9. Discuss the nonpharmacologic management of hyperlipidemia (i.e.lifestyle modification and natural remedies).

48.10. Discuss the new National Cholesterol Education Program (NCEP) guideline for cholesterol management.

49. Vasodilators & Drugs used to Treat Angina; *MK*

49.1. Describe the primary site of action of the drugs that decrease peripheral vascular resistance or cardiac output.

49.2. List the different class and subclass of most prescribed sympathetic nervous system blockers (α- and β- blockers), centrally acting α-2 agonist, and vasodilators (calcium channel blockers, nitrates, and others).

49.3. Describe the mechanism of action of commonly prescribed drugs in each class.

49.4. Describe the route of administration and dosage of commonly prescribed drugs in each class.

49.5. List and describe the indications and contraindications for commonly prescribed drugs from each class.

49.6. Describe the pharmacokinetic properties of commonly prescribed drugs from each class.

49.7. List the adverse/side effects of commonly prescribed drugs from each class.

49.8. Discuss the use of α- and β- blockers in the treatment of Pheochromocytoma.

49.9. Discuss these drugs in population subgroups with specific needs (e.g. African Americans, diabetics, elderly patients, renal failure).

50. Pediatric Cardiology I: Transition from Fetal Circulation to Adult Circulation & the Pathophysiology of Congenital Heart Lesions; *MK*

50.1. Describe fetal circulation, transitional circulation, and adult circulation.

50.2. Understand the role of prostaglandin and indomethacin in congenital heart disease.
50.3. Classify congenital heart lesions as left to right shunts, right to left shunts, or obstructive lesions.
50.4. Left to right shunts (acyanotic): Use physical exam findings, EKG changes, and CXR findings to diagnose the most likely lesion.
50.5. Right to left shunt (cyanotic): Use physical exam findings, EKG changes, and CXR findings to diagnose the most likely lesion.
50.6. Obstructive lesions: Use physical exam findings, EKG changes, and CXR findings to diagnose the most likely lesion.
50.7. Define Eisenmenger Syndrome and explain the physiology leading to this condition.
50.8. Identify the signs and symptoms of a TET spell and know the acute management.
50.9. Know the syndromes associated with congenital heart disease.

51. Pediatric Cardiology II: Acquired Heart Disease, SVT, & CHF in the Pediatric Patient; *MK*

51.1. Diagnose Kawasaki disease based on clinical presentation and knowledge of diagnostic criteria.
51.2. Explain the medical management of Kawasaki disease.
51.3. Identify complications of Kawasaki disease and how these complications may present clinically.
51.4. Apply the Jones criteria for rheumatic fever.
51.5. Select appropriate workup for a patient with suspected bacterial endocarditis based on presenting signs/symptoms.
51.6. Identify the most common bacterial species causing rheumatic fever and select appropriate workup and treatment.
51.7. Know broad categories of patients that require antibiotic prophylaxis for endocarditis prior to surgery.
51.8. Make the diagnosis of myocarditis based on history, physical examination, labs and accessory testing.
51.9. Describe presenting symptoms of aninfant/pediatric patient with supraventricular tachycardia and select the appropriate workup and management.
51.10. Identify signs/symptoms of CHF in an infant/pediatric patient and understand that congenital heart lesions as well as acquired cardiac disease can lead to CHF.

52. Introduction to Vascular Pathology I; *MK*

52.1. Recognize the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of the various forms of vasculitis.

53. Introduction to Vascular Pathology II; *MK*

53.1. Recognize the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of vascular hyperactivity injuries and vascular anomalies.
53.2. Recognize the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of varicose veins, phlebitis, venous thrombosis, lymphangitis, and lymphedema.
53.3. Recognize the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of vascular tumors and tumor-like vascular lesions.

54 – 56. TBL: Cardiovascular Disorders; *MK, PRO*

Focused application of content from sessions above within a team-based learning environment including iRAT, tRAT and GAPs. Attendance at these sessions is mandatory.

57. General Valvular Disease I; *MK*

57.1 Define endocarditis; differentiate endocarditis and bacteremia and correlate with risks.
57.2 Discuss the pathologic features of non-infective endocarditis on the cardiac valves.

57.3 Describe the two major patterns of infective endocarditis and the pathologic changes seen in the cardiac valves.
57.4 Describe gross and microscopic morphologies of infective endocarditis.
57.5 Categorize types of endocarditis and complications of infective endocarditis (e.g., sepsis, septic emboli, glomerulonephritis, pericarditis).
57.6 Describe why infective endocarditisis hard to treat.
57.7 Describe the major and minor criteria of acute rheumatic fever (ARF).
57.8 Describe the etiology and pathogenic mechanism of ARF.

58. General Valvular Disease II; *MK*

58.1 Describe the diagnosis and microscopic morphologies associated with the pathology (e.g., Aschoff nodules).
58.2 Describe the major manifestations of rheumatic fever and its effect on the endocardium, myocardium, and pericardium.
58.3 Compare the effects of rheumatic fever and bacterial endocarditis on the endocardium, myocardium, and pericardium.
58.4 Define aortic valvular disease; describe the causes and pathogenesis of aortic stenosis, congenital bicuspidaortic valve degenerative calcification, chronic rheumatic valvulitis.
58.5 Discuss the clinical presentations and complications associated with aortic stenosis.

59. Pathophysiology of Hypertension; *MK*

59.1 Describe the relationship of increasing blood pressure and the risk of cardiovascular disease and list three benefits of antihypertensive therapy to treat individuals with hypertension.
59.2 Define the underlying cause of systolic hypertension and explain why "isolated systolic hypertension" increases in frequency with increasing age.
59.3 Describe the kidneys' role in compensating for a sudden decrease in blood pressure. Include the following in your description:
59.3.1 Renal baroreceptor (juxtaglomerular = granular cell) response to decreased pressure.
59.3.2 Sympathetic response to decreased pressure.
59.3.3 Renin-angiotensin-aldosterone system's role in vasoconstriction and water and NaC1 retention.
59.4 Differentiate between primary and secondary hypertension.
59.5 Explain why peripheral vasodilationin a hypertensive individual can lead to tachycardia and cardiac dysrhythmias.
59.6 Explain what is meant by the statement that hypertensives displaya shift in the Pressure-Natriuresis curve.
59.7 Diagram and explain the possible physiological mechanisms involved with the popular theory that genetic predisposition and frequent stress may lead to hypertension.
59.8 Explain the possible role of obesity, hyperinsulinemia, and peripheral insulin resistance in the pathogenesis of hypertension.
59.9 List the most efficacious lifestyle modifications in the treatment of hypertension, and what group of HTN individuals these methods aremost useful.
59.10 Describe the basic mechanism through which exercise training is hypothesized to lower systemic blood pressure.

60. Antihypertensive Drugs I; *MK*

60.1 Describe the primary site of action of the drugs that affect renin-angiotensin system.
60.2 List the different class and subclass of most commonly prescribed drugs that target renin-angiotensin system.
60.3 Describe the mechanism of action of commonly prescribed drugs that interfere with renin-angiotensin system including ACE inhibitors, angiotensin II receptor antagonists, aldosterone

antagonists, and direct renin inhibitors.

60.4 Describe the route of administration and dosage of renin-angiotensin system antagonists.

60.5 List and describe the indications and contraindications for renin-angiotensin system antagonists.

60.6 List the adverse/side effects of commonly prescribed renin-angiotensin system antagonists.

60.7 Describe the pharmacokinetic properties of renin-angiotensinsystem antagonists.

60.8 Discuss these drugs in population subgroups with specific needs (e.g. Black Americans, diabetics, elderlypatients, renal failure).

61. Antihypertensive Drugs II; *MK*

61.1. *See previous session*.

62. Acute & Chronic Heart Failure I; *MK*

62.1. Describe the relationship between left ventricular end-diastolic pressure/volume and stroke volume/cardiac output (i.e. the pressure volume curve) and explain how this relationship is altered in common pathological states like acute MI, and CHF and the way in which common pharmaceutical interventions improve these relationships.

62.2. List and describe the normal physiological compensations for common pathological states of low cardiac output.

62.3. Distinguish between systolic and diastolic dysfunction and how these states vary with respect to cardiac function and clinical presentation.

62.4. Explain how the normal physiological compensations for a low cardiac output state can lead to the development of chronic heart failure.

62.5. List and describe the common precipitating factors that can cause a stable heart failure patient to enter a decompensated state.

62.6. Describe common signs and symptoms in acute and chronic heart failure and connect those features to underlying physiologic changes that accompany these states.

63. Acute & Chronic Heart Failure II; *MK*

63.1. Describe how the pressure volume loop is altered in response to changes in preload, afterload and contractility, and how these factors change in the setting of heart failure.

63.2. Distinguish between common causes, physiological effects and clinical presentation between right- and left- sided heart failure.

63.3. Discuss the pathogenesis of compensated versus decompensated heart failure.

63.4. Describes the way in which the Frank-Starling Curves (left ventricular performance curve) is shifted within the setting of heart failure and the goal of various treatment options in movement/shifts along those curves.

63.5. Describe the classic symptoms of acute and chronic heart failure; communicate and explain the understanding heart sounds in the clinical evaluation of different forms of heart failure (i.e. volume overload versus diastolic dysfunction, etc.).

63.6. Describe the mechanisms of morphologic changes and symptoms and signs of CHF.

63.7. Define β-natriuretic peptide (BNP) and the use of BNP findings in the diagnosis of CHF.

63.8. Describe the gross and microscopic adaptive changes in the myocardium that result from pulmonary hypertension.

63.9. Define the term cor pulmonale and describe its role in the pathogenesis of acute and chronic states of right heart failure.

64. Drugs Used in Heart Failure; *MK*

64.1. Describe the primary site of action of the drugs prescribed for the treatment of Angina.

64.2. List the classes and the most commonly prescribed drugs used in the treatment of Angina.

64.3. Describe the mechanism of action of nitrates and nitrites.

64.4. Describe the route of administrationand dosage of commonly prescribed nitrates and nitrites.
64.5. List and describe the indications and contraindications for each drug discussed.
64.6. List the adverse/side effects of commonly prescribed antianginal drugs.
64.7. Describe the pharmacokinetic and pharmacodynamic properties of commonly prescribed antianginal drugs.
64.8. Discuss the mechanism of action and side effects of Ranolazine in the treatment of Angina
64.9. Discuss the use of beta- and calcium channel blockers in the treatment of angina pectoris.
64.10. Discuss the cardiac and extra-cardiacside effects of antianginal drugs used to treat erectile dysfunction (PDE5 inhibitor).

65. Diuretic Agents; *MK*

65.1. Describe the primary site of action of the drugs used in the treatment of acute and chronic heart failure.
65.2. List the classes and the most commonly prescribed drugs used inthe treatment of heart failure.
65.3. Describe the mechanism of action of commonly prescribed drugs in the treatment of heart failure.
65.4. Describe the route of administration and dosage of commonly prescribeddrugs in heart failure.
65.5. List and describe the indications and contraindications for most commonly prescribed drugs in heart failure.
65.6. List the adverse/side effects and potential drug interaction toxicity with other drugs for commonly prescribed heart failure drugs.
65.7. Describe the pharmacokinetic and pharmacodynamic properties of commonly prescribed drugs in heart failure.
65.8. Discuss the use of atrial natriuretic peptide agonists in the management of severe heart failure.
65.9. Discuss these drugs in population subgroups with specific needs.

66. Infective Endocarditis/Myocarditis/Pericarditis/ Endovascular Infections I; *MK*

66.1. Define Outline the organisms that commonly cause infective endocarditis, myocarditis, pericarditis, and endovascular infections.
66.2. Discuss HACEK organisms and their clinical significance.
66.3. Describe *Trypanosoma cruzi* and its effects on the heart.
66.4. Explain the presentation and symptoms along with the important physical findings in infective endocarditis, myocarditis, pericarditis, and endovascular infections.
66.5. Explain the Duke Criteria for Infective Endocarditis.
66.6. Discuss the diagnostic work-up for endocarditis, myocarditis, pericarditis, and endovascular infection.
66.7. Compare and contrast types of infective endocarditis.
66.8. Describe the complex interactions of bacteria and host resulting in valvular diseases and complications.
66.9. Discuss the basics of treatment including antibiotic therapy and surgical intervention in infective endocarditis.
66.10. Explain the epidemiologic factors and underlying specific etiologies (microbes) leading to infective endocarditis in selected patient groups.
66.11. Describe nonbacterial thrombotic endocarditis/marantic endocarditis and Libman-Sacks endocarditis.

67. Infective Endocarditis/Myocarditis/Pericarditis/ Endovascular Infections II; *MK*

67.1. Outline the organisms that commonly cause infective endocarditis, myocarditis, pericarditis and endovascular infections.
67.2. Discuss HACEK organisms and their clinical significance.
67.3. Describe *Trypanosoma cruzi* and its effects on the heart.
67.4. Explain the presentation and symptoms along with the important physical findings in infective

endocarditis, myocarditis, pericarditis, and endovascular infections.

67.5. Explain the Duke Criteria for Infective Endocarditis.

67.6. Discuss the diagnostic work-up for endocarditis, myocarditis, pericarditis, and endovascular infection.

67.7. Compare and contrast types of infective endocarditis.

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67.9. Discuss the basics of treatment including antibiotic therapy and surgical intervention in infective endocarditis.

67.10. Explain the epidemiologic factors and underlying specific etiologies (microbes) leading to infective endocarditis in selected patient groups.

67.11. Describe nonbacterial thrombotic endocarditis/marantic endocarditis and Libman-Sacks endocarditis.

68. Upper Respiratory Tract Infections; *MK*

68.1. Explain the spread and prevention of infectious organisms affecting the upper respiratory tract and the head and neck.

68.2. Describe the major infectious etiologies of rhinitis, otitis media, otitis externa, pharyngitis, and sinusitis.

68.3. Compare and contrast the clinical presentation, diagnosis, complications, and treatment of rhinitis, otitis media, otitis externa, pharyngitis, and sinusitis.

68.4. Compare and contrast other infections of the head and neck including their presentation, diagnosis, complications, and treatment, including parotitis, conjunctivitis, odontogenic infections, and facial cellulitis.

68.5. Describe how normal respiratory flora and colonizing organisms can become true pathogens.

68.6. Outline the factors that predispose patients to these infections, including structural and immunologic defects and environmental allergies.

69. Upper Respiratory Tract Infections Interactive Session; *MK*

69.1. *See previous session.*

70. Introduction to Lung Pathology I; *MK*

70.1. Breathing problems; obstructive, restrictive.

70.2. Alveolar Insult; Acute Respiratory distress syndrome.

70.3. Sleep Problems; Sleep Apnea; Obstructive sleep apnea; Central sleep apnea; Hypoventilation syndrome.

70.4. Infection Problems; Types of pneumonia, Bacterial, Fungal.

70.5. Layer Specific Diseases; Pleural diseases; Pneumothorax; Pleural effusion; Empyema; Tumor; Pleurisy.

70.6. Solitary Nodules; Benign; Malignant.

71. Introduction to Lung Pathology II; *MK*

71.1. *See previous session.*

72. Introduction to Lung Pathology III; *MK*

72.1. *See previous session.*

73. Pulmonary Pathology – Obstructive I; *MK*

73.1. Recognize the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of congenital anomalies, atelectasis, pulmonary edema, and acute lung injury.

73.2. Discuss the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of emphysema.

73.3. List the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of chronic bronchitis.

73.4. Name the predisposing factors,pathogenesis, clinicopathologic appearance, and complications of asthma.
73.5. Identify the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of bronchiectasis.

74. Pulmonary Pathology – Obstructive II; *MK*
74.1. *See previous session.*

75. Pulmonary Pathology – Restrictive I; *MK*
75.1. Compare the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of idiopathic, nonspecific and cryptogenic fibrosis.
75.2. Recognize the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of lung involvement of autoimmune disease.
75.3. List the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of pneumoconioses and pulmonary complications of therapy.
75.4. Describe the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of granulomatous disease, pulmonary eosinophilia, and Langerhans cell histiocytosis.
75.5. Identify the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of smoking related interstitial disease.
75.6. Discuss the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of surfactant disorders.

76. Pulmonary Pathology – Restrictive II; *MK*
76.1. *See previous session.*

77. Diffuse Pulmonary Hemorrhage, Pulmonary Granulomatosis Syndromes, Pulmonary Hypertension & Pulmonary Emboli-Clinical Considerations I; *MK*
77.1. Recognize the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of pulmonary embolisms and infarction.
77.2. Examine the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of pulmonary hypertension.
77.3. Differentiate the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of Goodpasture syndrome.
77.4. Distinguish the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of pulmonary hemosiderosis.
77.5. Analyze the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of polyangiitis with granulomatosis (formerly aka Wegener granulomatosis), Churg-Strauss syndrome and sarcoidosis.
77.6. Discuss the causes, presentation, and diagnosis of pulmonary emboli.

78. Diffuse Pulmonary Hemorrhage, Pulmonary Granulomatosis Syndromes, Pulmonary Hypertension & Pulmonary Emboli-Clinical Considerations II; *MK*
78.1. *See previous session.*

79. Drugs Used for the Management of Asthma & COPD; *MK*
79.1. Describe the primary site of action drugs used in the treatment of asthma and COPD.
79.2. List the classes and the most commonly prescribed drugs used in the treatment of asthma and COPD.
79.3. Describe the mechanism of action ofeach class and the most prescribed drugs used in the treatment of asthma and COPD.
79.4. Describe the route of administration and dosage of asthma and COPD drugs.
79.5. List and describe the indications and contraindications for most prescribed drugs for the

treatment of asthma and COPD.

79.6. List the adverse/side effects of beta 2-adrenergic agonists, Theophylline, and anti-cholinergic drugs.

79.7. Describe the use of combinations of agents (e.g. fluticasone and salmeterol) in the chronic management of asthma.

79.8. Compare and contrast the management of acute and chronic asthma and chronic obstructive pulmonary disease.

79.9. Discuss the relative merits of inhalant administration versus oral orparenteral administration for the management of both episodic and chronic asthma as well as COPD.

79.10. Discuss the emerging therapies for the management of asthma and chronic obstructive pulmonary disease (e.g. monoclonal antibodies).

80. - 82. TBL: Pathology of Obstructive & Restrictive Lung Diseases; *MK, PRO*

Focused application of content from sessions above within a team-based learning environment including iRAT, tRAT and GAPs. Attendance at these sessions is mandatory.

83. Community-Acquired (CAP) & Atypical Pneumonia (Overview); *MK*

83.1. Compare and contrast the specific types of pneumonias.

83.2. Describe community acquired pneumonia (CAP), its etiologies, clinical manifestations, physical exam findings, diagnosis, and basic management and treatment.

83.3. Discuss atypical l pneumonia, its etiologies, clinical manifestations, physical exam findings, diagnosis, and basic management and treatment.

83.4. Discuss the phenomenon of primary viral pneumonia that can set the stage for secondary bacterial pneumonia.

83.5. Discuss viral pneumonia, its etiologies, clinical manifestations, physical exam findings, diagnosis, and basic management and treatment.

83.6. Discuss risk factors and high-risk populations groups for various pneumonias.

83.7. Compare and contrast a normal chest x-ray with an abnormal chest x-ray indicative of pneumonia.

83.8. Describe the potential complications and sequelae of pneumonia.

83.9. Explain the procalcitonin test.

83.10. Discuss potential preventative measures against acquiring pneumonia.

84. Cystic Fibrosis

84.1. Understand the various genetics and mutational variants of CF.

84.2. Explore the heterogenous clinical presentations and multisystem diseases associated with CF.

84.3. Review available diagnostic testing for CF in the neonatal period, and also at later times in life.

84.4. List the multiple secondary infections typically seen in CF patients.

84.5. Review the chronic treatment options available for CF.

85. Typical & Atypical Mycobacterial Pulmonary Infections; *MK*

85.1. Differentiate between typical and atypical mycobacterial pulmonary infections, including Mycobacterium tuberculosis (TB) and non-tuberculosis mycobacteria (NTM), regarding epidemiology, clinical signs and symptoms, and risk factors.

85.2. Explain the pathogenesis of mycobacterial infections, including virulence factors, modes of transmission, immune response mechanisms, and factors contributing to disease progression and severity.

85.3. Discuss the syndromes of active disease, latent disease, and colonization.

85.4. Explain the diagnostic modalities used to diagnose TB, including AFB stains/cultures, molecular identification methods, PPD skin tests, and gamma interferon assays.

85.5. Discuss evidence-based treatment and management of TB, including isolation protocols, pharmacologic therapy, duration of treatment, importance of adherence, and monitoring for adverse effects.

85.6. Explain the potential complications and sequelae of mycobacterial pulmonary infections.

86. Pediatric Respiratory Infections; *MK*

86.1. Compare and contrast pediatric respiratory infections, including viral and bacterial etiologies.

86.2. Discuss common pediatric respiratory infections, including bronchiolitis, croup, pneumonia, and bronchitis including their risk factors and clinical presentation.

86.3. Describe appropriate diagnostic approaches to pediatric respiratory infections, including clinical evaluation, imaging studies, laboratory tests, and interpret the results.

86.4. Discuss evidence-based management strategies for pediatric respiratory infections, including pharmacological and non-pharmacological intervention, with consideration of patient age, severity of illness, and co-morbidities.

86.5. Explain potential complications of pediatric respiratory infections.

87. Pharmacology of Cell-Wall Synthesis & Membrane Inhibitors; *MK*

87.1. Describe the primary site of action of the penicillins, cephalosporins and vancomycin.

87.2. Describe the structure-function relationship between the penicillin, cephalosporin, and vancomycin molecules and their antimicrobial activity.

87.3. Describe the route of administration of penicillins, cephalosporins, and vancomycin.

87.4. Describe the pharmacokinetic properties of penicillins, cephalosporins, and vancomycin.

87.5. Understand the principle behind using combining inhibitors of β-lactamase with penicillins. (list such combinations).

87.6. Describe the four generations of cephalosporins with specific examples and the differences in their antimicrobial spectrum and pharmacokinetic properties.

87.7. List and describe the indications and contraindications for penicillins, cephalosporins, and vancomycin.

87.8. List and describe the adverse effects of penicillins, cephalosporins, and vancomycin.

87.9. Explain the mechanisms of bacterialresistance to penicillins, cephalosporins, and vancomycin.

87.10. Describe the main therapeutic indications of penicillins, cephalosporins and vancomycin.

88. Pharmacology of Nucleic Acid & Protein Synthesis Inhibitors; *MK*

88.1. Describe the primary site of action of each class of nucleic acid and protein synthesis inhibitors.

88.2. Discuss the mechanism of action of each class of nucleic acid and proteinsynthesis inhibitors.

88.3. Describe the pharmacokinetic properties of each class of nucleic acid and protein synthesis inhibitors, including their routes of administration.

88.4. List and describe the indications and contraindications for each class of nucleic acid and protein synthesis inhibitors.

88.5. Describe the main toxicities of each class of nucleic acid and protein synthesis inhibitors.

88.6. Describe the major drug interactions of macrolides due to inhibition of cytochrome P450 enzymes.

88.7. Explain the rational basis for combination therapy with an aminoglycoside and a penicillin, cephalosporin, or vancomycin.

88.8. Explain the mechanism of acquired drug resistance to aminoglycosides, tetracyclines, and macrolides.

88.9. Discuss the emergence of microbial resistance to cotrimoxazole and fluoroquinolone drugs, and its implications for the treatment of urinary tract infections and gonorrhea.

88.10. Describe the role and use of various drugs in the treatment of methicillin- resistant Staphylococcus aureus infections.

89. Pharmacology of Anti-Mycobacterial Drugs; *MK*

89.1. Describe the primary site of action of the anti-mycobacterial drugs used in the treatment of tuberculosis.
89.2. List the first line antitubercular drugs and explain their mechanisms of action.
89.3. Describe the pharmacokinetic profile ofisoniazid and rifampin.
89.4. Describe the adverse effects of isoniazid, rifampin, ethambutol and pyrazinamide.
89.5. Explain the drug interactions of rifampin with anticoagulants and other drugs, such as oral contraceptives.
89.6. Define the various phases of actively and slow growing Mycobacterium tuberculosis and compare the relative effectiveness of various drugs.
89.7. Describe the regimen recommended for treatment of latent tuberculosis (formerly prophylaxis) and active tuberculosis.
89.8. Explain the rationale for newer short-course regimens for latent and active tuberculosis, including the use of isoniazid and rifapentine.
89.9. Describe the emergence of multidrug-resistant tuberculosis and its implications for the treatment of these infections.

90. Pneumonia in Special Populations and Pneumonia Complications I; *MK*

90.1. Compare and contrast CAP and pneumonia in special populations.
90.2. Discuss nosocomial/hospital acquired pneumonia, its etiologies, clinical manifestations, physical exam findings, diagnosis, and basic management and treatment.
90.3. Discuss the complications of pneumonia that include respiratory failure, empyema, and lung abscess.
90.4. Compare and contrast different types of patients in special populations and circumstances and their risk of acquiring pneumonia and describe the etiology and the course of disease and complications.
90.5. Discuss pneumonias caused by unusual/opportunistic organisms seen in immunocompromised patients.
90.6. Distinguish between the various eosinophilic pneumonias, and their differential diagnoses that can include various parasitic diseases, drug reactions, autoimmune disease, and hypersensitivity reactions.
90.7. Compare and contrast the endemic mycoses including their epidemiology, clinical presentation and why they most often present with pulmonary issues, physical exam findings, diagnosis, and basic therapy.
90.8. Discuss Actinomyces and Nocardia, including their microbiologic and histologic characteristics, patient populations they are found in, where they can be found in the body, their clinical presentation, physical exam findings, diagnosis, and the basics of their treatment regimens.
90.9. Compare and contrast the various parasitic pneumonias.

91. Pneumonia in Special Populations and Pneumonia Complications II; *MK*

91.1. Compare and contrast CAP and pneumonia in special populations.
91.2. Discuss nosocomial/hospital acquired pneumonia, its etiologies, clinical manifestations, physical exam findings, diagnosis, and basic management and treatment.
91.3. Discuss the complications of pneumonia that include respiratory failure, empyema, and lung abscess.
91.4. Compare and contrast different types of patients in special populations and circumstances and their risk of acquiring pneumonia and describe the etiology and the course of disease and

complications.

91.5. Discuss pneumonias caused by unusual/opportunistic organisms seen in immunocompromised patients.

91.6. Distinguish between the various eosinophilic pneumonias, and their differential diagnoses that can include various parasitic diseases, drug reactions, autoimmune disease and hypersensitivity reactions.

91.7. Compare and contrast the endemic mycoses including their epidemiology, clinical presentation and why they most often present with pulmonary issues, physical exam findings, diagnosis, and basic therapy.

91.8. Discuss Actinomyces and Nocardia, including their microbiologic and histologic characteristics, patient populations they are found in, where they can be found in the body, their clinical presentation, physical exam findings, diagnosis, and the basics of their treatment regimens.

91.9. Compare and contrast the various parasitic pneumonias.

92. Pharmacology of Anti-Fungal Drugs; *MK*

92.1. Describe host factors that predispose patients to fungal infections.

92.2. Describe the mechanism of action ofeach class of antifungal drugs.

92.3. Discuss the advantages of liposomal preparations of amphotericin.

92.4. Describe the important adverse effects of the various antifungal drugs.

92.5. Describe the pharmacokinetic properties of the various antifungal drugs.

92.6. Describe the major therapeutic indications of the antifungal drugs, including current recommendations for treating aspergillosis, blastomycosis, superficial and systemic candidiasis, coccidioidomycosis.

92.7. Explain why caution is indicated for patients receiving some antifungals and concurrent drug therapy where CYP3A4 is a prominent drug metabolism pathway: discuss the drug interactions of griseofulvin and warfarin; ketoconazole and warfarin.

92.8. Describe the appropriate duration of treatment of various fungal infections and the role of surgical debridement in treating subcutaneous mycoses.

93. Lung Neoplasia; *MK*

93.1. Describe the common locations for the different types of lung cancer.

93.2. Identify predisposing factors, pathogenesis, clinicopathologic appearance, and complications that help differentiate between adenocarcinoma, squamous cell carcinoma, small cell carcinoma, large cell carcinoma, neuroendocrine tumor, hamartoma, lymphagioleiomyomatosis, and inflammatory myofibroblastic tumor.

93.3. Explain the contribution of genetic mutations that contribute to lung tumors, and how these affect therapy.

93.4. Discuss features that favor the diagnosis of metastatic carcinoma over a primary lung tumor.

93.5. Recognize the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of pleural tumors.

94. Basic Principles for Cancer Chemotherapy; *MK*

94.1. Explain the role of chemotherapy in the management of patients with cancer.

94.2. Describe tumor staging and explain the role of chemotherapy in the management of patients with varying stages of cancer.

94.3. Compare and contrast the strategies and outcomes from standard cytotoxic chemotherapy and targeted therapies.

94.4. Describe the various limitations to effective drug treatment. Define and explain the terms: selective toxicity, mass doubling time and growth fraction.

94.5. Explain the concepts of "total cell kill"and tumor stem cells in cancer treatment.
94.6. Explain the term cell cycle specificity and be able to classify the various anticancer drugs based on the cell cycle specificity.
94.7. Describe the principles of combination chemotherapy in the treatment of cancer.
94.8. Explain the mechanisms of resistance to anticancer drugs.
94.9. Describe adverse effects of anticancerdrugs, and approaches to minimizing adverse effects.

95. Anticancer Drugs I; *MK*

95.1. Describe the primary site of action of anticancer drugs.
95.2. List the classes and the most commonly prescribed drugs used in the treatment of cancer.
95.3. Describe the mechanism of action ofeach class and the most commonly prescribed anticancer drugs.
95.4. Describe the route of administration and dosage of different class of anticancer drugs.
95.5. List and describe the major therapeuticindications and contraindications for most commonly prescribed anticancer drugs.
95.6. Discuss the combination drug treatment against specific cancer types.
95.7. List the specific as well as cumulative dose-dependent adverse/side effects of each class of anticancer drugs.
95.8. Describe the pharmacokinetic and pharmacodynamic properties of each class of anticancer drugs.
95.9. Discuss how pharmacogenomics and specific tumor genotype affect the choice of drug in cancer treatment.
95.10. Discuss the concept of adjuvant chemotherapy including various regimens used in the treatment ofspecific organ systems.

96. Anticancer Drugs II; *MK*

96.1. *See previous session*.

97. Pharmacotherapy of Pulmonary Neoplasms; *MK*

97.1. Describe the primary site of action of the drugs prescribed for the treatmentof lung cancer.
97.2. List the most commonly prescribed drugs and drug combinations used in the treatment of lung cancer.
97.3. Describe the mechanism of action of each drug used in the treatment of lung cancer.
97.4. List and describe the indications and contraindications for most commonly prescribed drugs for the treatment of lung cancer.
97.5. List the adverse/side effects of individual drugs and combinations used in the treatment of lung cancer.
97.6. Discuss the chemotherapy and other drug treatment options for lung carcinoid tumors.
97.7. Discuss how pharmacogenomics can influence the drug choice in the treatment of lung cancer.
97.8. Discuss how the cancer stage influences treatment options.
97.9. Discuss the available options for the treatment of non-small cell lung cancer including chemotherapy, targeted therapy, and immunotherapy.

98. Renal Pathology I

98.1. Discuss the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of the glomerulus response to injury and chronic glomerulonephritis including immunological mechanisms.
98.2. Recognize the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of IgA nephropathy and hereditary nephritis.
98.3. Describe the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of nephrosclerosis and renal artery stenosis.

98.4. Identify the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of thrombotic microangiopathies, atherosclerotic and atheroembolic renal disease, cortical necrosis andrenal infarction.
98.5. Recognize the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of cystic diseases of the kidney and obstructive uropathy.

99. Renal Pathology II; *MK*
99.1. *See previous session*.

100. Renal Pathology III; *MK*
100.1. Recognize the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of minimal change disease.
100.2. Name the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of focal segmental glomerulosclerosis.
100.3. List the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of membranous nephropathy.
100.4. Explain the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of membranoproliferative glomerulonephritis.
100.5. Discuss the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of dense deposit disease.
100.6. Explain the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of acute proliferative glomerulonephritis.
100.7. Illustrate the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of rapidly progressive glomerulonephritis.
100.8. Demonstrate the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of IgA nephropathy and hereditary nephritides.

101. Renal Pathology: Glomerular Lesions Associated with Systemic Disease & Tubulointerstitial Disease; *MK*
101.1. Recognize the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of glomerular lesions associated with systemic diseases including diabetesand lupus.
101.2. Interpret the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of acute tubular injury and necrosis.
101.3. Describe the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of tubulointersitial nephritis.
101.4. Discuss the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of pyelonephritis and urinary tract infection.
101.5. Identify the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of tubulointersitial nephropathy.

102. Upper and Lower Urinary Tract Infections (UTI); *MK*
102.1. Differentiate upper urinary tract infections from lower urinary tract infections.
102.2. Discuss the most common causes of UTIs.
102.3. Explain less common causes of UTIs.
102.4. Describe the predisposing risk factors and clinical presentation of upper and lower UTIs.
102.5. Explain the higher prevalence of bacterial UTIs in females, and ways to lower their risk.
102.6. Compare and contrast asymptomatic bacteriuria, urethritis, cystitis, acute pyelonephritis, and chronic pyelonephritis.
102.7. Explain the circumstances and risk factors that can lead to complicated UTIs.
102.8. Describe the potential complications of UTIs.
102.9. Describe appropriate diagnostic approaches to upper and lower urinary tract infections, including clinical evaluation, imaging studies, laboratory tests, and interpret the results.

102.10. Describe the rationale for antibiotic susceptibility testing as a necessary component of culture investigation, to support the therapeutic intervention in ambulatory and in-patient settings.
102.11. Discuss evidence-based treatment and management of upper and lower UTIs.
102.12. Compare and contrast the treatment of uncomplicated vs. complicated UTIs.
102.13. Discuss opportunities for control and prevention of UTIs, in particular those associated with catheters and antibiotic resistant microorganisms.

103. - 105. TBL: Pathology of Renal Disorders; *MK, PRO*

Focused application of content fromsessions above within a team-based learning environment including iRAT, tRAT and GAPs. Attendance at these sessions is mandatory.

106. Upper and Lower Urinary Tract Infections Interactive Session; *MK*

106.1. *See Lecture 102 for lecture objectives.*

107. Genitourinary Neoplasia; *CC*

107.1. Recognize the clinical pathologic appearance and complications of benign renal neoplasms.
107.2. Interpret the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of the major types of renal cell carcinoma.
107.3. Recognize the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of Wilms Tumor.

108. Urinary Bladder Disorders; *MK*

108.1. Describe the pathogenesis of bladder diverticula, including congenital andacquired, and their potential role in infection, lithiasis, and obstruction and occult carcinoma.
108.2. List the different chemical types of nephrolithiasis, and explain the pathophysiologic mechanisms related to development, and therapy/prevention of urinary stones.
108.3. Explain several causes of urinary obstruction.
108.4. Recognize the typical clinical symptomatology of acute cystitis.
108.5. Identify the most common non-infectious causes of cystitis.
108.6. Describe situations in which cystitis may result in mass lesions of the urinary bladder.
108.7. Compare and contrast the different precursor lesions of urothelial carcinoma in terms of architecture, cytologic features, molecular-genetic changes, and propensity for invasion/progression.
108.8. Relate the risk factors for urothelial carcinoma to general principles of carcinogenesis.
108.9. Describe the typical clinical presentation of urothelial carcinoma and the advantages and limitations of urine cytology in diagnosis and surveillance of urothelial carcinoma.
108.10. Relate stage of bladder cancer to prognosis and therapy, including the role of BCG, in treatment of low-stage tumors.

109. Inflammatory & Neoplastic Disorders of Prostate and Testes –Pathology; *MK*

109.1. List the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of congenital anomalies, atrophy, andinflammation of the testis and epididymis.
109.2. Describe the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of vascular disorders the spermatic cord, paratesticular tumors and tunica vaginalis lesions.
109.3. Analyze the predisposing factors, pathogenesis, clinicopathologic appearance, and complications oftesticular tumors.
109.4. Explain the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of inflammation of the prostate gland.
109.5. Compare the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of benign enlargement and tumors ofthe prostate gland.

110. Pathology of Benign & Neoplastic Disorders of the Ovaries & Uterus I; *MK*

110.1. Describe the predisposing factors, pathogenesis, clinicopathologic appearance, and

complications of the menstrual cycle.

110.2. Compare the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of endometrial inflammatory disorders, endometriosis, adenomyosis, and endometrial hyperplasia.

110.3. Explain the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of fallopian tube inflammation, tumors and cysts.

110.4. Analyze the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of malignant tumors of the endometrium, endometrial stroma and myometrium.

110.5. Discuss the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of inflammation of the cervix and endocervix.

110.6. Differentiate the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of premalignant and malignant neoplasmsof the cervix including screening and prevention.

110.7. Identify the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of cysts of the ovaries.

110.8. Recognize the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of ovarian tumors.

111. Pathology of Benign & Neoplastic Disorders of the Ovaries & Uterus II; *MK*

111.1. *See previous session.*

112. Benign & Malignant Disorders of Ovaries & Uterus; HPV & Carcinoma of Cervix-Clinical Considerations I; *MK*

112.1. Describe the most common benign disorders of the ovaries and uterus, along with clinical issues of these diseases and their medical/surgical therapies.

112.2. Discuss the risk factors and genetic/hereditary issues involving ovarian neoplasms.

112.3. Describe the neoplasms that may involve the ovaries and uterus, and when surgical +/- chemo/radiation therapies are indicated.

112.4. Discuss the epidemiology, risk factors and prevention techniques for acquiring high risk types of HPV, along with grading and staging of HPV-related disorders.

112.5. Outline screening procedures for cervical disorders.

112.6. Describe various medical and surgical treatments for cervical diseases.

113. Benign & Malignant Disorders of Ovaries & Uterus; HPV & Carcinoma of Cervix-Clinical Considerations II; *MK*

113.1. *See previous session*.

114 – 116. TBL: Path/ Pharm of Male & Female Reproductive Tract Disorders; *MK, PRO*

Focused application of content fromsessions above within a team-based learning environment including iRAT, tRAT and GAPs. Attendance at these sessions is mandatory.

117. Non-Neoplastic Disorders of the Breast; *MK*

117.1. Review normal breast anatomy and physiology.

117.2. Describe the presentation and management of common development abnormalities to include ectopic breast tissue, breast hypoplasia and gynecomastia.

117.3. Understand the various etiologies of galactorrhea and describe the workup needed to elucidate its cause.

117.4. Describe the epidemiology presentation and management of inflammatory diseases of the breast, to include mastitis (acute, granulomatous, foreign material), breast abscess, mammary duct ectasia and fat necrosis.

117.5. Understand the various forms of fibrocystic changes of the breast and their management, to include proliferative fibrocystic change, breast cysts, sclerosing adenosis anddense fibrous mastopathy.

118. Breast Neoplasms; *MK*

118.1. Discuss the incidence, epidemiology, etiology and pathogenesis of familialand sporadic breast cancer.

118.2. Compare ductal carcinoma in situ (DCIS) and lobular carcinoma in situ (LCIS) in terms of incidence, clinical presentation, morphology, biomarkerexpression, pattern of spread, natural history, treatment, and prognosis.

118.3. Explain the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of invasive carcinoma of the breast.

118.4. Compare breast cancers in each of thefollowing classes:

118.4.1. Ductal carcinoma in situ (DCIS)
118.4.2. Lobular carcinoma in situ
118.4.3. Invasive ductal carcinoma
118.4.4. Invasive lobular carcinoma
118.4.5. Medullary carcinoma
118.4.6. Mucinous (colloid) carcinoma
118.4.7. Tubular carcinoma
118.4.8. Papillary carcinoma
118.4.9. Apocrine carcinoma
118.4.10. Fibroadenoma
118.4.11. Phyllodes tumors
118.4.12. Secretory carcinoma

119. Sexually-Transmitted Infections (STIs); *MK*

119.1. Discuss the risk factors and epidemiology for the acquisition of STIs.

119.2. Compare and contrast the microbiology, pathophysiology, clinical presentation and physical exam findings, diagnostic methods, complications, and treatment of STIs.

119.3. Describe the STIs that tend to cause genital ulcers, warts, urethritis, vaginitis, cervicitis, proctitis, orchitis/epididymitis, arthritis, and dermatitis.

119.4. Explain how some STIs can disseminate to cause severe systemic disease.

119.5. Explain syphilis, including its etiology, stages, clinical signs and symptoms, diagnosis, complications, and treatment.

119.6. Discuss available vaccines, and those in development, to help prevent some STIs.

120. Non-sexually Transmitted Infections (NSTI); ***Listeria monocytogenes*** **and** ***Strep agalactiae*** **group B in the pregnant patient;** *MK*

120.1. Discuss common NSTI of the genital tract, including bacterial, fungal, viral, and parasitic etiologies along with their typical clinical presentations and risk factors.

120.2. Explain the pathophysiology and microbiology of NSTIs of the genital tract, modes of transmission, host factors influencing susceptibility, and mechanisms of disease progression.

120.3. Describe appropriate diagnostic approaches for NSTIs of the genital tract, including obtaining relevant medical history, performing an appropriate physical exam, collecting appropriate specimens for laboratory testing, and interpreting the results.

120.4. Discuss basic evidence-based management and treatment strategies for NSTIs of the genital tract.

120.5. Discuss risk factors, pathogenesis, clinical presentation and exam findings, diagnosis, and management of *listeria monocytogenes* and *streptococcus agalactiae* group B in a pregnant patient.

121. Human Immunodeficiency Virus (HIV)/Acquired Immunodeficiency Syndrome (AIDS); *MK*

121.1. Discuss the epidemiology of HIV 1 & 2 infections in the USA and around the world, and how the types of opportunistic infections people develop with HIV differ in different geographic areas.

121.2. Explain the risk for perinatal transmission of HIV, and how pediatric HIV infection differs from that seen in adults.
121.3. Describe the clinical signs and symptoms as well as the early and late immunologic effects of early acute HIV infection.
121.4. Describe the diagnostic procedures for HIV; time to positivity and the importance of the tests to screen and confirm early asymptomatic infection before progression to symptomatic conditions.
121.5. Explain the ways HIV is transmitted, what body fluids are infectious, risk of inadvertent exposures, high and low risk activities that can lead to transmission, the methods to control HIV transmission from HIV-infected individuals (especially those who are asymptomatic and who continue with the risky behaviors), including the use of pre-exposure prophylaxis (PREP).
121.6. Describe the consequences of being HIV positive/natural history of untreated disease and correlate with various virologic and immunologic markers.
121.7. Compare and contrast HIV-1 and HIV-2 infections; including the clinical manifestations and the organs systems that are most and those least affected.
121.8. Explain the standardized criteria are to distinguish the diagnoses of HIV+ vs AIDS.
121.9. Discuss general strategies to prevent and control secondary organ system disorders (e.g., opportunistic infections, cancer).
121.10. Describe a general plan to manage HIV-infected patients, including initial evaluation/testing, search for opportunistic diseases, follow-up testing and management of long-term medical issues, that are more common in HIV+ individuals.
121.11. 121.11. Describe the basic tenets of HAART (highly active anti-retroviral therapy), drug interactions, vaccinations and the consequences/prevention of the IRIS syndrome.

122. AIDS: Opportunistic & Viral Infections/Cancer; *MK*

122.1. Review the most common opportunistic infections in HIV+ patients, and how their presentation may differ than when other patients develop those infections.
122.2. Explain how the prevention of or early diagnosis of opportunistic infections in patients with HIV can decrease likelihood severe illness from developing.
122.3. Discuss how physicians advise HIV- seroconverted patients to make them aware of their CD4 count and their risk of specific infections/malignancies/syndromes.
122.4. Explain the events associated with various opportunistic bacterial, fungal and protozoal infections that escalate in frequency and morbidity as the absolute CD4 T- lymphocyte count falls toward 200 cells/μL and below.
122.5. Explain the events associated with various opportunistic bacterial, fungal and protozoal infections that escalate in frequency and morbidity as the absolute CD4 T- lymphocyte count falls toward 200 cells/μL and below.
122.6. Discuss what is entailed in the workup of a fever of unknown origin in a patient with HIV infection, and how the extent of the workup depends on the CD4 count.
122.7. Differentiate bacterial, fungal and opportunistic infections that correlate with a specific CD4 count, level of immunologic deficiency, and/or viral load:
122.7.1. Candidiasis of bronchi, trachea, or lungs
122.7.2. Candidiasis, esophageal
122.7.3. Coccidioidomycosis, disseminated or extrapulmonary
122.7.4. Cryptococcosis, extrapulmonary
122.7.5. Cryptosporidiosis, chronic intestinal (duration >1 mo)
122.7.6. Histoplasmosis, disseminated or extrapulmonary
122.7.7. Isosporiasis, chronic intestinal (duration >1 mo)
122.7.8. Mycobacterium avium complex or Mycobacterium kansasii infection,

disseminated or extrapulmonary
122.7.9. M tuberculosis infection, any site (pulmonary or extrapulmonary)
122.7.10. Mycobacterium infection with other species or unidentified species, disseminated or extrapulmonary
122.7.11. Pneumocystis pneumonia
122.7.12. Pneumonia, recurrent
122.7.13. Progressive multifocal leukoencephalopathy
122.7.14. Salmonella septicemia, recurrent
122.7.15. Toxoplasmosis of the brain

122.8. Differentiate all viral opportunistic infections and lymphoproliferative disorders based on frequency of occurrence; correlate with the level of CD4+ T helper cells depletion and/or viral load:
122.8.1. Cervical cancer, invasive
122.8.2. Cytomegalovirus disease (other than liver, spleen, or nodes)
122.8.3. Cytomegalovirus retinitis (with vision loss)
122.8.4. Encephalopathy, HIV-related
122.8.5. Herpes simplex: chronic ulcer or ulcers (duration >1 mo) or bronchitis, pneumonitis, or esophagitis
122.8.6. Kaposi sarcoma
122.8.7. HIV encephalopathy (primary)
122.8.8. Lymphoma, Burkitt (or equivalent term)
122.8.9. Lymphoma, immunoblastic (or equivalent term)
122.8.10. Lymphoma, primary, of the brain
122.8.11. Progressive multifocal leukoencephalopathy
122.8.12. Wasting syndrome due to HIV infection

122.9. Discuss how individuals infected with HIV have a high risk of developing lymphomas and explain which virus infection or latency/reactivation of AIDS-related lymphoma (ARL) correlates with the areas of involvement:
122.9.1. Systemic B-cell non-Hodgkin's lymphoma
122.9.2. Primary central nervous system lymphoma
122.9.3. Primary effusion lymphomas ("body cavity lymphoma")

122.10. Discuss the factors that play an important role in development of lymphomas and other immunoproliferative disorders (e.g., EBV and human herpesvirus 8 (HHV- 8) infection; continuous B-cell stimulation).

122.11. Compare the events and occurrence of AIDS related Burkitt lymphoma and diffuse large B-cell lymphoma in the course of illness (CD4 counts: 200 - < 50/μL).

123. Pharmacology of Anti-Retroviral Therapy Drugs (ART); *MK*

123.1. Describe the primary site of action of the different classes of antiretroviral drugs.
123.2. List the classes and the most commonly prescribed antiretroviral drugs.
123.3. Describe the mechanism of action of each class and the most commonly prescribed antiretroviral drugs.
123.4. Describe the route of administration and dosage of individual antiretroviraldrugs.
123.5. List and describe the indications and contraindications for most commonly prescribed antiretroviral drugs.
123.6. Discuss the use of combinations of drugs (e.g., HAART) using drugs from different classes.
123.7. Discuss the major drug interaction ofantiretroviral drugs and other drugs causing induction or inhibition of CYP450 enzyme activity.
123.8. Describe the pharmacokinetic and pharmacodynamic properties of antiretroviral drugs.
123.9. Discuss the use of antiretroviral drugs in the treatment of maternal infection and prevention

of maternal-fetal transmission during pregnancy.

123.10. Discuss why polypharmacy almost invariably is associated with drug interactions when comorbidities are also treated with drugs.

124. Menopause I; *MK*

124.1. Recognize the history and physician information that indicates menopause.

124.2. Describe the hormone changes through the menopausal transition and their widespread effects on the body.

124.3. Compare and contrast various treatments for menopause syndrome including their risks and benefits.

125. Menopause II; *MK*

125.1. See previous session.

126. PCOS; *MK*

126.1. Define PCOS.

126.2. Discuss clinical presentation of PCOS and define diagnostic criteria.

126.3. Discuss potential long-term consequences.

126.4. List most common treatment approaches for PCOS.

127. Gestational Diabetes & Hypertension; *MK*

127.1. Define diagnostic criteria of gestational diabetes versus preexisting diabetes.

127.2. Identify some of the most common/severe complications of gestational diabetes.

127.3. Identify glucose goals for a woman with gestational diabetes.

127.4. Discuss most common treatment approaches for gestational DM.

127.5. Differentiate among gestational hypertension and chronic hypertension.

127.6. Discuss maternal and fetal complications.

127.7. Discuss most common treatment approaches for gestational hypertension.

128. HELLP, Eclampsia & Preeclampsia; *MK*

128.1. Outline diagnostic criteria of HELLP Syndrome/Preeclampsia/Eclampsia.

128.2. Discuss how to identify severity of HELLP Syndrome/Preeclampsia.

128.3. List risk factors for HELLP Syndrome/Preeclampsia/Eclampsia.

128.4. Identify maternal and fetal complications of HELLP Syndrome/Preeclampsia/Eclampsia.

128.5. Discuss most common management strategies for HELLP Syndrome/Preeclampsia/ Eclampsia.

129. Placental Abnormalities; *MK*

129.1. Define some of the most common placental abnormalities: placenta accreta, placenta increta, placenta percreta, and placenta previa, placental abruption.

129.2. Identify clinical presentation of these placental abnormalities: placenta accreta, placenta increta, placenta percreta, and placental abruption.

129.3. Identify and briefly discuss the most common management strategies for these placental abnormalities: placenta accreta, placenta increta, placenta percreta, and placental abruption.

130. Missed & Spontaneous Abortions; *MK*

130.1. Define spontaneous abortion and discuss established risk factors.

130.2. Discuss clinical presentations and how symptoms are differentiated between threatened, inevitable, incomplete, and complete abortions.

130.3. Define and discuss missed abortions (risk factors, presentation, diagnosis).

130.4. Brief overview of monitoring/treatment of the different types of abortions.

131. Toxicology & Teratogenicity; *MK*

131.1. Describe the common poisons and toxins that require emergency treatment, including heavy metals.

131.2. Discuss the methods of decontamination and/or elimination of the poison/toxin.

131.3. Discuss categories for drugs taken during pregnancy based on FDA requirements.

132. Perinatal/Pediatric/Geriatric Pharmacology; *MK*

132.1. Describe the receptors targeted by the oxytocics and the sensitivity of the uterus to the various oxytocics during the three trimesters of pregnancy.
132.2. State the usual route(s) of administration, onset, and duration ofaction of the various oxytocic agents.
132.3. State the usual route(s) of administration as well as onset andduration of action of the various tocolytic agents.
132.4. Describe the potential adverse effects of the oxytocic agents in the mother (uterine, extrauterine) and in the infant.
132.5. Describe the clinical use of the individual oxytocics.
132.6. Discuss the utilization of prostaglandins and oxytocic intherapeutic abortion.
132.7. Identify the potential benefits and risksof administering tocolytic (anti- contraction) agents to the mother and baby.

133. Congenital & Perinatal Infections (Overview); *MK*

133.1. Discuss the events in ascending and hematogenous infections occurring during pregnancy.
133.2. List and rank (most to least common) six maternal causes for congenial infections (know: ToRCH3eS_List).
133.3. List and rank two maternal causes for perinatal infections.
133.4. Discuss the ascending and hematogenous infections occurring during pregnancy in terms of pathogenesis, microanatomic morphology, methods of diagnosis.
133.5. Discuss the ascending and hematogenous infections occurring during pregnancy in terms of prognosisand treatment.

134. Endocrine Pathology: Hyper-and Hypo Pituitarism; *MK*

134.1. Describe the clinicopathologic appearance, and complications of pituitary disease.
134.2. Discuss the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of hyperpituitarism and pituitary adenomas.
134.3. List the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of hypopituitarism.
134.4. Explain the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of hypothalamic suprasellar tumors.

135. Endocrine Pharmacology I: Growth Hormone, Prolactin, Gonadotropins, ACTH, TSH; *MK*

135.1. Explain the molecular mechanism of action of each drug in each drug class and actions on organ systems.
135.2. Describe the biological actions of growth hormone on peripheral tissues (e.g., protein synthesis, intermediary metabolism); outline the role(s) of IGF-1.
135.3. List the adverse effects of GH therapy in children and adults.
135.4. Understand the medical problems related to hypo- or hyper- secretion of GH and the role of releasing/replacement therapy and release inhibiting drugs in the management of these states, respectively.
135.5. Describe the biological actions of prolactin on breast development and lactation; learn the interrelationship of the hormones that are involved in breast development and lactation: growth hormone, estrogen, progesterone, glucocorticoids, TRH, prolactin, oxytocin, and insulin.
135.6. Describe the kinetics of secretion for GnRH and the relationship to the therapeutic uses of synthetic analogs, the mode of administration and therapeutic considerations.
135.7. Describe the adverse effects of GnRH and analogs as therapeutic agents when used to treat infertility, prostatic carcinoma, endometriosis, central precocious puberty.
135.8. Explain the physiological importance of ACTH suppression by pharmacological glucocorticoids.

135.9. Describe the utility of the rapid ACTH stimulation test in diagnosing pituitary-adrenal disorders and what endpoint is measured.

136. Endocrine Pharmacology II: Hypothalamus & Posterior Pituitary; *MK*

136.1. Discuss the effects of vasopressin on receptor subtypes and signal transduction systems in vascular smooth muscle and the kidney.
136.2. Describe the mechanisms by which vasopressin increases renal water conservation.
136.3. Describe the drugs that affect vasopressin release/action and their relationship to the therapy of diabetesinsipidus (DI) and SIADH.
136.4. List drugs that can cause diabetes insipidus (nephrogenic and neurogenic) and SIADH.
136.5. Describe the pharmacokinetics and actions of oxytocin and roles in parturition and lactation.
136.6. Explain the molecular mechanism of action of each drug in each drug class.
136.7. Describe the pharmacokinetics andactions of vasopressin and analogs.
136.8. Explain the toxicity and contraindications for oxytocin.
136.9. Describe preparations and routes administration of vasopressin analogs available for treating neurogenic and partial diabetes insipidus, bleeding of esophageal varices and deficient blood clotting factors in hemophilia.
136.10. Describe the diagnostic and therapeutic uses of oxytocin.

137. Endocrine Pharmacology III: Gonadal Hormones; *MK*

137.1. Describe differences in absorption, distribution, and elimination between synthetic and natural estrogens.
137.2. List major clinical uses, adverse effects/contraindications for estrogens and progestins alone and in combination.
137.3. Describe the use of estrogen receptor antagonists and aromatase inhibitors in breast cancer.
137.4. Explain the therapeutic utility of "selective estrogen receptor modulator" (SERM).
137.5. Describe different types of oral contraception pills.
137.6. List and describe the mechanism of action of postcoital and hormonal contraceptive agents.
137.7. Discuss the various drug interactions of oral contraceptives.

138. Endocrine Pharmacology IV; *MK*

138.1. Describe the synthesis and secretion and metabolism of the androgens.
138.2. Describe the mechanism of action of the androgen class of gonadal hormone drugs.
138.3. Distinguish between the direct effects of testosterone and those mediated by dihydrotestosterone and estradiol.
138.4. Discuss the therapeutic uses of synthetic androgens and testosterone.
138.5. Describe the adverse effects of androgens/anabolic steroids when used in male and female.
138.6. Explain the rationale for use of antiandrogens, cite examples and their categories.

139. Hyper-and Hypo-Thyroidism, Autoimmune Thyroiditis, & Thyroid Neoplasms; *MK*

139.1. Compare the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of hyperthyroidism versus hypothyroidism.
139.2. Discuss the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of thyroiditides including Graves disease.
139.3. Outline the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of goiters and thyroglossal duct cysts.
139.4. Describe the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of thyroid neoplasms.

140. Drugs for Thyroid Disorders; *MK*

140.1. Describe the biochemical pathway for thyroid hormone synthesis and release and indicate the sites of action of antithyroid drugs.
140.2. Describe the molecular mechanism of action of commonly prescribed drugs to treat thyroid disorders.

140.3. Explain the pharmacokinetic rationale for selecting the most appropriate form of thyroid hormone as replacement therapy.
140.4. List the principal drugs for the treatment of hypothyroidism and hyperthyroidism and compare the onset and duration of their action.
140.5. Describe the adverse effects of anti-thyroid medications and identify those that are potentially life-threatening.
140.6. Describe the rationale and order of administration of drugs given to treat thyroid storm.
140.7. Describe the major toxicities of thyroxine and antithyroid drugs.

141. Renal Pathology: Secondary to Endocrine; *MK*

141.1. Review the physiologic basis of renal mechanisms responsible for the concentration and dilution of the urine.
141.2. Discuss the hormonal and physiological regulation of volume and osmolality including the relationship and interdependency between these two factors.
141.3. Define and differentiate between central diabetes insipidus vs. nephrogenic diabetes insipidus including a discussion of the pathophysiological mechanisms and clinical presentation of these disorders.
141.4. Discuss the mechanisms related to thyroid disease states and alterations influid and electrolyte status.
141.5. Define and differentiate between common hyponatremic disorders (dilutional, mineralocorticoid and glucocorticoid deficiencies, pseudohyponatremia) including a discussion of the pathophysiological mechanisms and common clinical presentation of these disorders**.**

142. Hyper-and Hypo-Adrenalism; *MK*

142.1. Compare and contrast the causes and clinicopathologic features of hypercortisolism (Cushing syndrome), including Cushing disease
142.2. Compare and contrast ACTH-independent and ACTH-dependent Cushing syndrome
142.3. Describe glucocorticoid overproduction (or hypercortisolism) due to a primary adrenocortical neoplasm (adenoma vs. carcinoma).
142.4. Describe and contrast bilateral micronodular hyperplasia and macronodular hyperplasia as other causes of Cushing syndrome.
142.5. Describe ectopic ACTH secretion with neuroendocrine origin; describe the mechanism of increased cortisol secretion.
142.6. Describe the diagnostic process and overall management of hypercortisolism.
142.7. Compare and contrast the causes and clinicopathologic features of hyperaldosteronism.
142.8. Outline the clinicopathologic features of congenital adrenal hyperplasia.
142.9. Compare and contrast the causes of adrenocortical insufficiency.
142.10. Compare and contrast the pathogenesis of primary acute and chronic adrenocortical insufficiency and secondary adrenocortical insufficiency.
142.11. Compare and contrast adrenal cortical hyperplasia, adenoma, and carcinoma.

143. Endocrine Neoplasms; *MK*

143.1. Outline the clinicopathologic features of pheochromocytomas and paragangliomas.
143.2. Discuss the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of hyperparathyroidism and hypoparathyroidism.
143.3. Compare and contrast the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of pancreatic “islet cell tumors” (pancreatic neuroendocrine tumors).
143.4. Compare and contrast the hereditary cancer syndromes associated with paragangliomas/pheochromocytomas.
143.5. Describe the pathological lesions and genetic mutations connected to:
143.5.1.1. Von Hippel-Landau (VHL) syndrome

143.5.1.2. Multiple endocrine neoplasia (Type 1, 2 A&B)

144. Adolescent Development, Tanner Staging, and Associated Endocrine Changes; *MK*

144.1. Define adolescence and its physiological significance in human development.
144.2. Explain the Tanner staging system for sexual maturation, including the five stages for both males and females, focusing on changes in secondary sexual characteristics.
144.3. Describe the physical changes that occur during adolescence, including growth spurts, changes in body composition, development of primary and secondary sexual characteristics, and hormonal changes.
144.4. Explain the endocrine changes that occur during puberty, including the role of gonadal hormones (estrogen, progesterone, testosterone) and their effects on the hypothalamic-pituitary-gonadal axis.

145. Drugs to Treat Disorders of Adrenal Cortex; *MK*

145.1. Describe the regulation of corticosteroid synthesis by ACTH andangiotensin.
145.2. Review the regulation of aldosterone secretion by angiotensin (I, II, and III).
145.3. Explain the molecular mechanism of action of agonists and antagonists in each drug class.
145.4. Be aware of receptor-independent effects via 11-beta-steroid hydroxylaseon corticosteroid specificity.
145.5. Describe the actions of corticosteroids on intermediary metabolism, growth and development, electrolyte homeostasis, immune and inflammatory responses.
145.6. Describe the actions of corticosteroids on electrolyte homeostasis.
145.7. Describe the actions of corticosteroids on immune and inflammatory responses.
145.8. Explain the cellular/molecular mechanisms of action of corticosteroids.

146. Pathology of the Endocrine Pancreas I; *MK*

146.1. Describe the clinicopathologic appearance, and complications of diabetes.
146.2. Compare the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of type1 diabetes mellitus, type 2 diabetes mellitus, monogenic forms of diabetes and gestational diabetes.

147. Pathology of the Endocrine Pancreas II; *MK*

147.1. *See previous session*.

148. Antidiabetic Drugs; *MK*

148.1. List different cell types of the pancreas involved in the regulation of insulin.
148.2. Understand the hormonal and neuronal regulation of insulin secretion.
148.3. List the names of some common rapid-acting, short-acting, intermediate, and long-acting insulin, Identify the onset and duration of each and choose possible combinations of them to match a diabetic patient's need.
148.4. Explain how a patient with Diabetic Ketoacidosis is treated.
148.5. Discuss the adverse effects of Insulin.
148.6. List the various classes of non-insulin antidiabetic drugs and describe their mechanism of action and adverse effects of these drugs.

149. Calcium Homeostasis; *MK*

149.1. Explain the synthesis, secretion, and regulation of PTH, serum calcium levels, phosphate levels, and vitamin D in modulating PTH secretion.
149.2. Discuss the physiological functions of PTH in calcium homeostasis, including its effects on bone (stimulating osteoclast activity and bone resorption), kidneys (increasing renal calcium reabsorption and phosphate excretion), and the gastrointestinal tract (indirectly increasing intestinal calcium absorption via vitamin D).
149.3. Describe the relationship between PTH, calcitonin, vitamin D, and other hormones in maintaining calcium balance, bone mineralization, and serum ionized calcium levels.

149.4. Explore abnormalities in calcium metabolism, such as hypercalcemia (etiologies, clinical manifestations, and management), hypocalcemia (etiologies, clinical features, and treatment), and their impact on neuromuscular function, bone health, and cardiovascular function.

150. Drugs to Treat Disorders of Parathyroid and Ca^{+2} and PO_4 Homeostasis; *MK*

150.1. Explain the molecular mechanism of action of the most prescribed parathyroid related drugs.
150.2. Describe the possible adverse effects of CT, 1,25-(OH)2D3 and calcium supplements.
150.3. Describe the chronic toxicity associated with long-term use of sodium fluoride.
150.4. Compare the available preparations of CT, 1,25-(OH)2D3, and calcium supplements and their clinical uses.
150.5. Describe the treatment of hypo- and hyperparathyroidism.
150.6. Describe the clinical value of bisphosphonates and CT in the treatment of: hypercalcemia, Paget's disease, osteoporosis (post-menopausal and glucocorticoid-induced).
150.7. Explain current guidelines for vitamin D supplementation and goals for blood level of vitamin D.
150.8. Describe current recommendations for treating osteoporosis, especially with respect to use of bisphosphonates, estrogens (esp. raloxifene), teriparatide, and denosumab.
150.9. Describe the relationship between vitamin D and calcium supplements.

151 – 153. TBL: Pathology and Pharmacology of Endocrine Pancreas and Parathyroid Disorder/ Dysfunction; *MK, PRO*

Focused application of content from sessions abovewithin a team-based learning environment including iRAT, tRAT and GAPs. Attendance at these sessions is mandatory.

ARKANSAS COLLEGE OF OSTEOPATHIC MEDICINE

Course Name: Foundations of Osteopathic Patient Care-3

Class of/Semester/Year: 2027/Fall/2024

Date Last Revised: June 4, 2024

Approved By: Shannon Ramsey Jimenez

Shannon Ramsey Jimenez, DO

Dean of ARCOM

Note: Final Approval. May be released to students. Schedule subject to change with advance notice.

Office of the Dean
479.308.2380 | PO Box 10366 | Fort Smith, AR 72917

ARKANSAS COLLEGE OF OSTEOPATHIC MEDICINE

Arkansas Colleges of Health Education
Course Syllabus

Course Name:	Foundations of Osteopathic Patient Care 3 (FOPC3)
Class of/Semester/Year:	Class of 2027/Fall 2024
Course Designation:	COM 621
Term Dates:	July 29, 2024 – December 13, 2024
Course Dates:	July 29, 2024 – December 10, 2024
Total Contact Hours:	37 Lecture Hours; 28 Lab Hours
Credit Hours:	5 Credit Hours
Assessment/Grading:	Two Lab Practical Exam; Three Written Exams, Skills, Lab Quizzes, miscellaneous
Location:	Lecture Hall 1, OMM Lab, SIM Center, SP Center, Classroom 1, TBL Rooms, Virtual Teams
Course Director:	Donna Shipley, MD
Office Hours:	By appointment

Syllabus is subject to change

ARKANSAS COLLEGE OF OSTEOPATHIC MEDICINE

Table of Contents

ARKANSAS COLLEGE OF OSTEOPATHIC MEDICINE

Course Description:
Foundations of Osteopathic Patient Care (FOPC 3) is the third of four active participation courses during the first two years. It is designed to introduce clinical skills including the art of medical history taking and physical examination. It also introduces the student to the concept of medical professionalism and ethics, the physician's role and duties toward society and the profession, the concept of the physician-patient relationship and the obligations and rights of both the doctor and the patients they serve. The first year of the course places an emphasis on communication skills, medical history taking and physical examination skills. The second year of the course focuses on the development of the clinical acumen necessary to diagnose and treat the patient while developing problem-solving skills that are required of today's physicians.

The course places an emphasis on respect for individuals along with an understanding of the diversity of individuals and cultures. The ability to communicate with patients effectively, educate and motivate them to advance their own health and wellness, along with the ability to work collaboratively in a team environment, are essential tools for today's physician. These tools are developed during the course.

The course requires active participation and demonstrations of mastery of the core competencies expected of an osteopathic physician. The course utilizes computer-based educational content, lecture demonstration, small group case-based learning exercises, problem-solving exercises, clinical laboratory experiences, utilization of standardized patients and simulations as well as assigned reading to provide the knowledge and skills foundation expected by the faculty. The course is a first in a series of clinical skills courses that are integrated with the osteopathic principles and practice courses offered by the college and correlated with the systems courses taught in the curriculum.

The course teaches the basics of radiology. The student will be introduced to radiological imaging of the different systems as they are being taught.

Course Goals:
The following course goals reflect broad and enduring knowledge, skills, behaviors, and responsibilities that students should attain as a result of successfully completing the course:

1. Demonstrate an understanding of and apply the principles of professionalism and ethics in the clinical, educational, and professional settings.
2. Demonstrate the ability to interview a patient and obtain the medical history for both a brief encounter (problem-oriented approach) and a complete medical history.
3. Demonstrate the skills required to perform a pertinent physical examination.
4. Demonstrate the appropriate usage of diagnostic equipment.
5. Demonstrate knowledge of the appropriate medical terminology related to the body systems and properly use them in written and verbal communication.
6. Demonstrate ability to work in an interprofessional team.

Course Expectations and Student Responsibilities:
Students should refer to the ARCOM Student Handbook & Clinical Training Manual, as well as the ACHE Student Handbook and ACHE Course Catalog for information regarding professional standards, acceptable conduct, dress code, and program requirements.

Video Capture of Educational Content:
Consistent with the policies surrounding video capture and posting of educational content, recordings of any learning activity are considered a supplemental resource to advance student understanding and for

reference at future stages of student education. Recorded materials should not be utilized to replace attendance in the classroom, laboratory, or clinical setting. ARCOM makes no guarantees of reliability for video capture and reserves the right to not allow the recording of learning activities. There is no substitute for class attendance, being actively engaged in the learning process, investing in the comprehension and application of course material, and interacting with instructors and colleagues. Becoming an osteopathic physician involves much more than the acquisition of knowledge and attainment of a professional title. Professionalism, ethics, problem solving, and communication are among the vital skills that are best developed in active and interactive settings. As such, ARCOM expects students to attend all learning activities and offers no guarantees or warranties as to the recording of educational classroom/laboratory content. There will be no video capture of in-class applications team-based learning (TBL), Foundations of Osteopathic Patient Care (FOPC), or Osteopathic Principles and Practice (OPP). Students are not permitted to render any audio and/or visual recordings of these in-class sessions.

Dress Code:
Students should refer to the ACHE Student Handbook, as well as their course syallbi, for the dress code for campus and academic activities. During lab Lectures where physical examination skills are taught, students must dress in a manner that facilitates a physical examination to be performed on them. Students are expected to perform and receive clinical examinations in laboratory Lectures. In order to minimize interference in learning the physical examination techniques, students must dress in a manner such that their partner will be allowed the best possible access to the body structures.

Full body lab dress requires the following:

- Upper body – must allow for exposure of skin overlying the hands, elbows, shoulders, clavicles, scapula, spine, and most posterior rib angles.
- Men - Modest ARCOM T-shirt, scrub top, or bare skin (when requested).
- Women – Modest AROCM T-shirt or scrub top with modest sports bra or tank top.
- Lower body– must allow skin exposure of abdomen, spine, PSIS, knees, ankles, and feet.
- Men and Women – Modest lightweight ARCOM shorts, scrub bottoms or exercise pants. No heavy canvas, denim, or cargo shorts.
- Garments worn for religious reasons are acceptable dress in clinical skill laboratory experiences; however, they should be modified or removed, when necessary, to allow palpation when they would obscure the immediate area to be examined or treated (e.g., head, neck, upper back). Modifications can include adjustment of the covering permitting unobstructed palpation beneath the covering; or substitution of a thinner material that allows for adequate evaluation and treatment. If these modifications are not sufficient for proper exposure and examination, the student will be asked to remove their head covering. Once the examination is completed, the student can replace their head covering.
- Shoes and belts are NOT allowed on the examination tables, as they may rip the vinyl.
- Observation, evaluation, and treatment will involve all external body surfaces except the genitalia, breasts, and rectum.
- Student doctors are required to fully participate in clinical skill labs. It is necessary to both perform physical examinations and serve as a patient for your partner regardless of gender. The body region being examined and the techniques that are being practiced require adequate exposure for observation, palpation, and auscultation. This requires a male to remove his shirt, and a female to wear a sports bra.

Professionalism:

- Students will conduct themselves professionally at all times, during all educational activities conducted on or off campus. This includes interactions with all faculty, staff, students, clinical faculty, guest lecturers, health care providers, patients, and any other member of the ARCOM community. Unprofessional behavior, conduct, or attire inconsistent with the ARCOM dress code will not be tolerated and will result in administrative action. Students aredirected to the ARCOM Student Handbook & ACHE Course Catalog for a full definition of professionalism and list of expected professional behaviors.
- Any unauthorized recording of learning materials and activities used in connection with the ARCOM curriculum or reproduction, rendering, possession, or dissemination of these materials including assessment materials, is considered unprofessional behavior and a violation of copyright. Such behavior is subject to action by the Student Conduct Committee(SCC) for disciplinary action, which may include receiving a grade of "zero" for a graded assessment, course failure, probationary action, suspension, or dismissal from ARCOM.
- Computers, tablets, or notebooks should only be used during lectures to take notes or reference appropriate class topics and reference materials. Students should not be on the internet viewing social media sites, performing online shopping, or playing games, etc. Thisis disrespectful to the lecturer, inhibits peer learning, and is unprofessional behavior.

Diversity, Equity, and Inclusion:

ACHE is committed to a campus environment that is inclusive, safe, and respectful for all persons, and fosters an environment free of harassment and discrimination. To that end, all course activities will be conducted in an atmosphere of friendly participation and interaction among colleagues, recognizing and appreciating the unique experiences, background, and point of view each student brings. Students are expected at all times to apply the highest academic standards to this course and to treat others with dignity and respect.

During **STANDARDIZED PATIENT OR SIMULATION EXERCISES** students MUST dress appropriately to participate in the examination. Attire should be professional in nature, as described in the student handbook, and in particular for patient (SP included) encounters:
Men: Shirt and tie, dress slacks, dress shoes and socks
Women: Dresses, skirts, or dress slacks with blouse and/or sweater. Skirts must be no shorter than 3 inches above knees, inclusive of any slits. Shoulders and cleavage should be covered completely. Undergarments should not be visible. Closed toe dress shoes. Nails must be short to avoid harm to the patient. Due to patient safety regulations, **NO** artificial nails or perfumes may be worn during Standardized Patient encounters.
For practical examinations: ALL STUDENTS MUST WEAR THEIR WHITE LAB COATS AND HAVE THEIR STUDENT ID.

BRING STETHOSCOPES. Amplified stethoscopes, any similar device that may mimic a recording or communicating device, and any attachments to a standard stethoscope (e.g., light source) are prohibited.
Do not wear wristwatches or bring other personal timing devices to the examination. Clocks are located in each examination room and throughout the testing center. Regular audio timing prompts also guide candidates through their tests.

Do not bring pagers, cell/smartphones, tablets, laptops, iPods, MP3 players, manuals, or other clinical or electronic resources into the testing area. Likewise, do not bring valuables such as jewelry.

Any documentation in the SOAP note that reflects a portion of the physical examination that was NOT performed during the Practical is considered unprofessional and is prohibited and may result in a referral to the Student Conduct Committee (SCC).

Any conduct, including bringing non-approved apparel into the testing center, that is deemed unprofessional or is prohibited, may result in a warning or ending the examination at that point. No grades will be given for any actions after you are told that your exam has ended.

Attendance Policy:

Osteopathic medical education prepares students for professional clinical practice. Lectures and labs include didactic material, case presentations, patient demonstrations, informal discussions, team-based learning, and the practice of psychomotor skills. Consistent and prompt class attendance is essential for the learner to benefit from the full educational experience.

Therefore, ARCOM Faculty have adopted the following attendance policy:

1. Attendance at all lecture sessions within a given course is strongly encouraged, but not required.
2. Attendance is required for all guest lecturers and team-based learning experiences. A pattern of absenteeism or tardiness for these sessions is considered unprofessional behavior and may result in a referral for disciplinary action for violations of the ACHE Student Code of Conduct consistent with the ACHE Student Misconduct Policy.
3. Since laboratory sessions are designed to develop the clinical and psychomotor skills necessary for success as an osteopathic physician, students are expected to attend all laboratory sessions (as outlined in the course syllabus) and all lectures tied to labs. If, for any reason, a student misses more than 10% of these required sessions for a given course, the student will receive 1% decrease in final average for each percentage missed over 10%.

   Example: A course with 20 laboratory sessions.

   A student who misses 3 laboratory sessions (15%) will receive an 5% reduction in his/her final average. A student who misses 4 laboratory sessions (20%) will receive a 10% reduction in his/her final average.
4. All simulated events, including standardized patient encounters, simulated patient encounters, and skills events are required, and an absence or tardiness will result in the loss of additional 2% of the final percentage per simulated event, or as otherwise stated by the course director.
5. This attendance policy does not override any assignments that require attendance to perform. Therefore, if a student misses an event that requires an assignment to be submitted based on the educational experience, the student will lose points for not successfully completing the assignment.
6. If a student misses an exam, he/she will receive a grade of zero. A make-up exam will only be administered on a case-by-case basis with the approval of the course director and/or the Dean of ARCOM.
7. Students considered academically "at-risk" may be held to a separate attendance policy administered by the Office of Academic Affairs.
8. Students must be physically present to receive credit for attendance. Virtual attendance of lectures does not count as in-person attendance.
9. Students must refer to the Outlook Live calendar for all course schedules and changes.
10. Students are responsible for all missed learning material/experiences.
11. As it is not possible to replicate lab experiences, faculty members are not obligated to provide makeup learning experiences.
12. There are no excused absences; however, extenuating circumstances (e.g. serious illness/injury, etc.) may be addressed on a case-by-case basis by the ARCOM Dean.

13. Absence from class to attend professional events, such as a state or national conference, may be approved on a case-by-case basis by the ARCOM Dean.
14. Absence from class due to planned events of a personal nature are not excused absences.
15. A pattern of tardiness is unacceptable. While Faculty understand there may be unavoidable instances, tardiness will not be tolerated on exam days or when guest speakers are in attendance. Admittance to the classroom may be prohibited and, in that circumstance, the student would be marked as absent.

This attendance policy will be strictly adhered to. It is expected that students will use good judgment when being absent, only doing so rarely and for legitimate or necessary reasons.

Course Faculty:

Faculty Member	Office	Phone	Email
Donna Shipley, MD	209	479-308-2326	donna.shipley@achehealth.edu
Kaitlin McNamara, DO	215	479-308-2332	kaitlyn.mcnamara@achehealth.edu
Aubrey Ziegler, MD	217	479-308-2327	aubrey.ziegler@achehealth.edu
Monica Rojas, MD	211	479-308-2343	monica.rojas@achehealth.edu
Michael Gooden, MD	347B	N/A	michael.gooden@achehealth.edu
Louay Nassri, MD	216	479-308-2324	louay.nassri@achehealth.edu
Jozia McGowan, DO	208	479-308-2328	jozia.mcgowan@achehealth.edu
Jeanne Rupert, DO	219	479-308-2342	jeanne.rupert@achehealth.edu
Leslie Ziegler, MD	N/A	GUEST	lzieglerMD@gmail.com

Faculty Office Hours:

While faculty maintain an open-door policy, **it is strongly recommended that a student in need of a faculty member's time and attention reserve an appointment directly via e-mail** or telephone communication with the faculty member.

Additionally, the faculty ***may not be available*** to answer student questions ***24 hours prior*** to an examination due to test preparation obligations. Students should budget their time appropriately and set appointments with faculty members during their office hours well in advance of exams. Faculty **may have limited availability** to respond to emails during the evenings, weekends, holidays, or days in clinic, so students should plan accordingly.

Required Course Resources:

Title	Edition	Authors	ISBN-13
Bates' Guide to Physical Examination and History Taking	13th	Lynn S. Bickley	978-1496398178

Recommended Course Resources:

Title	Edition	Authors	ISBN-13
Robbins and Cotran Pathologic Basis of Disease (2020)	10th	Kumar et al.	(hdbk): 978-0323531139
Harrison's Principles of Internal Medicine (2022)	21st	Jameson et al.	978-1264268504

Current Diagnosis & Treatment: Obstetrics & Gynecology (2019)	12th		978-0071833905
Current Medical Diagnosis & Treatment (2023)			978-1264687343
USCD's Practical Guide to Clinical Medicine (online course)		Charlie Goldberg	https://meded.ucsd.edu/clinicalmed/introduction.html

Bates' Visual Guide to the Physical Examination, (online database)
Bates' Visual Guide: https://library.achehealth.edu/bates-visual-guide

Nelson Textbook of Pediatrics (2024)
Rittenhouse Information: https://www.rittenhouse.com/Rbd/Products/Book.aspx?sku=0323883052
Amazon Information: https://www.amazon.com/Nelson-Textbook-Pediatrics-2-Set/dp/0323883052/ref=sr_1_1?keywords=9780323883054&sr=8-1

Osteopathic Core Competencies:
The faculty and administration of ARCOM attest that Osteopathic Core Competencies are met in this course.

1. **Osteopathic Philosophy/Osteopathic Manipulative Medicine (OPP/OMM):** Demonstrate and apply knowledge of accepted standards in osteopathic manipulative treatment appropriate to the specialty. Remain dedicated to life-long learning and to practice habits in osteopathic philosophy and OMM.
2. **Medical Knowledge (MK):** Demonstrate and apply knowledge of accepted standards of clinical medicine in the respective area; remain current with new developments in medicine and participate in life-long learning activities.
3. **Patient Care (PC):** Demonstrate the ability to effectively treat patients and provide medical care that incorporates the osteopathic philosophy, patient empathy, awareness of behavioral issues, the incorporation of preventive medicine and health promotion.
4. **Interpersonal and Communication Skills (ICS):** Demonstrate interpersonal and communication skills that enable a physician to establish and maintain professional relationships with patients, families, and other members of health care teams.
5. **Professionalism (PRO):** Uphold the Osteopathic Oath in the conduct of one's professional activities that promotes advocacy of patient welfare, adherence to ethical principles, and collaboration with health professionals, life-long learning, and sensitivity to a diverse patient population; be cognizant of physical and mental health in order to effectively care for patients.
6. **Practice-Based Learning and Improvement (PBL):** Demonstrate the ability to critically evaluate methods of clinical practice; integrate evidence-based medicine into patient care; show an understanding of research methods; improve patient care practices.
7. **Systems-Based Practice (SBP):** Demonstrate an understanding of health care delivery systems; provide effective and qualitative patient care with the system; and practice cost effective medicine.

Grading Information:
Grading point values and scale are consistent with policies outlined in the ARCOM Student Handbook & ACHE Course Catalog. Students will receive a numerical grade (percentage) at the end of the course with 70% or greater required to pass.

Students are required to pass all components of each course to progress to the next semester. Practicals are given a pass/fail grade. Non-practical components must average a C (70%) or higher grade to pass. Components of this course are separated into practical and non-practical components.

Grade Determination and Scheduled Assignments:

Date	Assessment (CC)	Percentage of Final Grade
Wednesday, September 4, 2024 @8:30 AM - 11:30 AM	Written Exam #1	20%
Monday, September 30, 2024 @8:00 AM - 5:00 PM	Practical #1	Pass/Fail
Tuesday, October 1, 2024 @8:00 AM - 5:00 PM	Practical #1	Pass/Fail
Wednesday, October 23, 2024 @8:30 AM - 11:30 AM	Written Exam #2	20%
Monday, November 18, 2024 @8:00 AM - 5:00 PM	Practical #2	Pass/Fail
Tuesday, November 19, 2024 @8:00 AM - 5:00 PM	Practical #2	Pass/Fail
Friday, December 6, 2024 @8:30 AM - 11:30 AM	Written Exam #3	30%
Throughout the Term	Lab Quizzes	10%
See schedule per Syllabus	Clinical Applications (14)	20%
TOTAL:		**100%**

Examinations:
There will be two standardized patient practical and three written examinations.

Practicals: Practicals require students to perform a History and Physical on a patient(s) and write SOAP notes on each patient that they encounter. The student must pass 1) Two out of three components of the Encounter, 2) three out of four components of the SOAP note, 3) complete the peer-to-peer review, and 4) complete the self-assessment, in order to pass the Practical.

Lab quizzes/assignments: Lab quizzes will be performed prior to the start of the lab. Questions in the lab quizzes will be created based upon the material for that day or the prior lectures/lab days.

Written examinations: There will be a total of three written examinations which include the final examination. All written examinations may have questions from any lecture or lab that was presented at least 48 hours prior to the written examination.

Practical applications: Grades are based on participation in activities, completion of assignments, and attestations. There are a total of twelve Participation Activity sims and brief SP encounters that will be conducted throughout the semester, that will require you to incorporate your basic science knowledge along with FOPC skills to successfully complete.

Assessment of core competencies is accomplished by observation of the faculty, evaluations, demonstrations, performance and presentations in small group, laboratory, standardized patient, and simulation setting and cases. The principles of osteopathic medicine should pervasively integrate with your education as you acquire and apply the medical knowledge gained from your studies in all courses.

Additionally, the practice of medicine does require cumulative and comprehensive knowledge from multiple disciplines. Resultantly, information from other courses and previous semesters may be included on the examinations when relevant to the material presented. The integration of such content from other courses will be reflected in the learning objectives for the course.

Remediation:
See Course Director for specific policy.

Course content, sequencing, grading, and examination policies are subject to change by administration with the approval the Curriculum Committee. Students will be given advanced notice of any substantive changes by email and the ARCOM portal.

Course Specific Grading Information:
Computer-based examinations and laboratory practicals evaluate acquired medical scientific knowledge, whereas the quality of dissections assesses completion of assigned laboratory work. Grading percentages for all assessments used to calculate the final course grade are outlined in the syllabus.

Foundations of Osteopathic Patient Care 3 (FOPC3) Course Schedule:
Refer to the OUTLOOK Student Calendar for official (up to date) schedule

Day	Date	Time	Session #	Title	Instructor
Mon	Jul 29	8 AM	0	Introduction & Course Expectations-*Asynchronous*	Shipley
Mon	Jul 29	11 AM	1	Assessment & Plan for OMS 2's	Shipley
Mon	Jul 29	1 PM	L1	Assessment & Plan Lab (Cases)	Shipley
Wed	Jul 31	9 AM	2	PE Review & Refresher	Shipley
Tue	Aug 6	8 AM	L2	PE Review & Refresher Lab	Shipley
Thu	Aug 8	9 AM	3	Clinical Approach to Hematologic Complaints I	J. McGowan
Fri	Aug 9	8 AM	4	Clinical Application 1: SP/TBL Hematology 1 (Red Cell Disorders)	J. McGowan
Mon	Aug 12	11 AM	5	Clinical Approach to Hematologic Complaints II	J. McGowan
Mon	Aug 12	1 PM	6	Clinical Application 2: SP/TBL Hematology 2 (White Cell Disorders)	J. McGowan
Fri	Aug 16	8 AM	7	Clinical Application 3: High-Fidelity Mannequin Simulation #1	J. McGowan
Mon	Aug 19	8 AM	8	Clinical Application 4 & 5: SP/TBL Hematology (Dyscrasias/Coagulopathy)	J. McGowan
Wed	Aug 28	10 AM	9	Approach to the Pediatric Cardiac Patient	Nassri
Fri	Aug 30	10 AM	10	Clinical Application 6: EKG Rhythms Review	*L. Ziegler
Wed	Sep 4	8:30 AM		**FOPC EXAM #1**	
Fri	Sep 6	1 PM	11	Clinical Application 7: Journal Club (*Aynchronous*) - Cardiac	Shipley
Mon	Sep 9	10 AM	12	Coronary Artery Disease Risk Factors	*Adjei/ *L.Ziegler

Mon	Sep 9	11 AM	13	Approach to the Patient with Cardiac Chest Pain - Recognizing & Treating the Acute Coronary Syndrome	*Adjei/ *L.Ziegler
Mon	Sep 9	1 PM	L3	Cardiovascular PE Refresher	*Adjei/ *L.Ziegler
Fri	Sep 13	8 AM	14	Clinical Application 8: High-Fidelity Mannequin Simulation #2	J. McGowan
Mon	Sep 16	11 AM	15	Approach to the Patient with Dysrhythmias	Shipley
Mon	Sep 16	1 PM	16	Clinical Application 9: High-Fidelity Mannequin Simulation #3	Shipley
Fri	Sep 20	8 AM	L4	SP Practice (Attendance Mandatory)	Shipley
Tue	Sep 24	8 AM	17	Clinical Application 10: Video Review with Feedback TBLs	Shipley
Fri	Sep 27	8 AM	18	Clinical Application 11: High-Fidelity Mannequin Simulation #4	Shipley
Mon	Sep 30	8 AM		Practical	Shipley
Tue	Oct 1	8 AM		Practical	Shipley
Thu	Oct 3	1 PM	19	Asthma in Children	Nassri
Fri	Oct 4	1 PM	20	Clinical Application 12: Journal Club (*Aynchronous*)- Pulmonary	Shipley
Mon	Oct 7	11 AM	21	Clinical Approach to a Patient with Dyspnea	A. Ziegler
Mon	Oct 7	1 PM	L5	COPD, Spirometry Lab & the Pulmonary Exam Refresher	A. Ziegler
Tue	Oct 8	8 AM	22	Intubation (*Asynchronous*)	Shipley
Tue	Oct 8	11 AM		**FOPC SP Make-Up & Retakes**	Shipley
Fri	Oct 11	8 AM	L6	Intubation Skills Day	Shipley
Mon	Oct 14	8 AM	23	Clinical Application 13: High-Fidelity Mannequin Simulation #5	A. Ziegler
Wed	Oct 16	10 AM	24	Pulm Cases *(Asynchronous)*	Nassri/ A.Ziegler
Mon	Oct 21	10 AM	25	Clinical Approach to the Urology Patient	*Basham
Mon	Oct 21	11 AM	26	Clinical Approach to the Patient with AKI, & Renal Exam Refresher	*Henry
Mon	Oct 21	1 PM	27	Clinical Application 14: SP/TBL AKI	Shipley
Wed	Oct 23	8:30 AM		**FOPC EXAM #2**	Shipley
Fri	Oct 25	1 PM	28	Clinical Application 15: Journal Club Reproductive Health *(Asynchronous)*	Shipley
Mon	Oct 28	9 AM	29	Female GU	Shipley/ Rojas
Mon	Oct 28	10 AM	30	Obstetrics Part 1	*Lefler
Mon	Oct 28	11 AM	31	Obstetrics Part 2	*Lefler

Mon	Oct 28	1 PM	L7	Newborn Delivery Skills, Fetal Heart Strips, & Delivery Notes Lab	Shipley/ *Lefler
Thu	Oct 31	10 AM	32	The Newborn Exam 1	Nassri
Thu	Oct 31	11 AM	33	The Newborn Exam 2	Nassri
Fri	Nov 1	7:30 AM	34	Clinical Application 16: Lucy-Delivering a Newborn (SIM) & the Neonatal Exam	Shipley
Mon	Nov 4	10 AM	35	Intro to Breast Lesions/The Clinical Approach to a Breast Mass	Shipley
Mon	Nov 4	11 AM	36	Imaging, Diagnosing, & Treating Breast Disease	Gooden
Mon	Nov 4	1 PM	L8	The Clinical Breast Exam & Detecting Masses	Shipley
Fri	Nov 8	8 AM	L9	SP Practice	Shipley
Tues	Nov 12	11 AM	37	Special Populations: Geriatrics--Approach to Heme, Cardiopulm, & Renal	Shipley
Fri	Nov 15	8 AM	38	Clinical Application 17: Video Review with Feedback TBLs	Shipley
Mon	Nov 18	8 AM		Final Standardized Practical	Shipley
Tues	Nov 19	8 AM		Final Standardized Practical	Shipley
Mon	Nov 25	10 AM	39	Approach to the Patient with Thyroid Disease	*L.Ziegler
Tue	Nov 26	8 AM	40	Approach to the Patient with Diabetes	Shipley
Mon	Dec 2	1 PM	L10	The Diabetic Exam	Shipley
Tue	Dec 3	3 PM		**FOPC SP Make-Up & Retakes**	Shipley
Fri	Dec 6	8:30 AM		**FOPC Written Exam #3**	

ARKANSAS COLLEGE OF OSTEOPATHIC MEDICINE

Appendix:

Foundations of Osteopathic Patient Care 3 (FOPC3) Fall 2024 Learning Objectives with *Core Competency*:

(Any changes to the learning objectives will reflect on lecturers presentation slide)

0. Introduction & Course Expectations *(Asynchronous)***;** *MK, PC*

- 0.1. Learn about the structure and overview of the FOPC 3 course.
- 0.2. Understand the expectations that you will be held to.

1. Assessment & Plan for OMS 2's; MK, PC

- 1.1. Develop and demonstrate the ability to critically analyze patient data, including history, physical exam findings, and diagnostic results to formulate a differential diagnosis.
- 1.2. Differentiate a diagnosis from a differential diagnosis.
- 1.3. Explain additional diagnoses of the assessment that pertain to chronic medical conditions, social history components, and family history concerns.
- 1.4. Determine an appropriate comprehensive plan for all assessments.

***Lab 1*-Assessment & Plan Lab (*Cases*);** *MK, PC, ICS, PRO*

- 1.1.1. Develop and demonstrate the ability to critically analyze patient data, including history, physical exam findings, and diagnostic results to formulate a differential diagnosis.
- 1.1.2. Differentiate a diagnosis from a differential diagnosis.
- 1.1.3. Explain additional diagnoses of the assessment that pertain to chronic medical conditions, social history components, and family history concerns.
- 1.1.4. Determine an appropriate comprehensive plan for all assessments.
- 1.1.5. Incorporate current medical evidence and guidelines into the development of a comprehensive assessment and plan tailored to the patient's needs.
- 1.1.6. Enhance communication skills to effectively convey the assessment and plan to the patient, ensuring understanding and collaboration in decision-making.
- 1.1.7. Gain proficiency in documenting the assessment and plan in a clear and organized manner adhering to the standardized requirements given to you in this course.
- 1.1.8. Develop the ability to self-assess documentation quality and clinical reasoning, identifying areas for improvement and implementing strategies for ongoing learning and growth.

2. PE Review & Refresher; *MK, PC*

- 2.1. Explain the proper techniques for conducting a comprehensive or problem focused physical exam of various body systems and patient chief complaints, including inspection, palpation, percussion, and auscultation.
- 2.2. Discuss the interpretation of physical exam findings to identify normal variations, abnormalities, and potential underlying pathologies.
- 2.3. Describe a physical exam in a patient-center manner, demonstrating empathy, respect, and cultural sensitivity while ensuring patient comfort and privacy.
- 2.4. Integrate physical exam findings with patient history and diagnostic results to formulate a differential diagnosis and guide further diagnostic and therapeutic interventions.

***Lab 2*- PE Review & Refresher Lab;** *MK, PC, ICS, PRO*

- 2.1.1. Demonstrate competence in the proper techniques for conducting a comprehensive or problem focused physical exam of various body systems and patient chief complaints, including inspection, palpation, percussion, and auscultation.

2.1.2. Demonstrate the ability to accurately interpret physical exam findings to identify normal variations, abnormalities, and potential underlying pathologies.
2.1.3. Perform a physical exam in a patient-center manner, demonstrating empathy, respect, and cultural sensitivity while ensuring patient comfort and privacy.
2.1.4. Integrate physical exam findings with patient history and diagnostic results to formulate a differential diagnosis and guide further diagnostic and therapeutic interventions.

3. Clinical Approach to Hematologic Complaints I; *MK, PC*

3.1. Recognize and differentiate common hematological disorders based on presenting symptoms, history and physical examination findings, and diagnostic studies.
3.2. Formulate and explain a differential diagnoses for various chief complaints associated with hematological disorders.
3.3. Describe the appropriate diagnostic tests and procedures to further evaluate hematological concerns.
3.4. Discuss the basics of management and treatment of different hematological disorders.

4. Clinical Application 1: SP/TBL Hematology 1 (*Red Cell Disorders*)**;** *MK, PC, ICS, PRO*

4.1. Discuss as a team and differentiate common hematological disorders based on presenting symptoms, history and physical examination findings, and diagnostic studies.
4.2. Formulate and explain a differential diagnoses as a group for cases associated with various chief complaints associated with hematological disorders.
4.3. Order the appropriate diagnostic tests and procedures to further evaluate hematological concerns.
4.4. Interpret diagnostic findings and refine the differential diagnosis or making a diagnosis based on the findings.
4.5. Determine as a group a consensus of your basic management and treatment of the determined diagnosis.

5. Clinical Approach to Hematologic Complaints II; *MK, PC*

5.1. Recognize and differentiate common hematological disorders based on presenting symptoms, history and physical examination findings, and diagnostic studies.
5.2. Formulate and explain a differential diagnoses for various chief complaints associated with hematological disorders.
5.3. Describe the appropriate diagnostic tests and procedures to further evaluate hematological concerns.
5.4. Discuss the basics of management and treatment of different hematological disorders.

6. Clinical Application 2: SP/TBL Hematology 2 (*White Cell Disorders***);** *MK, PC, ICS, PRO*

6.1. Discuss as a team and differentiate common hematological disorders based on presenting symptoms, history and physical examination findings, and diagnostic studies.
6.2. Formulate and explain a differential diagnoses as a group for cases associated with various chief complaints associated with hematological disorders.
6.3. Order the appropriate diagnostic tests and procedures to further evaluate hematological concerns.
6.4. Interpret diagnostic findings and refine the differential diagnosis or making a diagnosis based on the findings.
6.5. Determine as a group a consensus of your basic management and treatment of the determined diagnosis.

7. **Clinical Application 3: High-Fidelity Mannequin Simulation #1;** *MK, PC, ICS, PRO*
   - 7.1. Enhance clinical skills including history-obtaining, physical examination, diagnostic ordering and interpretation, and procedural proficiency in a controlled, realistic environment.
   - 7.2. Develop and demonstrate effective communication and teamwork among team-members (healthcare professionals), emphasizing the importance of clear communication, role clarity, and mutual respect in delivering patient-centered care.
   - 7.3. Practice critical decision-making and prioritization of tasks in simulated high-stress scenarios in preparation for effectively responding in real-life emergencies.
   - 7.4. Participate in a faculty directed debrief of the simulation, practicing self-reflection and peer feedback to promote continuous learning and improvement.
8. **Clinical Application 4 & 5: SP/TBL Hematology (Dyscrasias/Coagulopathy);** *MK, PC, ICS, PRO*
   - 8.1. Discuss as a team and differentiate common hematological disorders based on presenting symptoms, history and physical examination findings, and diagnostic studies.
   - 8.2. Formulate and explain a differential diagnoses as a group for cases associated with various chief complaints associated with hematological disorders.
   - 8.3. Order the appropriate diagnostic tests and procedures to further evaluate hematological concerns.
   - 8.4. Interpret diagnostic findings and refine the differential diagnosis or making a diagnosis based on the findings.
   - 8.5. Determine as a group a consensus of your basic management and treatment of the determined diagnosis.
9. **Approach to the Pediatric Cardiac Patient;** *MK, PC*
   - 9.1. Recognize and differentiate common pediatric cardiac conditions based on presenting symptoms, history and physical examination findings, and diagnostic studies.
   - 9.2. Formulate and explain a differential diagnoses for various chief complaints associated with pediatric cardiac conditions.
   - 9.3. Explain appropriate diagnostic testing to work-up pediatric patients presenting with signs and symptoms of cardiac conditions.
   - 9.4. Discuss the physical examination findings associated with pediatric cardiac conditions.
   - 9.5. Describe the basic treatment and management for pediatric patient with cardiac conditions.
10. **Clinical Application 6: EKG Rhythms Review;** *MK, PC, ICS, PRO*
    - 10.1. Recognize, interpret, and describe a normal ECG.
    - 10.2. Differentiate an abnormal ECG from a normal ECG.
    - 10.3. Recognize, interpret, and describe common abnormalities on ECGs, including arrhythmias, conduction abnormalities, and hypertrophy patterns.
11. **Clinical Application 7: Journal Club (***Asynchronous***)- Cardiac ;** *MK, PC*
    - 11.1. Read and analyze posted articles.
    - 11.2. Summarize and discuss the most important aspects of the reading.
    - 11.3. Apply the foundational knowledge obtained from their readings to clinical applications throughout the remaining aspects of this course.
12. **Coronary Artery Disease Risk Factors;** *MK, PC*
    - 12.1. Discuss risk factors associated with Coronary Artery Disease (CAD).
    - 12.2. Describe methods to prevent CAD.
    - 12.3. Explain appropriate diagnostic work-up for a patient with risk factors for CAD.

12.4. Interpret and discuss the diagnostic results of the work-up of the patient with risk factors for CAD.

13. Approach to the Patient with Cardiac Chest Pain--Recognizing & Treating the Acute Coronary Syndrome; *MK, PC*

13.1. Recognize and differentiate Acute Coronary Syndromes (ACS), including stable vs unstable angina, NSTEMI and STEMI, based on presenting symptoms, history and physical examination findings, and diagnostic studies.
13.2. Formulate and explain a differential diagnoses for cardiac chest pain.
13.3. Explain appropriate diagnostic testing to work-up cardiac chest pain.
13.4. Describe the fundamentals of treatment and management for cardiac chest pain.

***Lab 3*- Cardiovascular PE Refresher Lab;** *MK, PC, ICS, PRO*

3.1.1. Demonstrate competence in the proper techniques for conducting a comprehensive cardiovascular physical exam.
3.1.2. Demonstrate the ability to accurately interpret physical exam findings to identify normal variations, abnormalities, and potential underlying pathologies.
3.1.3. Perform a physical exam in a patient-centered manner, demonstrating empathy, respect, and cultural sensitivity while ensuring patient comfort and privacy.
3.1.4. Integrate physical exam findings with patient history and diagnostic results to formulate a differential diagnosis and guide further diagnostic and therapeutic interventions.

14. Clinical Application 8: High-Fidelity Mannequin Simulation #2; *MK, PC, ICS, PRO*

14.1. Enhance clinical skills including history-obtaining, physical examination, diagnostic ordering and interpretation, and procedural proficiency in a controlled, realistic environment.
14.2. Develop and demonstrate effective communication and teamwork among team-members (healthcare professionals), emphasizing the importance of clear communication, role clarity, and mutual respect in delivering patient-centered care.
14.3. Practice critical decision-making and prioritization of tasks in simulated high-stress scenarios in preparation for effectively responding in real-life emergencies.
14.4. Participate in a faculty directed debrief of the simulation, practicing self-reflection and peer feedback to promote continuous learning and improvement.

15. Approach to the Patient with Dysrhythmias; *MK, PC*

15.1. Recognize and differentiate cardiac dysrhythmias, based on presenting symptoms, history and physical examination findings, and diagnostic studies.
15.2. Formulate and explain a differential diagnoses for dysrhythmias.
15.3. Interpret and Explain appropriate diagnostic testing for a patient with a dysrhythmia.
15.4. Describe the fundamentals of treatment and management for dysrhythmias.

16. Clinical Application 9: High-Fidelity Mannequin Simulation #3; *MK, PC, ICS, PRO*

16.1. Enhance clinical skills including history-obtaining, physical examination, diagnostic ordering and interpretation, and procedural proficiency in a controlled, realistic environment.
16.2. Develop and demonstrate effective communication and teamwork among team-members (healthcare professionals), emphasizing the importance of clear communication, role clarity, and mutual respect in delivering patient-centered care.
16.3. Practice critical decision-making and prioritization of tasks in simulated high-stress scenarios in preparation for effectively responding in real-life emergencies.
16.4. Participate in a faculty directed debrief of the simulation, practicing self-reflection and peer feedback to promote continuous learning and improvement.

***Lab 4*- SP Practice (*attendance mandatory*);** *MK, PC, ICS, PRO*

4.1.1. Perform a simulated patient encounter, demonstrating competence in obtaining a history, performing an appropriate physical examination findings, and demonstrating compassion and effective communication skills with the patient.
4.1.2. Formulate and explain a differential diagnoses for the chief complaint.
4.1.3. Order the appropriate diagnostic tests and procedures to further evaluate the determined assessments and differential diagnoses.
4.1.4. Interpret diagnostic findings and refine the differential diagnosis or making a diagnosis based on the findings.
4.1.5. Determine a plan for the management and treatment of the determined diagnoses.
4.1.6. Appropriately document encounter in the SOAP format.

17. Clinical Application 10: Video Review with Feedback TBLs; *MK, PC, ICS, PRO*

17.1. Participate in a faculty directed debrief of the simulation patient encounter, practicing self-reflection and peer feedback to promote continuous learning and improvement.
17.2. Demonstrate respect and professionalism.

18. Clinical Application 11: High-Fidelity Mannequin Simulation #4; *MK, PC, ICS, PRO*

18.1. Enhance clinical skills including history-obtaining, physical examination, diagnostic ordering and interpretation, and procedural proficiency in a controlled, realistic environment.
18.2. Develop and demonstrate effective communication and teamwork among team-members (healthcare professionals), emphasizing the importance of clear communication, role clarity, and mutual respect in delivering patient-centered care.
18.3. Practice critical decision-making and prioritization of tasks in simulated high-stress scenarios in preparation for effectively responding in real-life emergencies.
18.4. Participate in a faculty directed debrief of the simulation, practicing self-reflection and peer feedback to promote continuous learning and improvement.

19. Asthma in Children; *MK, PC*

19.1. Define and discuss what asthma is.
19.2. Explain the epidemiology and etiology of asthma.
19.3. Discuss risk factors for a child to develop asthma.
19.4. Describe the clinical manifestations and physical exam findings in a child with asthma.
19.5. Explain the appropriate diagnostic testing for a child suspected to have asthma and the interpretation and significance of the diagnostic results.
19.6. Discuss the basics of management, treatment, and prognosis of a child with asthma.

20. Clinical Application 12: Journal Club (*Asynchronous*)- Pulmonary; *MK, PC*

20.1. Read and analyze posted articles.
20.2. Summarize and discuss the most important aspects of the reading.
20.3. Apply the foundational knowledge obtained from their readings to clinical applications throughout the remaining aspects of this course.

21. Clinical Approach to a Patient with Dyspnea; *MK, PC*

21.1. Recognize and differentiate common cardiopulmonary disorders based on presenting symptoms, history and physical examination findings, and diagnostic studies.
21.2. Formulate and explain a differential diagnoses for a patient presenting with dyspnea.
21.3. Describe the appropriate diagnostic tests and procedures to further evaluate for a patient presenting with dyspnea.
21.4. Discuss the basics of management and treatment of different cardiopulmonary disorders.

***Lab 5*- COPD, Spirometry Lab and the Pulmonary Exam Refresher;** *MK, PC, ICS, PRO*

5.1.1. Demonstrate competence in the proper techniques for conducting a comprehensive pulmonary physical exam.
5.1.2. Demonstrate the ability to accurately interpret physical exam findings to identify normal variations, abnormalities, and potential underlying pathologies.
5.1.3. Perform a physical exam in a patient-center manner, demonstrating empathy, respect, and cultural sensitivity while ensuring patient comfort and privacy.
5.1.4. Integrate physical exam findings with patient history and diagnostic results to formulate a differential diagnosis and guide further diagnostic and therapeutic interventions.
5.1.5. Explain the risk factors, clinical presentation, physical exam findings, and pulmonary function testing seen with chronic obstructive pulmonary disease (COPD).
5.1.6. Discuss and interpret what pulmonary function testing is, including spirometry.
5.1.7. Discuss and demonstrate how to read a chest x-ray, differentiating normal from common abnormal findings.
5.1.8. Demonstrate the ability to interpret spirometry.

22. Intubation (*Asynchronous*)**;** *MK, PC*

22.1. Identify different types of emergent airways:
a) Oral airway.
b) Nasal Trumpet.
c) King airway.
d) Combitube.
e) Laryngeal Mask Airway (LMA).
22.2. Discuss the necessary equipment needed for endotracheal intubation.
22.3. Describe the process of endotracheal intubation.
22.4. Explain indications and contraindications for endotracheal intubation.

***Lab 6*- Intubation Skills Day;** *MK, PC, ICS, PRO*

6.1.1. Demonstrate the proper technique of endotracheal intubation.
6.1.2. Choose the proper equipment and test it prior to beginning the procedure.
6.1.3. Demonstrate your knowledge through verbal communication of the indications and contraindications for endotracheal intubation.
6.1.4. Practice and achieve minimal competency in performing endotracheal intubation.
6.1.5. Demonstrate and explain how to check for proper placement of the endotracheal tube within the trachea.

23. Clinical Application 13: High-Fidelity Mannequin Simulation #5; *MK, PC, ICS, PRO*

23.1. Enhance clinical skills including history-obtaining, physical examination, diagnostic ordering and interpretation, and procedural proficiency in a controlled, realistic environment.
23.2. Develop and demonstrate effective communication and teamwork among team-members (healthcare professionals), emphasizing the importance of clear communication, role clarity, and mutual respect in delivering patient-centered care.
23.3. Practice critical decision-making and prioritization of tasks in simulated high-stress scenarios in preparation for effectively responding in real-life emergencies.
23.4. Participate in a faculty directed debrief of the simulation, practicing self-reflection and peer feedback to promote continuous learning and improvement.

24. Pulmonary Cases *(Asynchronous)***;** *MK, PC*

24.1. Discuss and differentiate common pediatric and adult pulmonary conditions based on

presenting symptoms, history and physical examination findings, and diagnostic studies.

24.2. Formulate and explain a differential diagnoses for cases associated with various chief complaints associated with pulmonary disorders.

24.3. Order the appropriate diagnostic tests and procedures to further evaluate pulmonary concerns.

24.4. Interpret diagnostic findings and refine the differential diagnosis or making a diagnosis based on the findings.

24.5. Determine as a group a consensus of your basic management and treatment of the determined diagnosis.

25. Clinical Approach to the Urology Patient; *MK, PC*

25.1. Recognize and differentiate the most common urological disorders based on presenting symptoms, history and physical examination findings, and diagnostic studies.

25.2. Formulate and explain a differential diagnoses for a patient presenting with a urological concern.

25.3. Describe the appropriate diagnostic tests and procedures to further evaluate for a patient presenting with a urological concern.

25.4. Discuss the basics of management and treatment of different urological disorders.

26. Clinical Approach to the Patient with AKI, and Renal Exam Refresher; *MK, PC*

26.1. Recognize and differentiate the patient with acute kidney injury (AKI) based on presenting symptoms, history and physical examination findings, and diagnostic studies.

26.2. Formulate and explain a differential diagnoses for a patient presenting with a signs and symptoms of AKI.

26.3. Explain the components of a renal physical exam.

26.4. Describe the appropriate diagnostic tests and procedures to further evaluate a patient presenting with a signs and symptoms of AKI.

26.5. Discuss the basics of management and treatment of AKI.

27. Clinical Application 14: SP/TBL AKI; *MK, PC, ICS, PRO*

27.1. Discuss as a team and differentiate causes of AKI based on presenting symptoms, history and physical examination findings, and diagnostic studies.

27.2. Formulate and explain a differential diagnoses for a patient presenting with signs and symptoms of AKI.

27.3. Order the appropriate diagnostic tests and procedures to further evaluate renal concerns.

27.4. Interpret diagnostic findings and refine the differential diagnosis or making a diagnosis based on the findings.

27.5. Determine as a group a consensus of your basic management and treatment of the determined diagnosis.

28. Clinical Application 15: Journal Club *(Asynchronous)* **Reproductive Health;** *MK, PC*

28.1. Read and analyze posted articles.

28.2. Summarize and discuss the most important aspects of the reading.

28.3. Apply the foundational knowledge obtained from their readings to clinical applications throughout the remaining aspects of this course.

29. Female GU; *MK, PC*

29.1. Review and discuss female reproductive anatomy.

29.2. Develop a plan to address common complaints of the female patient.

29.3. Explain age-appropriate screenings for the female patient.

29.4. Explain the significance of pap smear findings, including ASCUS, LSIL, HSIL, CIN 1, CIN 2, CIN3.

30. Obstetrics Part 1; *MK, PC*

30.1. Review and explain the interpretation and clinical significance of fetal heart monitoring tracings.
30.2. Discuss prenatal screening tests and their importance.
30.3. Discuss identification and management of perinatal infections.
30.4. Explain indications and contraindications for induction of labor and tocolytics.
30.5. Discuss types of anesthesia used for delivery.

31. Obstetrics Part 2; *MK, PC*

31.1. Review and explain the interpretation and clinical significance of fetal heart monitoring tracings.
31.2. Discuss prenatal screening tests and their importance.
31.3. Discuss identification and management of perinatal infections.
31.4. Explain indications and contraindications for induction of labor and tocolytics.
31.5. Discuss types of anesthesia used for delivery.

***Lab 7*- Newborn Delivery Skills, Fetal Heart Strips, and Delivery Notes Lab;** *MK, PC, ICS, PRO*

7.1.1. Interpret and discuss the clinical significance of findings from fetal heart monitoring tracings.
7.1.2. Demonstrate documentation of a delivery note.
7.1.3. Demonstrate the appropriate technique for delivering a baby utilizing task trainers.

32. The Newborn Exam 1; *MK, PC*

32.1. Explain the history questions specific for newborn/pediatric encounters, which includes: maternal illness, maternal drugs, prenatal care, type of delivery, APGARs/complications, birth weight, dietary history, developmental history.
32.2. Discuss what they are, what they mean if abnormal, and how to elicit newborn reflexes.
32.3. Explain the newborn examination utilizing the provided checklist.
32.4. Differentiate and explain communication, gross motor, fine motor, problem solving, language and social milestones at 2, 4, 6, 9, 12, 15, 18 and 24 months.
32.5. Differentiate between and describe caput succedaneum, molding, and cephalohematoma.
32.6. Identify and explain the sutures on newborn skull.

33. The Newborn Exam 2; *MK, PC*

33.1. Explain the history questions specific for newborn/pediatric encounters, which includes: maternal illness, maternal drugs, prenatal care, type of delivery, APGARs/complications, birth weight, dietary history, developmental history.
33.2. Discuss what they are, what they mean if abnormal, and how to elicit newborn reflexes.
33.3. Explain the newborn examination utilizing the provided checklist.
33.4. Differentiate and explain communication, gross motor, fine motor, problem solving, language and social milestones at 2, 4, 6, 9, 12, 15, 18 and 24 months.
33.5. Differentiate between and describe caput succedaneum, molding, and cephalohematoma.
33.6. Identify and explain the sutures on newborn skull.

34. **Clinical Application 16: Lucy-Delivering a Newborn (SIM) and the neonatal exam;** *MK, PC, ICS, PRO*
    - 34.1. Enhance clinical skills including history-obtaining, physical examination, diagnostic ordering and interpretation, and procedural proficiency in a controlled, realistic environment.
    - 34.2. Develop and demonstrate effective communication and teamwork among team-members (healthcare professionals), emphasizing the importance of clear communication, role clarity, and mutual respect in delivering patient-centered care.
    - 34.3. Practice critical decision-making and prioritization of tasks in simulated high-stress scenarios in preparation for effectively responding in real-life emergencies.
    - 34.4. Participate in a faculty directed debrief of the simulation, practicing self-reflection and peer feedback to promote continuous learning and improvement.
    - 34.5. Identify and demonstrate how to elicit newborn reflexes.
    - 34.6. Demonstrate the appropriate technique for delivering a baby as well as the newborn examination.
35. **Intro to Breast Lesions/The Clinical Approach to a Breast Mass;** *MK, PC*
    - 35.1. Recognize, differentiate, and discuss different types of breast lesions including benign masses, malignant tumors, cysts, fibroadenomas, and other abnormalities based on history, physical examination, and diagnostic studies.
    - 35.2. Discuss the importance of assessing breast cancer risk factors, including personal and family history, hormonal factors, and lifestyle factors.
    - 35.3. Discuss counseling and risk reduction strategies with patients, including lifestyle modifications, genetic testing, and screening recommendations.
36. **Imaging, Diagnosing, and Treating Breast Disease;** *MK, PC*
    - 36.1. Discuss the appropriate diagnostic work-up for breast lesions, including modalities such as mammography, ultrasound, and magnetic resonance imaging (MRI).
    - 36.2. Explain the role of minimally invasive procedures such as fine-needle aspirations (FNA), core needle biopsy, and excisional biopsy in establishing the diagnosis.
    - 36.3. Recognize and describe common findings seen on imaging studies.
    - 36.4. Discuss the basics of treating breast disease.

***Lab 8*- The Clinical Breast Exam & Detecting Masses;** *MK, PC, ICS, PRO*

- 8.1.1. Utilizing task trainers perform a clinical breast exam.
- 8.1.2. Differentiate different types of breast tissues and abnormalities based upon physical examination and basic ultrasound findings.
- 8.1.3. Demonstrate communication skills that would be considered patient-centered and compassionate, addressing patient fears and anxieties regarding a breast mass or lesion.

***Lab 9*- SP Practice** *(attendance mandatory)*; *MK, PC, ICS, PRO*

- 9.1.1. Perform a simulated patient encounter, demonstrating competence in obtaining a history, performing an appropriate physical examination findings, and demonstrating compassion and effective communication skills with the patient.
- 9.1.2. Formulate and explain a differential diagnoses for the chief complaint.
- 9.1.3. Order the appropriate diagnostic tests and procedures to further evaluate the determined assessments and differential diagnoses.
- 9.1.4. Interpret diagnostic findings and refine the differential diagnosis or making a diagnosis based on the findings.
- 9.1.5. Determine a plan for the management and treatment of the determined diagnoses.

9.1.6. Appropriately document encounter in the SOAP format.

37. Special Populations: Geriatrics--Approach to Heme, Cardiopulm, and Renal; *MK, PC*

37.1. Describe the impact of normal aging on systems in the body, such as cardiovascular health and blood pressure, changes in skin, hair and nails, changes in the respiratory system, the MSK system, the nervous system, breasts, the abdomen, GI, and GU.

37.2. Describe the social context of medical care for older adults, including health care payment mechanisms, alternate living arrangements (e.g., assisted living, nursing home settings, home healthcare), and community resources available to all patients and to various specific groups.

37.3. Discuss how to assess functional status, including independent living potential in older adults.

37.4. Discuss the Beer's list and how to effectively choose medications in the geriatric population.

37.5. Discuss polypharmacy and ways to reduce it.

37.6. Identify and describe signs of elder abuse, including neglect, and know what steps to take to address the problem.

38. Clinical Application 17: Video Review with Feedback TBLs; *MK, PC, ICS, PRO*

38.1. Participate in a faculty directed debrief of the simulation patient encounter, practicing self-reflection and peer feedback to promote continuous learning and improvement.

38.2. Demonstrate respect and professionalism.

39. Approach to the Patient with Thyroid Disease; *MK, PC*

39.1. Discuss the myriad of definitions associated with thyroid disease.

39.2. Categorize and describe thyroid disease as hyper- and hypo-thyroid, and primary, 1°, secondary, 2 °, and tertiary, 3 °.

39.3. Explain the causes, symptoms, signs, pathogenesis, lab testing, complications, associations, and treatment of thyroid disease.

39.4. Explain a radioactive iodine uptake scanning and interpret basic results.

39.5. Discuss the basics of treatment of thyroid disease.

40. Approach to the Patient with Diabetes; *MK, PC*

40.1. Discuss screening tests for diabetes mellitus.

40.2. Explain the diagnostic criteria for T1DM versus T2DM.

40.3. Explain the proper diabetic foot exam with monofilament and documentation.

40.4. Discuss risk stratification of patients with diabetes (retinopathy, neuropathy, nephropathy, CAD, immunizations, CVA, PVD).

***Lab 10*- The Diabetic Exam;** *MK, PC, ICS, PRO*

10.1.1. Exemplify a proper diabetic foot exam, including assessing for neuropathic ulcers, calluses, infections and peripheral artery disease.

10.1.2. Demonstrate proficiency in assessing peripheral neuropathy by evaluating sensation, with a monofilament, reflexes, muscle strength, and proprioception.

10.1.3. Perform a peripheral vascular exam by assessing peripheral pulses, capillary refill, and inspecting for signs of peripheral vascular disease such as skin changes, ulcers, and gangrene.

10.1.4. Perform a fundoscopic examination.

10.1.5. Demonstrate the practice of testing for visual acuity and a basic external eye exam.

10.1.6. Perform a comprehensive cardiovascular exam assessing blood pressure, auscultation of the heart, and assessing for murmurs or signs of heart failure.

10.1.7. Describe and demonstrate how to provide education on proper self-care and prevention of further complications in a patient with diabetes mellitus.

10.1.8. Demonstrate proper documentation of physical exam findings.

ARKANSAS COLLEGE OF
OSTEOPATHIC MEDICINE

Course Name: Osteopathic Principles and Practice-3
Class of/Semester/Year: 2027/Fall/2024
Date Last Revised: June 21, 2024

Approved By: Shannon Ramsey Jimenez

Shannon Ramsey Jimenez, DO
Dean of ARCOM

Note: Final Approval. May be released to students.
Schedule subject to change with advance notice.

Office of the Dean
479.308.2380 | PO Box 10366 | Fort Smith, AR 72917

ARKANSAS COLLEGE OF OSTEOPATHIC MEDICINE

Arkansas Colleges of Health Education
Course Syllabus

Course Name:	Osteopathic Principles and Practice 3 (OPP3)
Class of/Semester/Year:	Class of 2027/Fall 2024
Course Designation:	COM 611
Term Dates:	July 29, 2024 – December 13, 2024
Course Dates:	July 31, 2024 – December 9, 2024
Total Contact Hours:	20 Lecture Hours; 36 Lab Hours
Credit Hours:	3 Credit Hours
Assessment/Grading:	Three Lecture Exams; Three Lab Practicals
Location:	Lecture Hall 1; OMM Lab, SP Center
Course Director:	Jason Sneed, DO
Office Hours:	By appointment

Syllabus is subject to change

ARKANSAS COLLEGE OF OSTEOPATHIC MEDICINE

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ARKANSAS COLLEGE OF OSTEOPATHIC MEDICINE

Course Description:
Osteopathic Principles and Practice-3 (OPP-3) is designed to provide the student with a fundamental understanding of the history, principles, and philosophies of osteopathic medicine. During this course, the student will be introduced to the lexicon, foundational principles, and professional expectations upon which the profession was built. The faculty also works in conjunction with other departments to complement and integrate the knowledge received from the systems-based and clinical medicine courses. Whenever possible, the OPP-3 curriculum is designed to integrate with the basic science departments to help enhance your knowledge of structure-function relationships, particularly in the musculoskeletal, nervous, cardiopulmonary, GI, and GU systems, as they apply to osteopathic patient care. Additionally, the student will sequentially initiate training in the tactile and psychomotor skills necessary for the diagnostic palpation of and manipulative treatments for their future patients, regardless of the medical specialty chosen. This course will instruct the student in the philosophic and diagnostic underpinnings upon which they will continue to build their osteopathic knowledge, the structurally based examination, palpatory and clinical methods and modalities which will continually develop for the rest of their clinical careers. The OPP Course is cumulative over 4 semesters. Evaluation of concepts and skills will reflect cumulative knowledge.

Course Goals:
The following course goals reflect broad and enduring knowledge, skills, behaviors, and responsibilities that students should attain as a result of successfully completing the course:

1. Be conversant in the theories, history, principles, and tenets of osteopathy, as well as the five models of osteopathic care.
2. Continue to develop foundational palpation skills with an understanding of the theory and application.
3. Promote and integrate osteopathic principles as a method of improving the anatomic and physiologic functioning of the patient both as a stand-alone treatment and as a component of a treatment plan.
4. Apply knowledge of the biomedical sciences, such as functional anatomy, physiology, biochemistry, histology, pathology, and pharmacology to support the appropriate application of osteopathic principles and Osteopathic Manipulative Treatment (OMT).
5. Identify the association between organ systems, function, and structural findings.
6. Palpate, diagnose, and treat osteopathically the various regions of the body with both indirect and direct methods of OMT.
7. Continue to develop professionalism.
8. Continue to develop the professional skills, confidence, and rapport necessary to examine and palpate a patient regardless of age, sex, or body habitus.
9. Continue to develop appropriate medical documentation related to osteopathic findings and treatment.

Course Expectations and Student Responsibilities:
Students should refer to the ARCOM Student Handbook & Clinical Training Manual, as well as the ACHE Student Handbook and ACHE Course Catalog for information regarding professional standards, acceptable conduct, dress code, and program requirements.

OPP Laboratory Training Sessions:
Table assignments for the OPP Laboratory Training Sessions will be made by the OPP Course Director or OPP Coordinator. Students are not allowed to choose their own lab partners. Partners will be randomly

assigned to enable the student to observe, examine, receive, and practice palpation and techniques with people of different genders, different body sizes, and body types to prepare students for a variety of patient care experiences.

It is necessary to palpate and receive palpation from both genders. There are clear differences between genders in terms of skin characteristics (turgor, thickness, hair density, etc.), location of landmarks (e.g., PSIS location), and dealing with "sensitive areas" of palpation (anterior ribs on women and pubic tubercles on both genders). There is an ideal opportunity for the student to appreciate these differences in the OPP Laboratory when table trainers are readily available for assistance.

Video Capture of Educational Content:
Consistent with the policies surrounding video capture and posting of educational content, recordings of any learning activity are considered a supplemental resource to advance student understanding and for reference at future stages of student education. Recorded materials should not be utilized to replace attendance in the classroom, laboratory, or clinical setting. ARCOM makes no guarantees of reliability for video capture and reserves the right to not allow the recording of learning activities. There is no substitute for class attendance, being actively engaged in the learning process, investing in the comprehension and application of course material, and interacting with instructors and colleagues. Becoming an osteopathic physician involves much more than the acquisition of knowledge and attainment of a professional title. Professionalism, ethics, problem solving, and communication are among the vital skills that are best developed in active and interactive settings. As such, ARCOM expects students to attend all learning activities and offers no guarantees or warranties as to the recording of educational classroom/laboratory content. There will be no video capture of in-class applications team-based learning (TBL), Foundations of Osteopathic Patient Care (FOPC), or Osteopathic Principles and Practice (OPP). Students are not permitted to render any audio and/or visual recordings of these in-class sessions.

Dress Code:
Students should refer to the ACHE Student Handbook, as well as their course syallbi, for the dress code for campus and academic activities.

Students should arrive to all lab course activities in the required OMM uniform in accordance with the ARCOM Student Handbook & ACHE Course Catalog. In lecture, aspiring physicians should "dress to reflect" the professional behavior associated with serving patients and colleagues with respect and dignity.

The required OMM lab uniform is available for purchase at the ARCOM Campus Store. Lab uniforms are required for all didactic labs and practical assessment when students are required to act as "patients" for their lab partner in order to allow the best possible access to body structures. Full body lab dress requires the following:

1. Upper body – must allow for exposure of skin overlying the hands, elbows, shoulders, clavicles, scapula, spine, and posterior rib angles.
   - Men – modest T-shirt, or bare skin (when requested)
   - Women – modest T-shirt with modest sports bra
2. Lower body– must allow skin exposure of abdomen, spine, PSIS, knees, ankles, and feet.
   - Men and Women – modest lightweight shorts (No heavy canvas, denim, or cargo shorts).
3. Under Armour type clothing is not permitted. During cold weather, the student may wear light weight athletic jacket and pants (outer wear) with required uniform underneath.

4. Hats or head coverings (other than for religious purposes) are not permitted in lab.
5. Garments worn for religious reasons are acceptable dress in OMT laboratory experiences; however, they should be modified when necessary to allow visualization and palpation when they would obscure the immediate area to be examined or treated (e.g., head, neck, upper back, etc.). Modifications can include adjustment of the covering permitting unobstructed palpation beneath the covering or substitution of a thinner material that allows for adequate evaluation and treatment. If these modifications are not sufficient for proper exposure and examination, the student will be asked to remove the interfering garment(s) until the examination is complete. (Shoes and belts are NOT allowed on the OMT tables as they may rip the vinyl).
6. Observation, evaluation, and treatment will involve all external body surfaces except the genitalia, breasts, and rectum. Student doctors are required to fully participate in OPP labs as developing OMM palpatory skills will serve the student well in any field of medicine he or she chooses. It is necessary to both give and receive palpation from both genders in order to develop proper OMM skills. The body region being examined and the techniques that are being practiced require adequate exposure for observation and palpation. This requires a male to remove his shirt, and a female to wear a sports bra.

Professionalism:

- Students will conduct themselves professionally at all times, during all educational activities conducted on or off campus. This includes interactions with all faculty, staff, students, clinical faculty, guest lecturers, health care providers, patients, and any other member of the ARCOM community. Unprofessional behavior, conduct, or attire inconsistent with the ARCOM dress code will not be tolerated and will result in administrative action. Students aredirected to the ARCOM Student Handbook & ACHE Course Catalog for a full definition of professionalism and list of expected professional behaviors.
- Any unauthorized recording of learning materials and activities used in connection with the ARCOM curriculum or reproduction, rendering, possession, or dissemination of these materials including assessment materials, is considered unprofessional behavior and a violation of copyright. Such behavior is subject to action by the Student Conduct Committee(SCC) for disciplinary action, which may include receiving a grade of "zero" for a graded assessment, course failure, probationary action, suspension, or dismissal from ARCOM.
- Computers, tablets, or notebooks should only be used during lectures to take notes or reference appropriate class topics and reference materials. Students should not be on the internet viewing social media sites, performing online shopping, or playing games, etc. Thisis disrespectful to the lecturer, inhibits peer learning, and is unprofessional behavior.

Diversity, Equity, and Inclusion:

ACHE is committed to a campus environment that is inclusive, safe, and respectful for all persons, and fosters an environment free of harassment and discrimination. To that end, all course activities will be conducted in an atmosphere of friendly participation and interaction among colleagues, recognizing and appreciating the unique experiences, background, and point of view each student brings. Students are expected at all times to apply the highest academic standards to this course and to treat others with dignity and respect.

Attendance Policy:

Osteopathic medical education prepares students for professional clinical practice. Lectures and labs include didactic material, case presentations, patient demonstrations, informal discussions, team-based

learning, and the practice of psychomotor skills. Consistent and prompt class attendance is essential for the learner to benefit from the full educational experience.
Therefore, ARCOM Faculty have adopted the following attendance policy:

1. Attendance at all lecture sessions within a given course is strongly encouraged, but not required.
2. Attendance is required for all guest lecturers and team-based learning experiences. A pattern of absenteeism or tardiness for these sessions is considered unprofessional behavior and may result in a referral for disciplinary action for violations of the ACHE Student Code of Conduct consistent with the ACHE Student Misconduct Policy.
3. Since laboratory sessions are designed to develop the clinical and psychomotor skills necessary for success as an osteopathic physician, students are expected to attend all laboratory sessions (as outlined in the course syllabus) and all lectures tied to labs. If, for any reason, a student misses more than 10% of these required sessions for a given course, the student will receive 1% decrease in final average for each percentage missed over 10%.

   Example: A course with 20 laboratory sessions.
   A student who misses 3 laboratory sessions (15%) will receive an 5% reduction in his/her final average. A student who misses 4 laboratory sessions (20%) will receive a 10% reduction in his/her final average.
4. All simulated events, including standardized patient encounters, simulated patient encounters, and skills events are required, and an absence or tardiness will result in the loss of additional 2% of the final percentage per simulated event, or as otherwise stated by the course director.
5. This attendance policy does not override any assignments that require attendance to perform. Therefore, if a student misses an event that requires an assignment to be submitted based on the educational experience, the student will lose points for not successfully completing the assignment.
6. If a student misses an exam, he/she will receive a grade of zero. A make-up exam will only be administered on a case-by-case basis with the approval of the course director and/or the Dean of ARCOM.
7. Students considered academically "at-risk" may be held to a separate attendance policy administered by the Office of Academic Affairs.
8. Students must be physically present to receive credit for attendance. Virtual attendance of lectures does not count as in-person attendance.
9. Students must refer to the Outlook Live calendar for all course schedules and changes.
10. Students are responsible for all missed learning material/experiences.
11. As it is not possible to replicate lab experiences, faculty members are not obligated to provide makeup learning experiences.
12. There are no excused absences; however, extenuating circumstances (e.g. serious illness/injury, etc.) may be addressed on a case-by-case basis by the ARCOM Dean.
13. Absence from class to attend professional events, such as a state or national conference, may be approved on a case-by-case basis by the ARCOM Dean.
14. Absence from class due to planned events of a personal nature are not excused absences.
15. A pattern of tardiness is unacceptable. While Faculty understand there may be unavoidable instances, tardiness will not be tolerated on exam days or when guest speakers are in attendance. Admittance to the classroom may be prohibited and, in that circumstance, the student would be marked as absent.

This attendance policy will be strictly adhered to. It is expected that students will use good judgment when being absent, only doing so rarely and for legitimate or necessary reasons.

ARKANSAS COLLEGE OF OSTEOPATHIC MEDICINE

Course Faculty:

Faculty Member	Office	Phone	Email
Joseph Queeney, DO	231	479-308-2337	joe.queeney@achehealth.edu
Jason Sneed, DO	233	479-308-2319	jason.sneed@achehealth.edu

Table Trainers:			
Kaitlin McNamara, DO	215	479-308-2332	kaitlin.mcnamara@achehealth.edu
Gurjit Nagra, MD PhD	266	479-308-2376	gurjit.nagra@achehealth.edu
Monica Rojas, MD	211	479-308-2343	monica.rojas@achehealth.edu
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Sherry Turner, DO	271	479-308-2386	sherry.turner@achehealth.edu
Charles Craft, DO	N/A	N/A	charles.craft@achehealth.edu
Marshall Parker, DC	N/A	N/A	marshall.parker@achehealth.edu
Paige Parker, DC	N/A	N/A	paige.parker@achehealth.edu

Faculty Office Hours:

While faculty maintain an open-door policy, **it is strongly recommended that a student in need of a faculty member's time and attention reserve an appointment directly via e-mail** or telephone communication with the faculty member.

Required Course Resources:

Title	Edition	Authors	ISBN-13
Foundations of Osteopathic Medicine	4th	Seffinger, M	978-1496368324
Atlas of Osteopathic Techniques	4th	Nicholas, A. & Nicholas, E	978-1975127480
Osteopathic Approach to Diagnosis and Treatment	4th	DiGiovanna, E., Amen, D.J., Burns, D.K.	978-1496385994

Recommended Course Resources:

Title	Edition	Authors	ISBN-13
Outline of Osteopathic Manipulative Procedures: the Kimberly Manual	2008 Update	Kimberly, P. & Funk, S. Kirksville College of Osteopathic Medicine	978-0967133317
Atlas of Common Counterstrain Tender Points	1st	Snider, K. & Glover, J. Kirksville College of Osteopathic Medicine	978-0988262775
Greenman's Principles of Manual Medicine	5th	Destafano, L.	978-1451193909
The Pocket Manual of OMT	2nd	Beatty, D.	978-1608316571
Somatic Dysfunction in Osteopathic Medicine	2nd	Nelson, K. & Glonek, T	978-1451103052

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Osteopathic Core Competencies:
The faculty and administration of ARCOM attest that Osteopathic Core Competencies are met in this course.

1. **Osteopathic Philosophy/Osteopathic Manipulative Medicine (OPP/OMM):** Demonstrate and apply knowledge of accepted standards in osteopathic manipulative treatment appropriate to the specialty. Remain dedicated to life-long learning and to practice habits in osteopathic philosophy and OMM.
2. **Medical Knowledge (MK):** Demonstrate and apply knowledge of accepted standards of clinical medicine in the respective area; remain current with new developments in medicine and participate in life-long learning activities.
3. **Patient Care (PC):** Demonstrate the ability to effectively treat patients and provide medical care that incorporates the osteopathic philosophy, patient empathy, awareness of behavioral issues, the incorporation of preventive medicine and health promotion.
4. **Interpersonal and Communication Skills (ICS):** Demonstrate interpersonal and communication skills that enable a physician to establish and maintain professional relationships with patients, families, and other members of health care teams.
5. **Professionalism (PRO):** Uphold the Osteopathic Oath in the conduct of one's professional activities that promotes advocacy of patient welfare, adherence to ethical principles, and collaboration with health professionals, life-long learning, and sensitivity to a diverse patient population; be cognizant of physical and mental health in order to effectively care for patients.
6. **Practice-Based Learning and Improvement (PBL):** Demonstrate the ability to critically evaluate methods of clinical practice; integrate evidence-based medicine into patient care; show an understanding of research methods; improve patient care practices.
7. **Systems-Based Practice (SBP):** Demonstrate an understanding of health care delivery systems; provide effective and qualitative patient care with the system; and practice cost effective medicine.

Grading Information:
Grading point values and scale are consistent with policies outlined in the ARCOM Student Handbook & ACHE Course Catalog. Students will receive a numerical grade (percentage) at the end of the course with 70% or greater required to pass.

Students are required to pass all components of each course with a C (70%) or better to progress to the next semester. To receive a 70% or better, a student must complete all requirements of the course as defined in the syllabus.

Grade Determination and Scheduled Assignments:

Date	Assessment (CC)	Percentage of Final Grade
Wednesday, September 4, 2024 @8:30 AM - 11:30 AM	Written Exam #1 (MK)	30%
Wednesday September 4, 2024 @12:40 PM - 7:00 PM	Practical Exam #1	P/F
Wednesday, October 23, 2024 @8:30 AM - 11:30 AM	Written Exam #2 (MK)	30%
Wednesday, October 23, 2024 @12:40 PM - 7:00 PM	Practical Exam #2	P/F

Thursday, December 5, 2024 @8:30 AM - 11:30 PM	Final Written Exam (MK)	40%
Thursday, December 5, 2024 @12:40 PM - 7:00 PM	Final Practical Exam	P/F
TOTAL:		**100%**

Examinations:
Assessment of acquired medical scientific knowledge will be evaluated by formative and summative examinations (written and practical). Assessment of technical competencies will be assessed by check-out assessments, faculty observation of students, peer feedback, and practical examinations. The principles of osteopathic medicine should pervasively integrate the educational process as medical knowledge is acquired and applied in all courses.
Additionally, the practice of medicine requires cumulative and comprehensive knowledge from multiple disciplines. **Therefore, information from other courses may be included on examinations when relevant to the material being assessed.** The integration of such content from other courses will be reflected in the learning objectives for the course.

There will be two written exams **and** a written final examination in the OPP3 course. Written exams will contain current material as well as cumulative material. These will assess student's biomedical knowledge and their ability to apply the information to solve patient problems within a clinical context. The assessments will emphasize clinical integration and application of course material commensurate with student training. Each of the three written assessments will include new material and up to 50% cumulative component of previous major concepts from any previously presented material from lecture, lab, or supplemental material. The format of any make up examinations that results from an excused absence is at the discretion of the course director (e.g. a similar exam over similar material with different questions, a comprehensive multiple-choice exam, essay questions, and/or an oral examination). An unexcused absence from a written examination will result in a grade of zero and no remediation for the given examination will be offered. The learning objectives for the course should guide student's learning, however, they are not intended to serve as an examination key. **All written examinations are cumulative.**

The weighted average of the two written exams and final written exam must be at least 70% to pass the OPP course. Additionally, the student must pass each practical exam to pass the course. If a student does not pass the course and remediation is offered through the Student Progress Committee, the type and style of remediation will be at the sole discretion of the course director. Remediation may take the form of a comprehensive written, oral or essay assessment. Remediation may or may not include a practical assessment as well.

OPP Practical Examinations:
Two OPP practical exams **and** an OPP final practical exam will occur during the semester. These will be administered during a lab session and are designed to keep students up to date with their palpatory skills. **The practical exams are P/F. To pass the course, the student must pass each practical.** A student who fails a practical examination shall be required to remediate at a time of the department's choosing (outside of other lecture or lab hours and within faculty availability) and student availability.

Students will be allowed one attempt to remediate the practical examination. Retakes for the practical examination are to occur within ten days of the original test date or by the department's choosing. It shall

be considered unprofessional behavior if the student does not appear for practical examination retake and the student will be referred to the SCC committee. **All practical examinations are cumulative.**

A failed practical exam **must** be retaken with a review of the material covered on the exam. If the student successfully passes the remediation, the score will be a **P**. If a student misses their initially scheduled practical time assignment due to an unexcused absence, they will receive an **F**. The student must retake the missed exam and be successful to receive a P.

Do not schedule other appointments on the day of a practical as you may be rescheduled at the last minute because of a student emergency or to serve as a "patient" for a student who does not have a partner.

Remediation:
If a student does not pass the course and remediation is offered through the Student Progress Committee, the type and style of remediation will be at the sole discretion of the course director to ensure the student has adequate knowledge of material and techniques presented.

Course content, sequencing, grading, and examination policies are subject to change by administration with the approval the Curriculum Committee. Students will be given advanced notice of any substantive changes by email and the ARCOM portal.

Osteopathic Principles and Practice 3 Course Schedule:
Refer to the OUTLOOK Student Calendar for official (up to date) schedule

Day	Date	Time	Session #	Title	Instructor
Wed	Jul 31	11 AM	1	Head & Face 1	Queeney
Wed	Jul 31	1 PM	L1	Lab 1: Evaluating & Treating the Head & Face 1 Group A	Queeney
Wed	Jul 31	3 PM	L2	Lab 2: Evaluating & Treating the Head & Face 1 Group B	Queeney
Wed	Aug 7	10 AM	2	Head & Face 2	Queeney
Wed	Aug 7	11 AM	3	Osteopathic Research	Sneed
Wed	Aug 7	1 PM	L3	Lab 3: Evaluating & Treating the Head & Face 2 Group A	Queeney
Wed	Aug 7	3 PM	L4	Lab 4: Evaluating & Treating the Head & Face 2 Group B	Queeney
Wed	Aug 14	11 AM	4	Facilitated Positional Release	Sneed
Wed	Aug 14	1 PM	L5	Lab 5: Facilitated Positional Release Group A	Sneed
Wed	Aug 14	3 PM	L6	Lab 6: Facilitated Positional Release Group B	Sneed
Wed	Aug 21	10 AM	5	Approach to the Practice Patient Experience 102	Sneed/ Queeney
Wed	Aug 21	11 AM	6	The Still Technique	Sneed
Wed	Aug 21	1 PM	L7	Lab 7: The Still Technique Group A	Sneed
Wed	Aug 21	3 PM	L8	Lab 8: The Still Technique Group B	Sneed
Fri	Aug 23	8 AM	L9	Lab 9: OMM Practice Patient Experience Group A	Sneed/ Queeney

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Fri	Aug 23	10 AM	L10	Lab 10: OMM Practice Patient Experience Group B	Sneed/ Queeney
Wed	Aug 28	11 AM	7	Balanced Ligamentous Tension & Ligamentous Articular Strain (BLT/LAS)	Sneed
Wed	Aug 28	1 PM	L11	Lab 11: BLT & LAS Group A	Sneed
Wed	Aug 28	3 PM	L12	Lab 12: BLT & LAS Group B	Sneed
Wed	Sep 4	8:30 AM		**Written Exam #1**	**All OMM Faculty**
Wed	Sep 4	12:40 PM		**Lab Practical Exam #1**	**All OMM Faculty**
Tue	Sep 10	8 AM		**OPP3 Practical Make-Up & Retakes**	
Wed	Sep 11	11 AM	8	Osteopathic Approach to Shoulder Pain	Queeney
Wed	Sep 11	1 PM	L13	Lab 13: Shoulder Pain Group A	Queeney
Wed	Sep 11	3 PM	L14	Lab 14: Shoulder Pain Group B	Queeney
Wed	Sep 18	11 AM	9	Osteopathic Approach to Elbow & Hand Pain	Queeney
Wed	Sep 18	1 PM	L15	Lab 15: Elbow & Hand Pain Group A	Queeney
Wed	Sep 18	3 PM	L16	Lab 16: Elbow & Hand Pain Group B	Queeney
Wed	Sep 25	11 AM	10	Osteopathic Approach to Hip Pain	Sneed
Wed	Sep 25	1 PM	L17	Lab 17: Hip Pain Group A	Sneed
Wed	Sep 25	3 PM	L18	Lab 18: Hip Pain Group B	Sneed
Wed	Oct 2	11 AM	11	Osteopathic Approach to Knee & Foot Pain	Sneed
Wed	Oct 2	1 PM	L19	Lab 19: Knee & Foot Pain Group A	Sneed
Wed	Oct 2	3 PM	L20	Lab 20: Knee & Foot Pain Group B	Sneed
Wed	Oct 09	11 AM	12	Approach to the Practice Patient Experience 103	Sneed/ Queeney
Wed	Oct 09	1 PM	L21	Lab 21: OMM Practice Patient Experience Group A	Sneed/ Queeney
Wed	Oct 09	3 PM	L22	Lab 22: OMM Practice Patient Experience Group B	Sneed/ Queeney
Wed	Oct 16	11 AM	13	Osteopathic Approach to Peripheral Nerves	Queeney
Wed	Oct 16	1 PM	L23	Lab 23: Peripheral Nerve Entrapments Group A	Queeney
Wed	Oct 16	3 PM	L24	Lab 24: Peripheral Nerve Entrapments Group B	Queeney
Wed	Oct 23	8:30 AM		**Written Exam #2**	**All OMM Faculty**
Wed	Oct 23	12:40 PM		**Lab Practical Exam #2**	**All OMM Faculty**
Wed	Oct 30	9:30 AM		**OPP3 Practical Make-Up & Retakes**	
Wed	Oct 30	11 AM	14	Introduction to Physical Therapy/Occupational Therapy PT/OT	Moore/ Brown
Wed	Oct 30	1 PM	L25	Lab 25: BAT Lab 103 Group A	Sneed/ Queeney
Wed	Oct 30	3 PM	L26	Lab 26: BAT Lab 103 Group B	Sneed/ Queeney

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Wed	Nov 6	11 AM	15	Osteopathic Cranial Manipulative Medicine 1 (OCMM)	Sneed
Wed	Nov 6	1 PM	L27	Lab 27: Osteopathic Cranial Manipulative Medicine 1 (OCMM) Group A	Sneed
Wed	Nov 6	3 PM	L28	Lab 28: Osteopathic Cranial Manipulative Medicine 1 (OCMM) Group B	Sneed
Wed	Nov 13	10 AM	16	Osteopathic Cranial Manipulative Medicine 2 (OCMM)	Sneed
Wed	Nov 13	11 AM	17	Osteopathic Approach to the Pediatric Patient	Sneed
Wed	Nov 13	1 PM	L29	Lab 29: Osteopathic Cranial Manipulative Medicine 2 (OCMM) Group A	Sneed
Wed	Nov 13	3 PM	L30	Lab 30: Osteopathic Cranial Manipulative Medicine 2 (OCMM) Group B	Sneed
Wed	Nov 20	10 AM	18	Osteopathic Cranial Manipulative Medicine 3 (OCMM)	Sneed
Wed	Nov 20	11 AM	19	Approach to the Practice Patient Experience 104	Sneed/ Queeney
Wed	Nov 20	1 PM	L31	Lab 31: Osteopathic Cranial Manipulative Medicine 3 (OCMM) Group A	Sneed
Wed	Nov 20	3 PM	L32	Lab 32: Osteopathic Cranial Manipulative Medicine 3 (OCMM) Group B	Sneed
Fri	Nov 22	1 PM	L33	Lab 33: OMM Practice Patient Experience Group A	Sneed/ Queeney
Fri	Nov 22	3 PM	L34	Lab 34: OMM Practice Patient Experience Group B	Sneed/ Queeney
Mon	Nov 25	11 AM	20	Osteopathic Approach to the Cardiovascular Patient	Sneed
Mon	Nov 25	1 PM	L35	Lab 35: Osteopathic Approach to the Cardiovascular Patient Group A	Sneed/ Queeney
Mon	Nov 25	3 PM	L36	Lab 36: Osteopathic Approach to the Cardiovascular Patient Group B	Sneed/ Queeney
Thu	Dec 5	8:30 AM		**Final Written Exam**	**All OMM Faculty**
Thu	Dec 5	12:40 PM		**Final Lab Practical Exam**	**All OMM Faculty**
Mon	Dec 9	9:30 AM		**OPP3 Practical Make-Up & Retakes**	

ARKANSAS COLLEGE OF OSTEOPATHIC MEDICINE

Appendix:

OPP3 Fall 2024 Learning Objectives with *Core Competency*:

(Any changes to the learning objectives will reflect on lecturers presentation slide)

1. **Head & Face 1;** *MK, OPP, PRO*
   - 1.1 Define, describe, and interpret pertinent anatomy of the head and face.
   - 1.2 Define, describe, and interpret clinical exam for the head and face.
   - 1.3 Define, describe, interpret, and compare common conditions related to the head and face.

Labs 1-2 **Evaluating & Treating the Head & Face 1;** *MK, OPP, PRO, ICS*

- 1.1.1. Define, describe, interpret, compare, and practice various techniques and modalities for diagnosing the head and face.
- 1.1.2. Practice integration of OMT for the head and face into patient care.

2. **Head & Face 2;** *MK, OPP, PRO*
   - 2.1. Define, describe, and interpret pertinent anatomy of the head and face.
   - 2.2. Define, describe, and interpret clinical exam for the head and face.
   - 2.3. Define, describe, interpret, and compare common conditions related to the head and face.
3. **Osteopathic Research;** *MK, OPP, PRO*
   - 3.1. Define, describe, and interpret the history of osteopathic research.
   - 3.2. Define, describe, interpret, and compare the findings of osteopathic research.
   - 3.3. Define, describe, and interpret barriers to osteopathic research.

Labs 3-4 **Evaluating & Treating the Head & Face 2;** *MK, OPP, PRO, ICS*

- 3.1.1. Define, describe, interpret, compare, and practice various techniques and modalities for diagnosing and treating the head and face.
- 3.1.2. Practice integration of OMT for the head and face into patient care.

4. **Facilitated Positional Release (FPR);** *MK, OPP, PRO*
   - 4.1. Define facilitated positional release (FPR.)
   - 4.2. Define, describe, interpret, and compare the proposed mechanisms of FPR.
   - 4.3. Define, describe, interpret, and compare the indications and contraindications to FPR.
   - 4.4. Define, describe, interpret, and compare the safety and efficacy of FPR.
   - 4.5. Define, describe, interpret, and compare the diagnosis and treatment utilizing FPR.

Labs 5-6 **Facilitated Positional Release;** *MK, OPP, PRO, ICS*

- 5.1.1. Define, describe, interpret, and compare the principles of FPR.
- 5.1.2. Define, describe, interpret, compare, and practice the diagnosis of somatic dysfunction and demonstrate its treatment using FPR.
- 5.1.3. Practice integration of FPR into patient care.

5. **Approach to the Practice Patient Experience 102;** *MK, OPP, PRO*
   - 5.1. Define, describe, interpret, and practice history taking skills with osteopathic principles and practices.
   - 5.2. Integrate physical exam skills with osteopathic principles and practices.
   - 5.3. Integrate documentation with osteopathic principles and practices.
   - 5.4. Debrief SOAP notes.
   - 5.5. Define, describe, interpret, and practice of ICD-10 coding.
6. **The Still Technique;** *MK, OPP, PRO*
   - 6.1. Define Still technique.
   - 6.2. Define, describe, interpret, and compare the proposed mechanisms of Still technique.
   - 6.3. Define, describe, interpret, and compare the indications and contraindications to Still technique.
   - 6.4. Define, describe, interpret, and compare the safety and efficacy of Still technique.
   - 6.5. Define, describe, interpret, and compare the diagnosis and treatment of Still technique.

Labs 7-8 **The Still Technique;** *MK, OPP, PRO, ICS*

7.1.1. Define, describe, interpret, and compare the principles of Still technique.
7.1.2. Define, describe, interpret, compare, and practice the diagnosis of somatic dysfunction and demonstrate its treatment using Still technique.
7.1.3. Practice integration of Still technique into patient care.

Labs 9-10 **OMM Practice Patient Experience;** *MK, OPP, PRO, ICS*

9.1.1. Practice taking history from volunteer.
9.1.2. Evaluate volunteer for somatic dysfunction.
9.1.3. Perform OMT on volunteer under guidance of faculty.
9.1.4. Demonstrate the utilization of OMT related to a patient complaint.
9.1.5. Demonstrate the ability to incorporate musculoskeletal diagnosis and treatment into patient care.
9.1.6. Demonstrate the ability to incorporate the principles and history of osteopathic medicine into patient care.

7. Balanced Ligamentous Tension & Ligamentous Articular Strain (BLT/LAS); *MK, OPP, PRO*

7.1. Define, describe, interpret, and compare the origins of BLT/LAS.
7.2. Define, describe, interpret, and compare balanced ligamentous tension (BLT) and ligamentous articular strain (LAS).
7.3. Define, describe, interpret, and compare the principle of BLT/LAS.

Labs 11-12 **BLT & LAS;** *MK, OPP, PRO, ICS*

11.1.1. Define, describe, interpret, and compare the principles of BLT/LAS.
11.1.2. Define, describe, interpret, compare, and practice the diagnose somatic dysfunction and demonstrate treatment using BLT/LAS.
11.1.3. Practice integration of BLT/LAS techniques into patient care.

8. Osteopathic Approach to Shoulder Pain; *MK, OPP, PRO*

8.1. Define, describe, and interpret anatomy of the shoulder.
8.2. Define, describe, interpret, and compare clinical exam for the shoulder.
8.3. Define, describe, interpret, and compare common orthopedic conditions related to the shoulder.
8.4. Define, describe, interpret, and compare the role of somatic dysfunction in the shoulder pain.

Labs 13-14 **Shoulder Pain;** *MK, OPP, PRO, ICS*

13.1.1. Define, describe, interpret, compare, and practice techniques for evaluating and treating the shoulder.
13.1.2. Practice integration of shoulder techniques into patient care.

9. Osteopathic Approach to Elbow & Hand Pain; *MK, OPP, PRO*

9.1. Define, describe, and interpret anatomy of the elbow and hand.
9.2. Define, describe, interpret, and compare clinical exam for the elbow and hand.
9.3. Define, describe, interpret, and compare common orthopedic conditions related to elbow and hand.
9.4. Define, describe, interpret, and compare the role of somatic dysfunction in elbow and hand pain.

Labs 15-16 **Elbow & Hand Pain;** *MK, OPP, PRO, ICS*

15.1.1. Define, describe, interpret, compare, and practice techniques for evaluating and treating the elbow and hand.
15.1.2. Practice integration of elbow and hand techniques into patient care.

10. Osteopathic Approach to Hip Pain; *MK, OPP, PRO*

10.1. Define, describe, and interpret anatomy of the hip.
10.2. Define, describe, interpret, and compare clinical exam for the hip.
10.3. Define, describe, interpret, and compare common orthopedic conditions related to the hip.
10.4. Define, describe, interpret, and compare the role of somatic dysfunction in hip pain.

Labs 17-18 **Hip Pain;** *MK, OPP, PRO, ICS*

17.1.1. Define, describe, interpret, compare, and practice techniques for evaluating and treating the hip.

17.1.2. Practice integration of hip techniques into patient care.

11. Osteopathic Approach to Knee & Foot Pain; *MK, OPP, PRO*

11.1. Define, describe, and interpret the anatomy of knee and foot.

11.2. Define, describe, interpret, and compare clinical exam for the knee and foot.

11.3. Define, describe, interpret, and compare common orthopedic conditions related to knee and foot.

11.4. Define, describe, interpret, and compare the role of somatic dysfunction in knee and foot pain.

Labs 19-20 **Knee & Foot Pain;** *MK, OPP, PRO, ICS*

19.1.1. Define, describe, interpret, compare, and practice techniques for evaluating and treating the knee and foot.

19.1.2. Practice integration of knee and foot techniques into patient care.

12. Approach to the Practice Patient Experience 103; *MK, OPP, PRO*

12.1. Integrate history taking skills with osteopathic principles and practices.

12.2. Integrate physical exam skills with osteopathic principles and practices.

12.3. Integrate documentation with osteopathic principles and practices.

12.4. Debrief SOAP notes.

12.5. Integrate the use of ICD-10 coding into documentation.

12.6. Introduction to CPT coding.

Labs 21-22 **OMM Practice Patient Experience;** *MK, OPP, PRO, ICS*

21.1.1. Practice taking history from volunteer.

21.1.2. Evaluate volunteer for somatic dysfunction.

21.1.3. Perform OMT on volunteer under guidance of faculty.

21.1.4. Demonstrate the utilization of OMT related to a patient complaint.

21.1.5. Demonstrate the ability to incorporate musculoskeletal diagnosis and treatment into patient care.

21.1.6. Demonstrate the ability to incorporate the principles and history of osteopathic medicine.

13. Osteopathic Approach to Peripheral Nerves; *MK, OPP, PRO*

13.1. Define, describe, interpret, and compare peripheral nerve entrapment sites, causes, and treatments.

13.2. Define, describe, interpret, and compare the potential role of somatic dysfunction in peripheral nerve entrapments.

Labs 23-24 **Peripheral Nerve Entrapment;** *MK, OPP, PRO, ICS*

23.1.1. Define, describe, interpret, and compare peripheral nerve entrapments and the treatment of peripheral nerve entrapments.

23.1.2. Practice integration of osteopathic treatment for peripheral nerve entrapments into patient care.

14. Introduction to Physical Therapy/Occupational Therapy *(PT/OT)***;** *MK, OPP, PRO*

14.1. Define, describe, interpret, and compare physical therapy's role in healthcare.

14.2. Define, describe, interpret, and compare occupational therapy's role in healthcare.

Labs 25-26 **BAT Lab 103;** *MK, OPP, PRO, ICS*

25.1.1. Practice applying fundamentals of OMT when specific technique is unknown.

15. Osteopathic Cranial Manipulative Medicine 1 *(OCMM)***;** *MK, OPP, PRO*

15.1. Define, describe, and interpret OCMM terminology.

15.2. Define, describe, interpret, and compare indications and contraindications for cranial treatment.

15.3. Define, describe, interpret, and compare components and attachments of the reciprocal tension membrane (RCM).

15.4. Define, describe, interpret, and compare basic cranial anatomy and osteology.
15.5. Define, describe, interpret, and compare normal sphenobasilar mechanics during cranial motion.

Labs 27-28 **Osteopathic Cranial Manipulative Medicine 1** (*OCMM1*)**;** *MK, OPP, PRO, ICS*
27.1.1. Define, describe, interpret, compare, and practice palpation of cranial landmarks.
27.1.2. Define, describe, interpret, compare, and practice decompression of the occipital condyles, OA decompression, vault hold, and fronto-occipital hold.
27.1.3. Practice integration of OCMM techniques into patient care.

16. Osteopathic Cranial Manipulative Medicine 2 *(OCMM)***;** *MK, OPP, PRO*
16.1. Define, describe, interpret, and compare cranial strain patterns.
16.2. Define, describe, interpret, and compare motion and axes of the parietal, frontal, and temporal bones.
16.3. Define, describe, interpret, and compare common presentations and associated cranial findings.

17. Osteopathic Approach to the Pediatric Patient; *MK, OPP, PRO*
17.1. Define, describe, interpret, and compare pediatric anatomy.
17.2. Define, describe, interpret, and compare common pediatric conditions treated with OMT.
17.3. Define, describe, interpret, and compare evaluation and treatment of the pediatric patient with OMT.

Labs 29-30 **Osteopathic Cranial Manipulative Medicine 2** *(OCMM2)***;** *MK, OPP, PRO, ICS*
29.1.1. Define, describe, interpret, compare, and practice cranial strain patterns (phantom hands).
29.1.2. Define, describe, interpret, compare, and practice vault hold (check for strain patterns).
29.1.3. Define, describe, interpret, compare, and practice frontal and parietal lifts.
29.1.4. Practice integration of OCMM techniques into patient care.

18. Osteopathic Cranial Manipulative Medicine 3 *(OCMM)***;** *MK, OPP, PRO*
18.1. Review high yield concepts in osteopathic cranial manipulative medicine (OCMM).

19. Approach to the Practice Patient Experience 104
19.1. Integrate history taking skills with osteopathic principles and practices.
19.2. Integrate physical exam skills with osteopathic principles and practices.
19.3. Integrate documentation with osteopathic principles and practices.
19.4. Debrief SOAP notes.
19.5. Integrate the use of ICD-10 coding.
19.6. Integrate the use of CPT coding.
19.7. Introduce reimbursement for OMT.

Labs 31-32 **Osteopathic Cranial Manipulative Medicine 3** *(OCMM)***;** *MK, OPP, PRO, ICS*
31.1.1. Define, describe, interpret, compare, and practice phantom hands for cranial strain patterns.
31.1.2. Define, describe, interpret, compare, and practice venous sinus technique, CV 4, unilateral temporal rocking, and V-spread.
31.1.3. Practice integration of OCMM techniques into patient care.

Labs 33-34 **OMM Practice Patient Experience;** *MK, OPP, PRO, ICS*
33.1.1. Practice taking history from volunteer.
33.1.2. Evaluate volunteer for somatic dysfunction.
33.1.3. Perform OMT on volunteer under guidance of faculty.
33.1.4. Demonstrate the utilization of OMT related to a patient complaint.
33.1.5. Demonstrate the ability to incorporate musculoskeletal diagnosis and treatment into patient care.
33.1.6. Demonstrate the ability to incorporate the principles and history of osteopathic medicine.

20. Osteopathic Approach to the Cardiovascular Patient; *MK, OPP, PRO*

20.1. Define, describe, interpret, and compare the relevant anatomy as it relates to the cardiovascular patient.

20.2. Define, describe, interpret, and compare viscerosomatic, somatovisceral, viscerovisceral, somatosomatic reflexes.

20.3. Define, describe, interpret, and compare how somatic dysfunction presents in the cardiovascular patient.

20.4. Define, describe, interpret, and compare how to evaluate and treat the cardiovascular patient osteopathically.

20.5. Define, describe, interpret, and compare diagnostic and physical exam findings with indications and contraindications for OMT in cardiovascular patient.

Labs 35-36 **Osteopathic Approach to the Cardiovascular Patient Lab;** *MK, OPP, PRO, ICS*

35.1.1. Evaluate for somatic dysfunction in areas related to cardiovascular system.

35.1.2. Define, describe, interpret, compare, and practice various manipulative techniques (both direct and indirect) to address somatic dysfunction in the cardiovascular patient.

35.1.3. Practice integration of OMT techniques in caring for cardiovascular patients.

ARKANSAS COLLEGE OF
OSTEOPATHIC MEDICINE

Course Name: Foundations of Healthcare-2
Class of/Semester/Year: 2027/Fall/2024
Date Last Revised: June 18, 2024

Approved By: Shannon Ramsey Jimenez

Shannon Ramsey Jimenez, DO
Dean of ARCOM

Note: Final Approval. May be released to students.
Schedule subject to change with advance notice.

Office of the Dean
479.308.2380 | PO Box 10366 | Fort Smith, AR 72917

ARKANSAS COLLEGE OF OSTEOPATHIC MEDICINE

Arkansas Colleges of Health Education
Course Syllabus

Course Name:	Foundations of Healthcare 2 (FHC2)
Class of/Semester/Year:	Class of 2027/Fall 2024
Course Designation:	COM 681
Term Dates:	July 29, 2024 – December 13, 2024
Course Dates:	August 1, 2024 – December 9, 2024
Total Contact Hours:	22 Lecture Hours, 5 Lab Hours
Credit Hours:	2 Credit Hours
Assessment/Grading:	Pass/Fail
Location:	Lecture Hall 1, TBL Rooms
Course Director:	Jeanne Rupert, DO PhD
Office Hours:	By appointment

Syllabus is subject to change

ARKANSAS COLLEGE OF OSTEOPATHIC MEDICINE

Table of Contents

ARKANSAS COLLEGE OF OSTEOPATHIC MEDICINE

Course Description:
Foundations of Healthcare 2 (FHC 2) is a graded course designed to provide basic principles of behavioral sciences, social sciences, medical professionalism, the physician patient relationship, and medical ethics. This course will introduce students to diagnostic frameworks and treatments for psychiatric/psychologic conditions and psychopharmacology. Further, an introduction to quality improvement through topics of medical error, clinical documentation and international classification of disease will be provided. Topics covered will provide principles presented on both board examinations and within the clinical practice of medicine.

Course Goals:
The following course goals reflect broad and enduring knowledge, skills, behaviors, and responsibilities that students should attain as a result of successfully completing the course:

1. Develop key elements of professionalism and understanding the physician patient relationship.
2. Gain familiarity with diagnostic frameworks for both psychiatric and psychologic conditions, treatments, and therapies.
3. Provide an introduction to psychopharmacology.
4. Ensure medical students have exposure to quality improvement modalities including discussion of medical error, basic diagnostic coding, and clinical documentation.

Course Expectations and Student Responsibilities:
Students should refer to the ARCOM Student Handbook & Clinical Training Manual, as well as the ACHE Student Handbook and ACHE Course Catalog for information regarding professional standards, acceptable conduct, dress code, and program requirements.

Video Capture of Educational Content:
Consistent with the policies surrounding video capture and posting of educational content, recordings of any learning activity are considered a supplemental resource to advance student understanding and for reference at future stages of student education. Recorded materials should not be utilized to replace attendance in the classroom, laboratory, or clinical setting. ARCOM makes no guarantees of reliability for video capture and reserves the right to not allow the recording of learning activities. There is no substitute for class attendance, being actively engaged in the learning process, investing in the comprehension and application of course material, and interacting with instructors and colleagues. Becoming an osteopathic physician involves much more than the acquisition of knowledge and attainment of a professional title. Professionalism, ethics, problem solving, and communication are among the vital skills that are best developed in active and interactive settings. As such, ARCOM expects students to attend all learning activities and offers no guarantees or warranties as to the recording of educational classroom/laboratory content. There will be no video capture of in-class applications team-based learning (TBL), Foundations of Osteopathic Patient Care (FOPC), or Osteopathic Principles and Practice (OPP). Students are not permitted to render any audio and/or visual recordings of these in-class sessions.

Dress Code:
Students should refer to the ACHE Student Handbook, as well as their course syallbi, for the dress code for campus and academic activities.

Professionalism:

- Students will conduct themselves professionally at all times, during all educational activities conducted on or off campus. This includes interactions with all faculty, staff, students, clinical

faculty, guest lecturers, health care providers, patients, and any other member of the ARCOM community. Unprofessional behavior, conduct, or attire inconsistent with the ARCOM dress code will not be tolerated and will result in administrative action. Students aredirected to the ARCOM Student Handbook & ACHE Course Catalog for a full definition of professionalism and list of expected professional behaviors.

- Any unauthorized recording of learning materials and activities used in connection with the ARCOM curriculum or reproduction, rendering, possession, or dissemination of these materials including assessment materials, is considered unprofessional behavior and a violation of copyright. Such behavior is subject to action by the Student Conduct Committee(SCC) for disciplinary action, which may include receiving a grade of "zero" for a graded assessment, course failure, probationary action, suspension, or dismissal from ARCOM.
- Computers, tablets, or notebooks should only be used during lectures to take notes or reference appropriate class topics and reference materials. Students should not be on the internet viewing social media sites, performing online shopping, or playing games, etc. Thisis disrespectful to the lecturer, inhibits peer learning, and is unprofessional behavior.

Diversity, Equity, and Inclusion:

ACHE is committed to a campus environment that is inclusive, safe, and respectful for all persons, and fosters an environment free of harassment and discrimination. To that end, all course activities will be conducted in an atmosphere of friendly participation and interaction among colleagues, recognizing and appreciating the unique experiences, background, and point of view each student brings. Students are expected at all times to apply the highest academic standards to this course and to treat others with dignity and respect.

Attendance Policy:

Osteopathic medical education prepares students for professional clinical practice. Lectures and labs include didactic material, case presentations, patient demonstrations, informal discussions, team-based learning, and the practice of psychomotor skills. Consistent and prompt class attendance is essential for the learner to benefit from the full educational experience.

Therefore, ARCOM Faculty have adopted the following attendance policy:

1. Attendance at all lecture sessions within a given course is strongly encouraged, but not required.
2. Attendance is required for all guest lecturers and team-based learning experiences. A pattern of absenteeism or tardiness for these sessions is considered unprofessional behavior and may result in a referral for disciplinary action for violations of the ACHE Student Code of Conduct consistent with the ACHE Student Misconduct Policy.
3. Since laboratory sessions are designed to develop the clinical and psychomotor skills necessary for success as an osteopathic physician, students are expected to attend all laboratory sessions (as outlined in the course syllabus) and all lectures tied to labs. If, for any reason, a student misses more than 10% of these required sessions for a given course, the student will receive 1% decrease in final average for each percentage missed over 10%.

   Example: A course with 20 laboratory sessions.

   A student who misses 3 laboratory sessions (15%) will receive an 5% reduction in his/her final average. A student who misses 4 laboratory sessions (20%) will receive a 10% reduction in his/her final average.
4. All simulated events, including standardized patient encounters, simulated patient encounters, and skills events are required, and an absence or tardiness will result in the loss of additional 2% of the final percentage per simulated event, or as otherwise stated by the course director.

5. This attendance policy does not override any assignments that require attendance to perform. Therefore, if a student misses an event that requires an assignment to be submitted based on the educational experience, the student will lose points for not successfully completing the assignment.
6. If a student misses an exam, he/she will receive a grade of zero. A make-up exam will only be administered on a case-by-case basis with the approval of the course director and/or the Dean of ARCOM.
7. Students considered academically "at-risk" may be held to a separate attendance policy administered by the Office of Academic Affairs.
8. Students must be physically present to receive credit for attendance. Virtual attendance of lectures does not count as in-person attendance.
9. Students must refer to the Outlook Live calendar for all course schedules and changes.
10. Students are responsible for all missed learning material/experiences.
11. As it is not possible to replicate lab experiences, faculty members are not obligated to provide makeup learning experiences.
12. There are no excused absences; however, extenuating circumstances (e.g. serious illness/injury, etc.) may be addressed on a case-by-case basis by the ARCOM Dean.
13. Absence from class to attend professional events, such as a state or national conference, may be approved on a case-by-case basis by the ARCOM Dean.
14. Absence from class due to planned events of a personal nature are not excused absences.
15. A pattern of tardiness is unacceptable. While Faculty understand there may be unavoidable instances, tardiness will not be tolerated on exam days or when guest speakers are in attendance. Admittance to the classroom may be prohibited and, in that circumstance, the student would be marked as absent.

This attendance policy will be strictly adhered to. It is expected that students will use good judgment when being absent, only doing so rarely and for legitimate or necessary reasons.

Course Faculty:

Faculty Member	Office	Phone	Email
Jeanne Rupert, DO PhD	219	479-308-2342	Jeanne.Rupert@achehealth.edu
Kenneth Hensley, PhD	281	479-308-2361	Kenneth.Hensley@achehealth.edu
Tyler Farrar, JD	264	479-308-2279	Tyler.Farrar@achehealth.edu
Sherry Turner, DO	271	479-308-2386	Sherry.Turner@achehealth.edu
Connie Manning, MLIS	107	479-308-2310	Connie.Manning@achehealth.edu
Zahra Kamarei, MLS	105	479-308-2303	Zahra.Kamarei@achehealth.edu
Shannon, Jimenez, DO	306	479-308-2381	Shannon.Jimenez@achehealth.edu

Faculty Office Hours:

While faculty maintain an open-door policy, **it is strongly recommended that a student in need of a faculty member's time and attention reserve an appointment directly via e-mail** or telephone communication with the faculty member.

Required Course Resources:

Title	Edition	Authors	ISBN-13
Behavioral Sciences in Medicine	2nd	Barbara Fadem	978-1609136642

Recommended Course Resources:

Title	Edition	Authors	ISBN-13
Current Edition of First Aid for the USMLE Step 1 2024	34th	Le T, Bhushan V, Sochat M.	978-1266077203

Rittenhouse Information: https://www.rittenhouse.com/Rbd/Products/Book.aspx?sku=1266077200
Amazon Information: https://www.amazon.com/First-Aid-USMLE-Step-2024/dp/1266077200/ref=sr_1_1?keywords=9781266077203&s=books&sr=1-1

Osteopathic Core Competencies:
The faculty and administration of ARCOM attest that Osteopathic Core Competencies are met in this course.

1. **Osteopathic Philosophy/Osteopathic Manipulative Medicine (OPP/OMM):** Demonstrate and apply knowledge of accepted standards in osteopathic manipulative treatment appropriate to the specialty. Remain dedicated to life-long learning and to practice habits in osteopathic philosophy and OMM.
2. **Medical Knowledge (MK):** Demonstrate and apply knowledge of accepted standards of clinical medicine in the respective area; remain current with new developments in medicine and participate in life-long learning activities.
3. **Patient Care (PC):** Demonstrate the ability to effectively treat patients and provide medical care that incorporates the osteopathic philosophy, patient empathy, awareness of behavioral issues, the incorporation of preventive medicine and health promotion.
4. **Interpersonal and Communication Skills (ICS):** Demonstrate interpersonal and communication skills that enable a physician to establish and maintain professional relationships with
5. patients, families, and other members of health care teams.
6. **Professionalism (PRO):** Uphold the Osteopathic Oath in the conduct of one's professional activities that promotes advocacy of patient welfare, adherence to ethical principles, and collaboration with health professionals, life-long learning, and sensitivity to a diverse patient population; be cognizant of physical and mental health in order to effectively care for patients.
7. **Practice-Based Learning and Improvement (PBL):** Demonstrate the ability to critically evaluate methods of clinical practice; integrate evidence-based medicine into patient care; show an understanding of research methods; improve patient care practices.
8. **Systems-Based Practice (SBP):** Demonstrate an understanding of health care delivery systems; provide effective and qualitative patient care with the system; and practice cost effective medicine.

Grading Information:
Grading point values and scale are consistent with policies outlined in the ARCOM Student Handbook & ACHE Course Catalog. Students will receive a numerical grade (percentage) at the end of the course with 70% or greater required to pass.

Grade Determination and Scheduled Assignments:

Due Date	Assessment (CC)	Percentage of Final Grade
Thursday, August 29, 2024	Publication worksheet	10%
Tuesday, October 1, 2024	Journal Club worksheet	20%
Thursday, October 24, 2024	Quiz 1	10%

Friday, November 15, 2024	Quiz 2	10%
Friday, November 22, 2024	Quiz 3	10%
Friday, December 6, 2024	Presentation (recorded)	24%
Friday, December 6, 2024	Presentation review worksheets (8)	16%
TOTAL:		**100%**

Examinations:
There will be no examinations. Worksheets and quizzes are graded numerically.

Remediation:
If approved for remediation, remediation will be a written assignment accessing a clinically relevant topic in current medicine, assigned by the course director

Course content, sequencing, grading, and examination policies are subject to change by administration with the approval the Curriculum Committee. Students will be given advanced notice of any substantive changes by email and the ARCOM portal.

Foundations of Healthcare-2 Course Schedule:
Refer to the OUTLOOK Student Calendar for official (up to date) schedule

Day	Date	Time	Session #	Title	Instructor
Thu	Aug 1	9 AM	1	Course Introduction	Rupert
Thu	Aug 8	8 AM	2	Overview of Evidence-Based Medicine	Manning/ Kamarei
Thu	Aug 15	9 AM	3	Major Databases & Advanced Searching	Manning/ Kamarei
Thu	Aug 15	10 AM	4	Writing and Citing	Manning/ Kamarei
Tue	Aug 20	2 PM	5	Publishing	Manning/ Kamarei
Wed	Aug 28	9 AM	6	Systematic Reviews & Meta-Analyses (*Asynchronous*)	Hensley
Thu	Sep 5	9 AM	7	Appraising Research Articles, Part 1	TBD
Thu	Sep 12	11 AM	8	Appraising Research Articles, Part 2	TBD
Thu	Sep 19	8 AM	9	Appraising Research Articles, Part 3	TBD
Thu	Sep 19	9 AM	10	How to Write a Narrative Review	Rupert
Wed	Sep 25	10 AM	11	Journal Club	TBD
Thu	Oct 3	2 PM	12	How to Give Feedback on a Presentation	Rupert
Thu	Oct 10	9 AM	13	Health System Science	Jimenez
Tue	Oct 15	11 AM	14	US Health System	Jimenez
Fri	Oct 25	8 AM	15	Comparative Health Systems (*Asynchronous*)	Jimenez
Thu	Oct 31	9 AM	16	The Link between ACEs & Disease	Rupert
Mon	Nov 4	9 AM	17	Principles of Trauma Informed Care	Rupert

Tue	Nov 5	9 AM	18	Understanding Substance Use Disorders	TBD
Tue	Nov 12	10 AM	19	Understanding Recovery	TBD
Thu	Nov 21	11 AM	20	The Ethics of Service Projects	Rupert/TBD
Tue	Nov 26	2 PM	21	Legal Issues, Part 1	Farrar
Tue	Dec 3	11 AM	22	Legal Issues, Part 2	Farrar
Mon	Dec 9	11 AM	23	Medical Chart Review	S. Turner
	Various	TBD	24	Live Presentations (small group)	TBD

ARKANSAS COLLEGE OF OSTEOPATHIC MEDICINE

Appendix:

Foundations of Healthcare 2 Fall 2024 Learning Objectives with *Core Competency*:

(Any changes to the learning objectives will reflect on lecturers presentation slide)

1. **Course Introduction;** *PRO, PBL*
   - 1.1. Course Overview and Expectations.
2. **Overview of Evidence-Based Medicine;** *MK, PRO, PBL*
   - 2.1. Identify the five steps of the EBM cycle and the importance of applying the medical literature to clinical decisions.
   - 2.2. Practice developing a well-built clinical question using PICO.
3. **Major Databases & Advanced Searching;** *MK, PRO, PBL*
   - 3.1. Describe advanced searching techniques.
   - 3.2. Explain controlled vocabularies.
   - 3.3. Make use of PubMed (MEDLINE), Embase, and Cochrane Database of Systematic Reviews.
4. **Writing & Citing;** *MK, PRO, PBL*
   - 4.1. Describe why it's good practice to manage your scholarly identity.
   - 4.2. Make use of resources for writing.
   - 4.3. Select resources for managing citations/references.
5. **Publishing;** *MK, PRO, PBL*
   - 5.1. Compare and contrast the three publishing models (subscription, open access, hybrid).
   - 5.2. Differentiate guidelines for authors by journal and by article type.
   - 5.3. Describe predatory publishers and how to avoid them.
6. **Systematic Reviews and Meta-Analyses** *(Asynchronous)***;** *MK, PRO, PBL*
   - 6.1. Explain the features of a systematic review article.
   - 6.2. Identify the features of a meta-analysis.
   - 6.3. Describe how these types of research inform medical practice.
7. **Appraising Research Articles, Part 1;** *MK, PRO, PBL*
   - 7.1. Explain the features of a research article about diagnosis.
   - 7.2. Identify the features of a research article about etiology.
   - 7.3. Describe how these types of research inform medical practice.
8. **Appraising Research Articles, Part 2;** *MK, PRO, PBL*
   - 8.1. Identify the features of a research article about therapeutics.
   - 8.2. Describe how this type of research informs medical practice.
9. **Appraising Research Articles, Part 3;** *MK, PRO, PBL*
   - 9.1. Explain the features of a research article about prognosis.
   - 9.2. Identify the features of a research article about outcomes and harm.
   - 9.3. Describe how these types of research inform medical practice.
10. **How to Write a Narrative Review;** *MK, PRO, PBL*
    - 10.1. Describe a narrative review.
    - 10.2. Discuss the key components of a narrative review.
    - 10.3. Discuss how this type of research informs medical practice.
11. **Journal Club;** *ICS, MK, PRO, PBL*
    - 11.1. Implement a structured approach to article analysis.
12. **How to Give Feedback on a Presentation;** *ICS, MK, PRO, PBL*
    - 12.1. Identify the steps of effective feedback.
    - 12.2. Discuss the importance of feedback skills in professional development.
13. **Health System Science;** *MK, PRO, PBL, SBP*
    - 13.1. Discuss the components of health system science.
    - 13.2. Relate key vocabulary of healthcare and insurance systems.

14. **US Health System;** *MK, PRO, PBL, SBP*
    - 14.1. Describe the various components of the US healthcare system.
    - 14.2. Compare and contrast differing U.S. health care systems.
    - 14.3. Describe different practice types.
15. **Comparative Health Systems** *(Asynchronous)***;** *MK, PRO, PBL, SBP*
    - 15.1. Describe the various component principles of health care systems.
    - 15.2. Compare and contrast differing non-U.S. health care systems.
    - 15.3. Analyze the risk/benefit ratio of health care management in countries.
16. **The Link Between ACEs & Disease;** *MK, PRO*
    - 16.1. Describe the features of ACEs and how they might present.
    - 16.2. Explain how ACEs affect lifelong health.
    - 16.3. Discuss involuntary holds for dangerous patients.
17. **Principles of Trauma Informed Care;** *ICS, MK, PRO*
    - 17.1. Discuss trauma informed care in clinical settings.
    - 17.2. Explain how a trauma informed approach can be used to improve care.
18. **Understanding Substance Use Disorder;** *MK, PRO*
    - 18.1. Describe the DSM-V diagnostic criteria for substance use disorders**.**
    - 18.2. Identify commonly abused substances in the region and be familiar with prevalence of use.
    - 18.3. Discuss the impaired physician.
19. **Understanding Recovery;** *MK, PRO*
    - 19.1. Describe the issues faced by individuals in recovery.
20. **The Ethics of Service Projects;** *PRO*
    - 20.1. Discuss some of the ethical issues in providing services to those in need, both domestic and international.
21. **Legal Issues, Part 1;** *MK, PRO, PBL*
    - 21.1. Describe Professional behavior from the aspect of impairment, medical malpractice, boundaries, and the good Samaritan law.
    - 21.2. Discuss Transference and Countertransference and the importance of setting healthy boundaries in the physician-patient relationship.
    - 21.3. Discuss legal competence and its impact on providing health care.
22. **Legal Issues, Part 2;** *MK, PRO, PBL*
    - 22.1. Describe and discuss the components of consent and how it influences treatment of minors.
    - 22.2. Discuss confidentiality and necessity to report disease.
    - 22.3. Discuss the complexity of advance directive in medical decision-making including death.
    - 22.4. Discuss the legal standards of Death and Euthanasia.
23. **Medical Chart Review;** *MK, PRO, PBL*
    - 23.1. Identify the scientific and legal aspects of chart review.
24. **Live Presentations** *(small group)***;** *MK, PRO, PBL*

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Course Name: Biomedical Essentials of Comprehensive Osteopathic Medicine-4
Class of/Semester/Year: 2025/Spring/2023
Date Last Revised: December 5, 2022

Approved By: Rance McClain, D.O.

Rance McClain, DO
Vice President of Clinical Education and Dean of ARCOM

Note: Final Approval. May be released to students. Schedule subject to change with advance notice.

Office of the Dean
479.308.2380 | PO Box 10366 | Fort Smith, AR 72917

ARKANSAS COLLEGE OF OSTEOPATHIC MEDICINE

Arkansas Colleges of Health Education
Course Syllabus

Course Name:	Biomedical Essentials of Comprehensive Osteopathic Medicine-4 (BECOM-4)
Class of/Semester/Year:	2025/Spring/2023
Course Designation:	COM 652
Term Dates:	January 5, 2023 – May 27, 2023
Course Dates:	January 6, 2023 – April 28, 2023
Total Contact Hours:	102 Lecture Hours; 25.5 TBL/Lab Hours
Credit Hours:	10
Assessment/Grading:	Three Written/Computer-Based Summative Examinations
Location:	Boreham Lecture Hall 1, TBL-Small Group Rooms
Course Directors:	Gurjit Nagra, MD PhD; Leslie Ziegler, MD
Office Hours:	By appointment

Syllabus is subject to change

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Course Description:
Biomedical Essentials of Comprehensive Osteopathic Medicine-4 (BECOM-4) is the last in the series of courses that provides students with a foundation upon which to further develop a growing understanding of important structure-function interrelationships that are involved in states of health and disease. The course integrates fundamentals of traditional medical science disciplines (molecular and cellular biology, genetics, developmental biology, histology, anatomy, physiology, microbiology and immunology, pathology, and pharmacology) across levels of organization of the human body: From molecules – to cells – to tissues – to organs – to organ systems – to the entire body. These biomedical principles and processes are considered in the context of the body's natural ability to maintain homeostasis through self-regulation and self-healing mechanisms. Interdisciplinary, interdepartmental teams of College faculty engage with students in various learning activities aimed at an integrated approach to learning.

Student learning as well as formative and summative student assessments within the BECOM-4 course are organized around various activities, which could include, but are not necessarily limited to the following: Large group classroom application activities; small group case-based learning (CBL) and discussion sessions; team-based learning (TBL) session, lectures employing audience response technology; computer-based modules; independent guided reading and study; and written/computer-based examinations. In keeping with the mission, values, and goals of ARCOM, the BECOM-4 course emphasizes the importance of life-long learning with an aim to foster and support the broader development of osteopathic medical competencies and promote the best osteopathic patient-centered care possible.

Course Goals:
The following course goals reflect broad and enduring knowledge, skills, behaviors, and responsibilities that students should attain as a result of successfully completing the course:

1. Demonstrate a general knowledge of the basic medical sciences in the areas of molecular biology, cellular biology, biochemistry, pathology, physiology, microbiology, and immunology.
2. Express an in-depth knowledge of the basic science areas specific to multisystem clinical cases.
3. Demonstrate and develop professionalism, as professionalism is a multi-dimensional clinical competency, various aspects of professional behavior will be assessed and developed in every course at ARCOM, depending on the goals, setting and core competencies each course is designed to attain.

Course Expectations and Student Responsibilities:
Students should refer to the Academic Policies and Regulations section in the ACHE and ARCOM Student Handbooks & the Academic Catalogue for information regarding expected professional behaviors, including conduct and dress code.

Video Capture of Educational Content:
Consistent with the policies surrounding video capture and posting of educational content, recordings of any learning activity are considered a supplemental resource to advance student understanding and for reference at future stages of student education. Recorded materials should not be utilized to replace attendance in the classroom, laboratory, or clinical setting. ARCOM makes no guarantees of reliability for video capture and reserves the right to not allow the recording of learning activities. There is no substitute for class attendance, being actively engaged in the learning process, investing in the comprehension and application of course material, and interacting with instructors and colleagues. Becoming an osteopathic physician involves much more than the acquisition of knowledge and attainment of a professional title. Professionalism, ethics, problem solving, and communication are among the vital skills that are best developed in active and interactive settings. As such, ARCOM expects students to attend all learning activities and offers no guarantees or warranties as to the recording of educational classroom/laboratory content. There will be no video capture of in-class applications team-based learning (TBL), Foundations of Osteopathic Patient Care (FOPC), or Osteopathic Principles and Practice (OPP). Students are not permitted to render any audio and/or visual recordings of these in-class sessions.

Dress Code:
ARCOM Dress Code (refer to ARCOM Student Handbook & Academic Catalog subheading "Professional Dress Guidelines").

Professionalism:
- Students will conduct themselves professionally at all times, during all educational activities conducted on or off campus. This includes interactions with all faculty, staff, students, clinical faculty, guest lecturers, health care providers, patients, and any other member of the ARCOM community. Unprofessional behavior, conduct, or attire inconsistent with the ARCOM dress code will not be tolerated and will result in administrative action. Students are directed to the ARCOM Student Handbook & Academic Catalog for a full definition of professionalism and list of expected professional behaviors.
- Any unauthorized recording of learning materials and activities used in connection with the ARCOM curriculum or reproduction, rendering, possession, or dissemination of these materials including assessment materials, is considered unprofessional behavior and a violation of copyright. Such behavior is subject to action by the Student Conduct Committee (SCC) for disciplinary action, which may include receiving a grade of "zero" for a graded assessment, course failure, probationary action, suspension, or dismissal from ARCOM.
- Computers, tablets, or notebooks should only be used during lectures to take notes or reference appropriate class topics and reference materials. Students should not be on the internet viewing social media sites, performing online shopping, or playing games, etc. This is disrespectful to the lecturer, inhibits peer learning, and is unprofessional behavior.

Attendance Policy:
Osteopathic medical education prepares students for professional clinical practice. Lectures and labs include didactic material, case presentation, patient demonstrations, informal discussions,

team-based learning, and the practice of psychomotor skills. Consistent and prompt class attendance is essential for the learner to benefit from the full educational experience provided. Therefore, ARCOM Faculty have adopted the following attendance policy:

1. Attendance at all lecture sessions within a given course is encouraged, but not required.
2. Attendance is required for guest lecturers and team-based learning experiences. A pattern of absenteeism or tardiness for these sessions is considered unprofessional behavior and will result in a referral to the Student Conduct Committee.
3. Since laboratory sessions are designed to develop clinical and psychomotor skills necessary for success as an osteopathic physician, students are expected to attend all labs, all lectures tied to labs, and all clinical training sessions. If, for any reason, a student misses more than 10% of these required sessions for a given course, the student will receive 1% decrease in final average for each percentage missed over 10%.

   Example: A course with 20 laboratory sessions.
   A student who misses 3 laboratory sessions (15%) will receive an 5% reduction in his/her final average. A student who misses 4 laboratory sessions (20%) will receive a 10% reduction in his/her final average.
4. If a student misses an exam, he/she will receive a grade of zero. A make-up exam will only be administered on a case-by-case basis with the approval of the course director and/or the Dean of ARCOM.
5. Students considered "at-risk" may be held to a separate attendance policy administered by the Office of Academic Affairs.
6. Students must be physically present to receive credit for attendance. Lectures attended virtually do not count as in-person attendance.
7. Students are responsible for all missed learning material/experiences.
8. It is not possible to replicate lab experiences; therefore, faculty members are not obligated to provide makeup learning experiences.
9. There are no excused absences; however, extenuating circumstances (serious illness/injury, etc.) will be addressed on a case-by-case basis.
10. Absence from class to attend professional events, such as a state or national conference, may be
    approved on a case-by-case basis.
11. Absence from class due to planned events of a personal nature are not excused absences.
12. A pattern of tardiness is unacceptable. Faculty understand there may be unavoidable instances however, tardiness will not be tolerated on exam days or when guest speakers are in attendance. Admittance to the classroom may not be allowed and the student will be marked as absent.

These attendance policies will be strictly adhered to. It is expected that students will use good judgment when taking an absence, doing so only for legitimate or necessary reasons.

Course Faculty:

Faculty Member	Office	Phone	Email
Donna Shipley, MD	209	479-308-2326	donna.shipley@achehealth.edu
Michael Gooden, MD	N/A	N/A	michael.gooden@achehealth.edu

ARKANSAS COLLEGE OF OSTEOPATHIC MEDICINE

Mark Stillwell, MD	218	479-308-2339	mark.stillwell@achehealth.edu
Tony DeMondesert, MD	N/A	N/A	tony.demondesert@achehealth.edu
Joseph Queeney, DO	231	479-308-2337	joseph.queeney@achehealth.edu
Naunihal Zaveri, PhD	269	479-308-2362	naunihal.zaveri@achehealth.edu
Sai Sudha Koka, PhD	267	479-308-2360	sai.koka@achehealth.edu
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Kenneth Hensley, PhD	271	479-308-2361	kenneth.hensley@achehealth.edu
Don Sefcik, DO	N/A	479-308-2267	don.sefcik@achehealth.edu
Matthew White, PhD	277	479-308-2371	matthew.white@achehealth.edu
Brandy Ree, PhD	279	479-308-2369	brandy.ree@achehealth.edu
Lance Bridges, PhD	274	479-308-2357	lance.bridges@achehealth.edu
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Christopher Greer, DO	N/A	GUEST	
Dan Atchley, PhD	N/A	GUEST	datchley@harding.edu
Cherry Starling, MD	N/A	GUEST	cestarling1@hotmail.com

Faculty Office Hours:
While faculty maintain an open-door policy, **it is strongly recommended that a student in need of a faculty member's time and attention reserve an appointment directly via e-mail** or telephone communication with the faculty member.

Required Course Resources:

Title	Edition	Authors	ISBN-13
Goodman and Gilman's The Pharmacological Basis of Therapeutics	13th	Brunton, Hilal-Dandan, and Knollman	978-1259584732
Basic and Clinical Pharmacology	15th	Katzung	978-1260452310
Harrison's Principles of Internal Medicine	20th	Jameson J Larry, Fauci Anthony, et al.	978-1259644030
Robbins and Cotran Atlas of Pathology	4th	Klatt	978-0323640183
Robbins and Cotran Pathologic Basis of Disease	10th	Kumar, Abbas, and Aster	978-0323531139

Schaechter's Mechanisms of Microbial Disease	6th	Engleberg, DiRita, and Dermody	978-1975151485

Recommended Course Resources:

Alberts B, et al. *Molecular Biology of the Cell*. 4th ed. New York: Garland Science; 2002. Available free online from NCBI: https://www.ncbi.nlm.nih.gov/books/NBK21054/

Costanzo L. *Physiology*. 7th ed. 2018. 9780323793339

Eaton DC, Pooler JP. *Vander's Renal Physiology*. 9th ed. New York, NY: McGraw-Hill; 2018. 9781260019377

Jorde, Carey, and Bamshad *Medical Genetics* 6th 978-0323597371

Lilly LS. *Pathophysiology of Heart Disease*. 7th ed. Philadelphia, PA: Wolters Kluwer; 2016. 9781975120597

Splitterber, Ryan. *Snell's Clinical Neuroanatomy* - 8th edition, ISBN-13: 978-1496346759

West JB, Luks A. *West's Respiratory Physiology: The Essentials*. 11th ed. Philadelphia, PA: Wolters Kluwer; 2016. 9781975139186

Note: Dr. West's excellent lectures on Respiratory Physiology are ***free online***: http://meded.ucsd.edu/ifp/jwest/resp_phys/index.html

Seven Osteopathic Core Competencies:

The faculty and administration of ARCOM attest that the following Osteopathic Core Competencies are met in this course.

1. **Osteopathic Philosophy/Osteopathic Manipulative Medicine (OPP/OMM):** Demonstrate and apply knowledge of accepted standards in osteopathic manipulative treatment appropriate to the specialty. Remain dedicated to life-long learning and to practice habits in osteopathic philosophy and OMM.
2. **Medical Knowledge (MK):** Demonstrate and apply knowledge of accepted standards of clinical medicine in the respective area; remain current with new developments in medicine and participate in life-long learning activities.
3. **Patient Care (PC):** Demonstrate the ability to effectively treat patients and provide medical care that incorporates the osteopathic philosophy, patient empathy, awareness of behavioral issues, the incorporation of preventive medicine and health promotion.
4. **Interpersonal and Communication Skills (ICS):** Demonstrate interpersonal and communication skills that enable a physician to establish and maintain professional relationships with patients, families, and other members of health care teams.
5. **Professionalism (PRO):** Uphold the Osteopathic Oath in the conduct of one's professional activities that promotes advocacy of patient welfare, adherence to ethical principles, and collaboration with health professionals, life-long learning, and sensitivity to a diverse patient population; be cognizant of physical and mental health in order to effectively care for patients.

6. **Practice-Based Learning and Improvement (PBL):** Demonstrate the ability to critically evaluate methods of clinical practice; integrate evidence-based medicine into patient care; show an understanding of research methods; improve patient care practices.
7. **Systems-Based Practice (SBP):** Demonstrate an understanding of health care delivery systems; provide effective and qualitative patient care with the system; and practice cost effective medicine.

Grading Information:

Grading point values and scale are consistent with policies outlined in the ARCOM Student Handbook & Academic Catalog. Students will receive a numerical grade (percentage) at the end of the course with 70% or greater required to pass.

To successfully pass the course, a student must attain both of the following:

1. **Total course average of 70% AND**
2. **Score an Examination average of 70% when scores on exams 1-4 are averaged together. Exam components 1, 2 and 3 cover material from in-class lectures during specified lecture blocks and are graded simply as % of total correct answers. Each of these exams will be scored at 25% of the total final exam grade.**

   Exam component 4 will account for 25% of the total examination grade (equivalent to a 4th test with equal weight to the first three exams). Component 4, however, will consist of 13 in-class preclinical COMATs (Comprehensive Osteopathic Medical Achievement Tests) Foundational Biomedical Sciences (FBS)-Targeted assessments provided by the National Board of Osteopathic Medical Examiners (NBOME). Each COMAT-FBS assessment will consist of 62 questions, with 1.5 hours per test, each covering one of 6 preclinical disciplines (Foundational Anatomic Sciences; Molecular, Biochemical Tissue and Cellular Basis of Health and Disease; Physiologic Basis of Health and Disease; Microbiology and Immunology; Foundational Neurosciences; Pharmacologic Principles and Concepts) or 7 organ systems (Human Development, Reproduction and Sexuality; Endocrine System and Metabolism; Gastrointestinal System and Nutritional Health; Cardiovascular and Hematologic systems; Genitourinary / Renal system; Musculoskeletal System; Respiratory System). The score on exam component 4 will be calculated as follow:

   Exam 4 score = 70% + (average % correct across all 13 COMAT-FBS assessments) x 30%

   Exams missed due to an excused absence will be omitted from the grade calculation for Exam component 4. Each unexcused absence will result in a subtraction of 1% from the final Exam 4 component score.

   In the event that including exam component 4 (COMAT-FBS assessments scores, excepting unexcused absences) in the final grade calculation results in a lower letter grade than would be obtained by excluding exam component 4, then exam component 4 will be excluded from the overall grade calculation.

3. Complete a final, cumulative COMAT Preclinical Assessment consisting of 200 items (4 hours total). Students will receive a formative breakdown of scores on discipline and organ system-level topics, and a national normative percentile score, but these numbers will no be included in obtaining the examination average for the course or the overall course grade.

Course Average:
Students will receive a numerical grade (percentage) at the end of the course, and 70% or greater is required to pass. The weighted components of the course listed above will be totaled to achieve the final course average.

Assessment of acquired medical scientific knowledge is typically evaluated by written or computer based formative and summative examinations. Grading point values and scale are consistent with policies outlined in the Student Handbook.

Assessment of other core competencies is accomplished by observation of the faculty, evaluations, demonstrations, performance and presentations in small group, laboratory, standardized patient and simulation setting and cases. The principles of osteopathic medicine should pervasively integrate with your education as you acquire and apply the medical knowledge gained from your studies in all courses. Additionally, the practice of medicine does require cumulative and comprehensive knowledge from multiple disciplines. Resultantly, information from other courses may be included on the written examinations when relevant to the material presented. The integration of such content from other courses will be reflected in the learning objectives for the course.

Grade Determination and Scheduled Assignments:

Date	Assessment (CC)	Percentage of Final Grade
Tuesday, February 7, 2023 @ 1:00 - 5:00 PM	Exam Component #1	25%
Thursday, March 9, 2023 @ 1:00 - 4:00 PM	Exam Component #2	25%
Monday, April 17, 2023 @ 8:00 - 12:30 PM	Exam Component #3	25%
Throughout the Semester	Exam Component #4 (based on COMAT-FBS assessments)	25%
Friday, April 28, 2023 @ 1:00 - 5:00 PM	Cumulative FBS Preclinical Assessment	0% (P/F)
TOTAL:		**100%**

Examinations:
There will be 13 formative assessments comprised of NBOME (National Board of Osteopathic Medical Examiners)-written, Foundational Basic Science (FBS)-Targeted COMAT Exams.

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There will be a total of 4 written summative examinations. Three of these exams will be written by BECOM4 course instructors, covering material presented in distinct lecture blocks, along with supplemental readings and other materials provided by the instructors to accompany in-class lectures.

The 4th examination will be an FBS-COMAT Cumulative exam provided by NBOME. For that fourth exam, the student's score will be calculated as 70% + (percent correct on the FBS-COMAT Cumulative exam) x 30.

Students will receive a numerical grade (percentage) at the end of the course, and 70% or greater is required to pass. The weighted components of the course will be totaled to achieve the final score for the course.

TBL Module Assignments:
Individual readiness assurance tests (iRAT) and team readiness assurance tests (tRAT) assignments will be given as part of the BECOM-4 TBL modules and are worth a total 7.0% of the course points (4.0% for iRAT plus 3.0% for tRAT).

Active Learning, Team Based Learning and Turning Point Sessions:
These are designed to reinforce and deepen your knowledge, understanding and utilization of clinical medicine.

Course content, sequencing, grading, and examination policies are subject to change by administration with the approval the Curriculum Committee. Students will be given advanced notice of any substantive changes by email and the ARCOM portal.

An unexcused absence from a required educational session, written or practical exam, will result in the loss of calculated points for that activity. Repeated unexcused absences may result in administrative action.

Biomedical Essentials of Comprehensive Osteopathic Medicine-4 Course Schedule:
OMSI Class of 2025
CC=Core Competency

CC	Day	Date	Time	Session #	Title	Instructor	Reading Assignment
	Fri	Jan 6	9 AM	0	Course Introduction	Hensley	
MK	Fri	Jan 6	10 AM	1	Abdominal Blood Supply-Review	Peterson	
MK	Fri	Jan 6	11 AM	2	Introduction to GI Pathology I	Nagra	
MK	Fri	Jan 6	1 PM	3	Introduction to GI Pathology II	Nagra	
MK	Fri	Jan 6	2 PM	4	Congenital Disorders of the Gut	DeMondesert	
MK	Mon	Jan 9	9 AM	5	Motility Disorders & Malabsorption	DeMondesert	
MK	Mon	Jan 9	10 AM	6	Gastritis and Peptic Ulcer Disease	DeMondesert	
MK	Tue	Jan 10	9 AM	7	Inflammatory Bowel Disease	DeMondesert	
MK	Tue	Jan 10	10 AM	8	Gastrointestinal Drugs: Tx of Inflammatory Bowel Disease	Zaveri	

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MK	Tue	Jan 10	11 AM	9	Upper GI Infections	Stillwell	
MK	Tue	Jan 10	1 PM	10	Gastrointestinal Drugs: Tx of PUD	Zaveri	
MK	Wed	Jan 11	9 AM	11	Esophageal Disorders	Shipley	
MK	Wed	Jan 11	10 AM	12	Gastrointestinal Parasites	Stillwell	
MK	Thu	Jan 12	10 AM	13	Anti-parasitic Medications	Zaveri	
MK	Thu	Jan 12	11 AM	14	Acute and Chronic Mesenteric Ischemia	Gooden	
MK	Thu	Jan 12	1 PM	15	Anorectal Diseases	Gooden	
MK	Fri	Jan 13	1 PM	16	Pathophysiology of Lower GI Infections (Overview)	Stillwell	
MK	Fri	Jan 13	2 PM	17	Drugs to Treat Nausea and Vomiting	Zaveri	
MK	Tue	Jan 17	10 AM	18	Prokinetic Drugs, Laxatives and Antidiarrheal Drugs	Zaveri	
MK	Tue	Jan 17	11 AM	19	GI Pharm Review	Zaveri	
MK	Tue	Jan 17	1 PM	20	FBS1: Molecular, Biochemical Tissue, Cell Basis of Health & Disease	Hensley	
MK, PRO	Wed	Jan 18	9 AM	21	Gastrointestinal Neoplasia I	*Starling	
MK, PRO	Wed	Jan 18	10 AM	22	Gastrointestinal Neoplasia II	*Starling	
MK	Thu	Jan 19	9 AM	23	TBL-Pathology, Pharmacology of Constipation and Diarrhea	Stillwell	
				24			
				25			
MK	Thu	Jan 19	1 PM	26	Liver Damage	*Atchley	
MK	Fri	Jan 20	1 PM	27	Hepatitis A-E (Infectious/Noninfectious) I	Stillwell	
MK	Fri	Jan 20	2 PM	28	Hepatitis A-E (Infectious/Noninfectious) II	Stillwell	
MK	Thu	Jan 26	10 AM	29	Hepatocullular Tumors	Ziegler	
MK	Thu	Jan 26	11 AM	30	Hepatotoxicity and Liver Failure	DeMondesert	
MK	Thu	Jan 26	1 PM	31	TBL-Pathology, Pharmacology of Liver Disease	Stillwell	
				32			
				33			
MK	Tue	Jan 31	8 AM	34	Disorders of the Exocrine Pancreas and Biliary Tree I	DeMondesert	
MK	Tue	Jan 31	9 AM	35	Disorders of the Exocrine Pancrease and Biliary Tree II	DeMondesert	
MK	Tue	Jan 31	10 AM	36	Obesity	Gooden	
MK	Tue	Jan 31	11 AM	37	Irritable Bowel Syndrome and Diverticular Disease	Ziegler	
MK, PC, PRO	Tue	Jan 31	1 PM	38	FBS2: GI System and Nutritional Health	Hensley	
	Tue	Feb 7	1 PM		**EXAM #1 (Sessions 1-38)**		
MK	Thu	Feb 9	10 AM	39	Brain Psychiatry I Anti-Depressants	Zaveri	

MK	Thu	Feb 9	11 AM	40	Brain Psychiatry II Anti- Psychotic Medications	Zaveri	
MK	Thu	Feb 9	1 PM	41	Brain Psychiatry III Sedative Hyponotics	Zaveri	
MK	Thu	Feb 9	2 PM	42	Hearing and Dizziness	Ziegler	
MK	Fri	Feb 10	1 PM	43	Ischemia of the Brain	*Gustafson	
MK	Fri	Feb 10	2 PM	44	Brain Hemorrhage	Queeney	
MK	Fri	Feb 10	3 PM	45	CNS Injury I	Queeney	
MK	Fri	Feb 10	4 PM	46	CNS Injury II	Queeney	
MK	Mon	Feb 13	8 AM	47	Ophthalmic Pathology I	*Greer	
MK	Mon	Feb 13	9 AM	48	Ophthalmic Pathology II	*Greer	
MK	Tue	Feb 14	1 PM	49	Important Demyelinating Disorders	*Gustafson	
MK	Tue	Feb 14	2 PM	50	Motor and Neuromuscular Disorders	*Gustafson	
MK	Wed	Feb 15	9 AM	51	Neurocutaneous Disorders	Ziegler	
MK	Thu	Feb 16	9 AM	52	Bacterial Infections of the Nervous System (Microbiology Overview)	Stillwell	
MK	Thu	Feb 16	10 AM	53	Viral, Fungal, Parasitic, and Non-Infectious CNS Diseases	Stillwell	
MK	Thu	Feb 16	11 AM	54	Hydrocephalus	Queeney	
MK	Fri	Feb 17	1 PM	55	Antiepileptic Drugs	Zaveri	
MK	Fri	Feb 17	2 PM	56	CNS Drugs: Local Anesthetics	Zaveri	
MK	Tue	Feb 21	8 AM	57	CNS Drugs: General Anesthetics	Zaveri	
MK	Tue	Feb 21	9 AM	58	CNS Drugs: Opioid Analgesics, Agonist-Antagonists, and Antitussives	Zaveri	
MK	Tue	Feb 21	1 PM	59	Brain: Structure and Function	Nagra	
MK	Tue	Feb 21	2 PM	60	Clinical Neurodevelopment Defects	Nagra	
MK	Wed	Feb 22	9 AM	61	Spinal Cord Pathology	Nagra	
MK	Thu	Feb 23	9 AM	62	Review-Spinal Cord lesions	Nagra	
MK	Thu	Feb 23	10 AM	63	Review-Spinal Cord lesions	Nagra	
MK	Thu	Feb 23	11 AM	64	CNS Drugs for Motor Disorders and Centrally Acting Muscle Relaxants	Zaveri	
MK	Thu	Feb 23	1 PM	65	EEG and Sleep	Nagra	
MK	Fri	Feb 24	1 PM	66	Epilepsy and Seizure Disorders I	*Gustafson	
MK	Fri	Feb 24	2 PM	67	Epilepsy and Seizure Disorders II	*Gustafson	
MK	Fri	Feb 24	3 PM	68	Brain Lesions	Nagra	
MK	Tue	Feb 28	10 AM	69	Review-Lesions	Nagra	
MK	Tue	Feb 28	11 AM	70	Review-Lesions	Nagra	
MK	Tue	Feb 28	1 PM	71	Headache	Ziegler	
MK	Tue	Feb 28	2 PM	72	Autonomic and Neuromuscular Pathophysiology	*Gustafson	
MK	Thu	Mar 2	1 PM	73	Cerebellum Pathology	Nagra	

MK	Thu	Mar 2	2 PM	74	CNS Neoplasia-Adults	Queeney	
MK	Thu	Mar 2	3 PM	75	CNS Neoplasia-Children	Queeney	
MK	Fri	Mar 3	1 PM	76	Cranial Nerve Lesions I	Nagra	
MK	Fri	Mar 3	2 PM	77	Cranial Nerve Lesions II	Nagra	
MK	Mon	Mar 6	9 AM	78	Limbic System Pathology	Nagra	
MK	Tue	Mar 7	10 AM	79	Basal Ganglia Pathology	Nagra	
MK	Tue	Mar 7	11 AM	80	Cerebrum Dementias	Nagra	
	Thu	Mar 9	1 PM		**EXAM #2 (Sessions 39-80)**		
MK	Wed	Mar 15	7 AM	81	FBS3: Foundational Neurosciences	Hensley	
MK	Wed	Mar 15	10 AM	82	Zoonotic Diseases I	Stillwell	
MK	Thu	Mar 16	8 AM	83	Zoonotic Diseases II	Stillwell	
MK	Thu	Mar 16	10 AM	84	Health Care-Associated Infections	Stillwell	
MK	Thu	Mar 16	11 AM	85	Multisystem Review-Glycogen and Lysosomal Storage Disorders	Hensley	
MK	Thu	Mar 16	1 PM	86	Multisystem Review-A Med Biochem Board Review: Vampires, King Tut and People that Smell like Mice	Bridges	
MK	Thu	Mar 16	2 PM	87	FBS4: Microbiology and Immunology	Hensley	
MK	Fri	Mar 17	1 PM	88	Multisystem Review-A Med Biochem Board Review: Vampires, King Tut and People that Smell like Mice	Bridges	
MK	Fri	Mar 17	2 PM	89	Multisystem Review-A Med Biochem Board Review: Vampires, King Tut and People that Smell like Mice	Bridges	
MK	Mon	Mar 20	8 AM	90	Multisystem Review-Pulmonary	Sefcik	
MK	Mon	Mar 20	9 AM	91	Multisystem Review-Murmurs, maneuvers, split sounds	Ziegler	
MK	Tue	Mar 21	1 PM	92	Anatomy Review - Common fractures	Ziegler	
MK	Tue	Mar 21	2 PM	93	Multisystem Review-Renal	Sefcik	
MK	Tue	Mar 21	3 PM	94	Multisystem Review-Endocrinology	Nagra	
MK	Mon	Mar 27	10 AM	95	Multisystem Review-Cell Injury & Adaptations, Inflammation	White	
MK	Tue	Mar 28	9 AM	96	Multisystem Review-Cell Injury & Adaptations, Inflammation	White	
MK	Tue	Mar 28	10 AM	97	Multisystem Review-Aplasias & Heme Pathology	Sefcik/ Ziegler	
MK	Tue	Mar 28	11 AM	98	Multisystem Review-High Yield Review	Nagra	
MK	Tue	Mar 28	1 PM	99	FBS5: Foundational Anatomical Sciences	Hensley	
MK	Wed	Mar 29	9 AM	100	Multisystem Review-Stats	Hensley	
MK	Wed	Mar 29	10 AM	101	Multisystem Review-Stats	Hensley	
MK	Thu	Mar 30	9 AM	102	Multisystem Review-Boards Anatomy	Rachakatla	

MK	Thu	Mar 30	10 AM	103	Multisystem Review-Ethics & Medical Legal	Ziegler	
MK	Thu	Mar 30	11 AM	104	Multisystem Review- Genetic	Ree	
MK	Thu	Mar 30	1 PM	105	FBS6: Physiologic Basis of Health and Disease	Hensley	
MK	Fri	Mar 31	1 PM	106	Multisystem Review-Boards A-Z Conditions	Nagra	
MK	Fri	Mar 31	2 PM	107	FBS7: Pharmacologic Principles and Practices	Hensley	
MK	Wed	Apr 5	9 AM	108	Multisystem Review-Boards A-Z Conditions	Nagra	
MK	Wed	Apr 5	10 AM	109	Multisystem Review-Boards A-Z Conditions	Nagra	
MK	Thu	Apr 6	8 AM	110	Multisystem Review-Boards A-Z Conditions	Nagra	
MK	Thu	Apr 6	9 AM	111	Multisystem Review-Acid Base	Ziegler	
MK	Thu	Apr 6	10 AM	112	Multisystem Review-Aging Physiological Changes	Ziegler	
MK	Thu	Apr 6	11 AM	113	Multisystem Review-Pregnancy Physiological Changes	Ziegler	
MK	Thu	Apr 6	1 PM	114	FBS8: Endocrine System and Metabolism	Hensley	
MK	Fri	Apr 7	1 PM	115	FBS9: Genitourinary/Renal System	Hensley	
MK	Tue	Apr 11	8 AM	116	FBS10: Cardiovascular and Hematologic Systems	Hensley	
MK	Tue	Apr 11	1 PM	117	FBS11: Musculoskeletal System	Hensley	
MK	Fri	Apr 14	8 AM	118	FBS12: Human Development, Reproduction and Sexuality	Hensley	
MK	Fri	Apr 14	1 PM	119	FBS13: Respiratory System	Hensley	
	Mon	Apr 17	8 AM		**EXAM #3 (Sessions 81-118)**		
	Fri	Apr 28	1 PM		**FBS Cumulative**	Hensley	

ARKANSAS COLLEGE OF OSTEOPATHIC MEDICINE

BECOM-4 Learning Objectives Spring 2023

0 Course Introduction
- 0.1 Discuss course layout

1 Abdominal Blood Supply-Review
- 1.1 Review Session

2 Introduction to GI Pathology I
- 2.1 Overview of Pathology affecting the GI

3 Introduction to GI Pathology II
- 3.1 Overview of Pathology affecting the GI

4 Congenital Disorders of the Gut
- 4.1 Describe and describe the macro and microanatomy of the pathologies and clinicopathological features of the following disorders:
  - 4.1.1 Tracheoesophageal fistula
  - 4.1.2 Pyloric Stenosis
  - 4.1.3 Intestinal Atresia
  - 4.1.4 Anal Atresia
  - 4.1.5 Meckel Diverticulum
  - 4.1.6 Annular Pancreas/Pancreas Diverticulum
  - 4.1.7 Hirschsprung Disease

5 Motility Disorders & Malabsorption
- 5.1 Define malabsorption and describe causes, clinical presentation, pathologic features, diagnosis, and treatment of disorders that cause malabsorption including:
  - 5.1.1 Celiac Disease
  - 5.1.2 Lactose Intolerance
  - 5.1.3 Pancreatic Insufficiency-Cystic Fibrosis, Chronic Pancreatitis
  - 5.1.4 Small Intestinal Bacterial Overgrowth
  - 5.1.5 Tropical Sprue
  - 5.1.6 Whipple Disease
- 5.2 Discuss clinicopathologic features, diagnosis, and treatment of motility disorders including:
  - 5.2.1 Achalasia
  - 5.2.2 Scleroderma
  - 5.2.3 Ileus
  - 5.2.4 Gastroparesis

6 Gastritis and Peptic Ulcer Disease
- 6.1 Acute gastritis - Define and discuss presentation, pathology, diagnosis, and treatment of causes of acute gastritis including NSAID's, burns, sepsis, alcohol, brain injury
- 6.2 Chronic gastritis – Define and discuss presentation, pathology, diagnosis, and treatment of causes of chronic gastritis including H. pylori and autoimmune gastritis
- 6.3 Discuss possible sequalae of chronic gastritis including risk of ulcer disease, malignancy, and pernicious anemia
- 6.4 Gastric ulcer and Duodenal ulcer: Compare and contrast – clinical presentation, causes, malignant potential, diagnosis, gross and histologic appearance where indicated, and treatment of each
- 6.5 Zollinger-Ellison syndrome – Define and describe its pathophysiology, clinical manifestations, diagnosis, and management
- 6.6 Ulcer complications – Describe complications of ulcers including hemorrhage, perforation, and obstruction

7 Inflammatory Bowel Disease
- 7.1 Compare and contrast the clinicopathological features, complications, diagnosis, extraintestinal manifestations, and treatment of inflammatory bowel disease (IBD) such as Crohn Disease and Ulcerative Colitis

8 Gastrointestinal Drugs: Tx. Of Inflammatory Bowel Disease

8.1 Describe the mechanism of action, indication, route of administration, adverse effects, contraindications, and drug interactions of medications used to treat inflammatory bowel disease including:

- 8.1.1 Corticosteroids
- 8.1.2 Azathioprine
- 8.1.3 Antibiotics (eg, Ciprofloxacin, Metronidazole)
- 8.1.4 Biologics (eg, Infliximab, Adalimumab, Natalizumab)
- 8.1.5 5-Aminosalicylic Preparations (eg, Mesalamine)
- 8.1.6 6-Mercaptopurine

9 Upper GI Infections

9.1 Review the symptoms and findings seen in infectious esophagitis, including that due to Candida, CMV and HSV.

9.2 Describe and define gastritis, gastric ulcer disease and duodenal ulcer disease.

9.3 Describe the clinicopathologic features of H. pylori, including its relation to chronic gastritis and ulcer formation.

9.4 Discuss the epidemiology and reasons for treatment of H. pylori including therapeutic options.

9.5 Explain the links between H. pylori infection and MALT lymphoma.

9.6 Discuss the causes and clinical findings in blind loop syndrome.

9.7 Define gastroenteritis and outline the many viral cause of it.

9.8 Describe the clinical scenarios around upper GI parasitic infections such as those due to Giardia, Cryptosporidia, Cyclospora, Microsporidium and Blastocystis.

9.9 Outline methods to diagnose upper GI infectious etiologies.

9.10 Discuss methods of prevention of upper GI pathogens.

10 Gastrointestinal Drugs: Tx of PUD

10.1 Describe mechanism of action, indications, contraindications, drug interactions, and adverse effects of medications used to treat peptic ulcer disease including:

- 10.1.1 Histamine 2 Blockers
- 10.1.2 Proton Pump
- 10.1.3 Antacids including Calcium Carbonate, Aluminum Hydroxide, and Magnesium containing compounds.
- 10.1.4 Sucralfate
- 10.1.5 Bismuth
- 10.1.6 Misoprostol

11 Esophageal Disorders

11.1 Define and discuss the clinicopathologic features, causes, potential sequelae, diagnosis, and management of the following disorders of the esophagus:

- 11.1.1 GERD
- 11.1.2 Eosinophilic Esophagitis
- 11.1.3 Diffuse Esophageal Spasm
- 11.1.4 Esophageal Perforation
- 11.1.5 Esophageal Stricture
- 11.1.6 Mallory-Weiss Syndrome
- 11.1.7 Plummer-Vinson Syndrome
- 11.1.8 Schatzki Rings
- 11.1.9 Non-Infectious Esophagitis

Note: Infectious Esophagitis and Barrett's Esophagus are covered in other sessions)

12 Gastrointestinal Parasites

12.1 Review the many major GI parasitic and protozoan diseases that you may encounter in clinical practice and on the boards.

12.2 Learn how to identify various GI parasites and protozoans in the lab.

12.3 Explore the various endoscopic and radiologic modalities used to identify GI parasites.

12.4 Discuss some of the therapies available to treat GI parasites and protozoans.

13 Anti-Parasitic Medications

13.1 List and describe the general characteristics of common human protozoal parasites and the diseases caused by these organisms

13.2 List the common classes of antiprotozoal/antiparasitic drugs, and describe their mechanisms of action

13.3 List the indications, major side effects, contraindications, and drug interactions of these drug classes/ individual drugs

14 Acute and Chronic Mesenteric Ischemia

14.1 Review normal gastrointestinal anatomy, to include mesenteric vascular anatomy.

14.2 Review the pathophysiology of plaque and thrombus formation

14.3 Describe the most common hypercoagulable conditions the predispose to acute mesenteric insufficiency.

14.4 Describe the presentation and management of acute mesenteric insufficiency/ischemia due to:

14.4.1 Mesenteric Arterial Thrombosis

14.4.2 Mesenteric Arterial Occlusion due to Embolism

14.4.3 Mesenteric Venous Thrombosis

14.5 Describe the presentation, diagnosis, and management of chronic mesenteric insufficiency.

14.6 Describe the pathophysiology, presentation, and management of Non-Occlusive Mesenteric Ischemia.

15 Anorectal Diseases

15.1 Review normal anatomy and physiology of the anus and rectum

15.2 Describe the etiology, presentation, and management of benign acquired conditions of the anal canal and perianal area, to include:

15.2.1 Internal Hemorrhoids

15.2.2 External Hemorrhoids

15.2.3 Rectal Prolapse

15.2.4 Anal Fissure

15.3 Describe the pathophysiology, presentation, and management of perirectal/perianal abscess and fistula-in-ano.

15.4 Describe the pathophysiology, presentation, and management of sexually transmitted anal processes, to include:

15.4.1 Anal Condyloma

15.4.2 Lymphogranuloma Venereum

15.5 Understand the classification, presentation, and management of anal neoplastic processes, to include:

15.5.1 Epidermoid Carcinomas

15.5.2 Malignant Melanoma

16 Pathophysiology of Lower GI Infections (Overview)

16.1 Define enterocolitis and outline its many infectious causes.

16.2 Differentiate an invasive infection, colonizing potential pathogen and toxin- mediated illnesses of the lower GI tract.

16.3 Describe the many types of E. coli that can cause enteric infections.

16.4 Describe clinical scenarios around enteric infections caused by Salmonella, Shigella, Yersinia, Campylobacter and Vibrio species.

16.5 Outline the causes, pathology, diagnosis, clinical findings, and difficulties encountered in therapy of C. difficile infection.

16.6 Describe the various parasitic and fungal infections of the lower GI tract, including cestode, nematode, trematode, amoebic and endemic mycotic infections.

16.7 Outline the various modalities available to diagnose enteric infections, such as stains, cultures, O&P, endoscopy, biopsy, and newer molecular methods.

17 Drugs to Treat Nausea and Vomiting

17.1 Describe mechanism of action, indications, route of administration, contraindications, drug interactions, and adverse effects of the following classes of drugs that treat nausea and vomiting:

17.1.1 5-HT3 Receptor Antagonists

17.1.2 Dopamine Receptor Antagonists

17.1.3 Histamine 1 Receptor Blockers

17.1.4 Anticholinergic Agents (i.e. Scopolamine)

17.1.5 Neurokinin Receptor Antagonists
17.1.6 Cannabinoids
17.2 List the appropriate anti-emetic drugs for the treatment of specific conditions such as chemotherapy-induced nausea and vomiting, postoperative nausea and vomiting, motion sickness, vertigo, and nausea and vomiting during pregnancy.

18 Prokinetic Drugs and Laxatives
18.1 Describe mechanism of action, indications, route of administration, contraindications, drug interactions, and adverse effects of the following classes of drugs that treat constipation:
18.1.1 Bulk-Forming Laxatives
18.1.2 Osmotic Laxatives
18.1.3 Stimulant Laxatives
18.1.4 Emollients/Surfactants
18.2 Discuss the use of opioid receptor antagonists in opioid induced constipation
18.3 Describe mechanism of action, indications, route of administration, contraindications, drug interactions, and adverse effects of the following classes of drugs that treat GI motility disorders:
18.3.1 Dopamine Receptor Antagonists
18.3.2 Serotonin Receptor Agonists
18.4 Macrolide antibiotics

19 GI Pharm Review
19.1 Review Session

20 FBS1: Molecular, Biochemical Tissue, Cell Basis of Health & Disease
20.1 COMAT Shelf Exams, Board Practice

21 Gastrointestinal Neoplasia I
21.1 Identify tumors of the esophagus, stomach, small bowel, large bowel, and anal canal
21.1.1 Precursor Lesions
21.1.2 Risk Factors
21.1.3 Syndromes
21.2 Molecular basis of tumor progression

22 Gastrointestinal Neoplasia II
22.1 See Previous Learning Objectives

23 TBL: Pathology, Pharmacology of Constipation and Diarrhea
23.1 Focused application of content from sessions above within a team-based learning environment including iRAT, tRAT and GAPs. Attendance at these sessions is mandatory.

24 TBL: Pathology, Pharmacology of Constipation and Diarrhea
24.1 Focused application of content from sessions above within a team-based learning environment including iRAT, tRAT and GAPs. Attendance at these sessions is mandatory.

25 TBL: Pathology, Pharmacology of Constipation and Diarrhea
25.1 Focused application of content from sessions above within a team-based learning environment including iRAT, tRAT and GAPs. Attendance at these sessions is mandatory.

26 Liver Damage
26.1 Recognize the role of uridine glucuronyl transferase (UGT) in bilirubin metabolism, differentiate direct vs indirect bilirubin, and explain how conjugated bilirubin darkens feces and makes urine yellow.
26.2 Recall the relative oxygen concentrations of the three hepatic acinar zones, and predict which zone is most sensitive to shock, ischemic injury & fat accumulation.
26.3 Explain why the term "LFT" is misleading, list the serum markers of hepatic damage vs the markers that truly reflect liver function as discussed in class.
26.4 Explain why ALT is considered more liver-specific than AST and predict which is most elevated in viral hepatitis vs alcoholic hepatitis; identify the enzyme that is the best measure of recent alcohol consumption.
26.5 Compare and contrast Physiological jaundice, Gilbert's syndrome, Crigler-Najjar syndrome and Dubin-Johnson syndrome in terms of which is/are lethal vs harmless, their cause, key presentation, and the impact on direct and indirect bilirubin.
26.6 Describe the typical presentation, key histopathological, and clinical lab findings of Primary Biliary Cirrhosis, Primary Sclerosing Cholangitis, Cirrhosis, Alcoholic Fatty Liver Disease and Hepatitis, Non-

alcoholic Fatty Liver Disease, Autoimmune Hepatitis, Alpha 1 Antitrypsin, Right Heart Failure, and Shock Liver.

26.7 Explain why ASA should not be given to a child; and why N-acetylcysteine is given for acetaminophen overdose.

27 Hepatitis A-E (Infectious/Non-Infectious) I

27.1 Define hepatitis.

27.2 Outline and describe the various non- infectious causes of hepatitis, including ethanol, medication/toxin, autoimmune disease, Wilson's disease, hemochromatosis, sarcoidosis, idiopathic granulomatous hepatitis and alpha 1 antitrypsin disease.

27.3 Review systemic bacterial illnesses that can cause hepatitis, including tick-borne illnesses, leptospirosis, tularemia, brucellosis, syphilis, Q fever, MTB/MAI and bartonellosis.

27.4 Describe the clinical scenarios for various viral causes of hepatitis, including hepatitis A/B/C/D/E, flaviviruses and EBV/CMV/HSV.

27.5 Outline diagnostic methods used when hepatitis is found in patients, including radiologic studies, serology, cultures, staining and pathology at biopsy, along with indications for biopsy and methods used to biopsy livers.

27.6 Discuss communicability of various hepatitis pathogens, along with modes of prevention (such as vaccine, sanitation, and infection control procedures).

27.7 Describe the potential sequelae of hepatitis, such as cirrhosis, hepatoma, B cell NHL, renal failure, cryoglobulinemia, PAN, arthritis, sicca syndromes and PCT.

27.8 Outline the treatable causes of hepatitis, along with types of therapy used.

27.9 Define liver abscess, its causes, and surgical/antimicrobial therapies.

28 Hepatitis A-E (Infectious/Non-Infectious) II

28.1 See Previous Learning Objectives

29 Hepatocellular Tumors

29.1 Describe the clinicopathologic features, risk factors, complications, diagnosis, and management of hepatic tumors including:

- 29.1.1 Hepatic Adenoma
- 29.1.2 Cavernous Hemangioma
- 29.1.3 Focal Nodular Hyperplasia
- 29.1.4 Liver Metastases
- 29.1.5 Angiosarcoma
- 29.1.6 Hepatocellular Carcinoma

30 Hepatotoxicity and Liver Failure

30.1 Apply the concepts of hepatocellular and cholestatic liver diseases to interpretation of abnormal liver tests

30.2 Provide a differential diagnosis of acute and chronic liver disease when the "usual" tests are negative

30.3 Utilize and interpret noninvasive tests of hepatic fibrosis

30.4 Recognize the clinical patterns of the most common causes of drug-induced liver disease

31 TBL: Pathology, Pharmacology of Liver Disease

31.1 Focused application of content from sessions above within a team-based learning environment including iRAT, tRAT and GAPs. Attendance at these sessions is mandatory.

32 TBL: Pathology, Pharmacology of Liver Disease

32.1 Focused application of content from sessions above within a team-based learning environment including iRAT, tRAT and GAPs. Attendance at these sessions is mandatory.

33 TBL: Pathology, Pharmacology of Liver Disease

33.1 Focused application of content from sessions above within a team-based learning environment including iRAT, tRAT and GAPs. Attendance at these sessions is mandatory.

34 Disorders of the Exocrine Pancreas and Biliary Tree I

34.1 Acute pancreatitis – Define and discuss risk factors/causes, clinicopathologic features, complications, diagnosis, and management

34.2 Chronic pancreatitis - Define and discuss risk factors/causes, clinicopathologic features, complications, diagnosis, and management

34.3 Pancreatic cancer – Define and discuss risk factors, clinicopathologic features, diagnosis, and management

34.4 Biliary tree – Define and discuss the risk factors, clinicopathologic features, complications, diagnosis, and management of biliary disorders including:

- 34.4.1 Cholelithiasis
- 34.4.2 Choledocholithiasis
- 34.4.3 Gallstone Ileus
- 34.4.4 Cholecystitis
- 34.4.5 Ascending Cholangitis
- 34.4.6 Porcelain Gallbladder
- 34.4.7 Gallbladder Cancer

Note: PBC and PSC covered in a previous session)

35 Disorders of the Exocrine Pancreas and Biliary Tree II

35.1 See Previous Learning Objectives

36 Obesity

36.1 Provide a precise medical definition of obesity and morbid obesity

36.2 Describe the statistics, demographics, and evolution of the obesity epidemic

36.3 List the contributing factors/causes of obesity

36.4 Describe the normal physiologic regulation of weight, particularly as it pertains to the development of obesity

36.5 Describe the pathophysiologic effects of excess weight, particularly on the following systems:

- 36.5.1 Endocrine
- 36.5.2 Cardiovascular
- 36.5.3 Pulmonary
- 36.5.4 Musculoskeletal
- 36.5.5 Immune/Oncologic

36.6 Describe common approaches to weight loss and their relative efficacies:

- 36.6.1 Activity/Exercise Modification
- 36.6.2 Diet Modification
- 36.6.3 Pharmacologic
- 36.6.4 Weight Loss

37 Irritable Bowel Syndrome and Diverticular Disease

37.1 Irritable Bowel Syndrome – Define and discuss presentation, diagnosis, and management

37.2 Diverticular disease – Define and discuss clinicopathologic features, potential complications, diagnosis, and management of diverticular disease including:

- 37.2.1 Diverticulosis
- 37.2.2 Diverticulitis
- 37.2.3 Zenker Diverticulum

Note: Meckel Diverticulum is covered in a previous session

38 FBS2: GI System and Nutritional Health

38.1 COMAT Shelf Exams, Board Practice

39 Brain Psychiatry I Anti-Depressants

39.1 Discuss the theories underlying the biochemical causes of depression, including neurotransmitters/receptors/factors involved

39.2 Discuss the different classes of drugs used for treatment of depressive disorders

39.3 Describe the mechanism of action, clinical uses, drug interactions, and adverse effects of commonly prescribed drugs used to treat depression

39.4 Discuss different mood disorders, and drug classes to treat them

39.5 Review the mechanism of action, adverse effects, therapeutic indications and drug interactions of lithium carbonate, valproate, carbamazepine, lamotrigine and atypical antipsychotics

40 Brain Psychiatry II Anti-Psychotic Medications

40.1 Discuss the nature of psychosis & schizophrenia

40.2 Discuss the serotonin, dopamine & glutamate hypothesis of schizophrenia

40.3 List the types of antipsychotic drugs – typical and atypical
40.4 Describe the pharmacokinetics & pharmacodynamics, mechanism of action, clinical uses, adverse reactions and drug interactions

41 Brain Psychiatry III Sedative Hypnotics
41.1 Review neurotransmitters involved in the mechanism of action of sedative hypnotics
41.2 Discuss different classes of anti-anxiety and sedative hypnotic drugs
41.3 Discuss mechanism of action, clinical indications and adverse effects of sedative hypnotics and anxiolytics
41.4 Discuss drug interactions of sedative hypnotics with opioids, antidepressants, MAO inhibitors and CNS depressants

42 Hearing and Dizziness
42.1 Review/Learn causes of hearing loss including Presbycusis, Noise-Induced loss, Cholesteatoma, Meniere Disease, Otosclerosis.
42.2 Understand the Weber and Rinne Tests and their application
42.3 Understand basic principles in interpreting an Audiogram
42.4 Understand causes of Vertigo, diagnosis, and treatments

43 Ischemia of the Brain
43.1 Compare and contrast the two major mechanisms for stroke and how treatment would differ for each
43.2 Describe the pathologic findings seen in the most common causes of traumatic brain injury
43.3 Compare and contrast the etiologies and clinical presentations of:
43.3.1 Epidural Hemorrhages
43.3.2 Subdural Hemorrhages
43.3.3 Subarachnoid Hemorrhages
43.3.4 Basal Ganglionic Hemorrhages Lobar Hemorrhages
43.4 Describe the mechanism of hypertensive hemorrhage and name three common locations in which this occurs
43.5 Describe how embolic infarcts differ from athero-thrombotic infarcts in pathologic appearance and name three sources of emboli
43.6 Compare and contrast the gross and histopathologic appearance of acute versus remote brain infarction

44 Brain Hemorrhage
44.1 To become familiar with the nomenclature of the different types of intracranial hemorrhages
44.2 Be able to recognize and differentiate different types of intracranial hemorrhage is radiographically
44.3 Understand the neurological exam, clinical course, and treatment of different types of intracranial hemorrhages

45 CNS Injury I
45.1 Appraise the reactions, pathogenesis, clinicopathologic appearance, and complications of cellular components of the CNS towards injury
45.2 Contrast the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of cerebral edema, hydrocephalus, elevated intracranial pressure, and herniation
45.3 Evaluate the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of prenatal brain injury
45.4 Illustrate the pathogenesis, clinicopathologic appearance, and complications of CNS trauma
45.5 Compare the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of cerebrovascular diseases
45.6 Categorize the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of infectious, demyelinating, metabolic and toxic diseases of the CNS

46 CNS Injury II
46.1 See Previous Learning Objectives

47 Ophthalmic Pathology I
47.1 Describe the anatomy of the eye and list and rank the disorders of the eye (based on high frequency and high morbidity):
47.1.1 Orbit
47.1.2 Eyelid
47.1.3 Lacrimal System

- 47.1.4 Conjunctiva
- 47.1.5 Cornea
- 47.1.6 Retina/Choroid/Vitreous
- 47.1.7 Optic Nerve

47.2 Describe clinicopathological characteristics of Orbital Disorders:
- 47.2.1 Thyroid Orbitopathy
- 47.2.2 Preseptal Cellulitis
- 47.2.3 Orbital Cellulitis
- 47.2.4 Cavernous Hemangioma
- 47.2.5 Pediatric Capillary Hemangioma

47.3 Describe clinicopathological characteristics of Eyelid Disorders in ter of the etiology/mechanisms:
- 47.3.1 Inflammatory: chalazion, stye, molluscum
- 47.3.2 Infiltration: xanthelasma
- 47.3.3 Malignant epidermal lesions: basal cell carcinoma, sebaceous cell carcinoma, squamous cell carcinoma, Merkel cell tumor, melanoma

47.4 Describe clinicopathological characteristic of Conjunctival Disorders:
- 47.4.1 Conjunctivitis: differential for bacterial, viral, and inflammatory etiologies
- 47.4.2 Scleritis, Episcleritis, Pterygia, Conjunctival tumors

47.5 Describe clinicopathological characteristics of corneal disorders: Keratitis: Bacterial, Herpes Simplex, Herpes Zoster, Fungal Pannus

47.6 Describe clinicopathological characteristics of Glaucoma:
- 47.6.1 Primary Open Angle Glaucoma
- 47.6.2 Narrow Angle Glaucoma
- 47.6.3 Neovascular Glaucoma
- 47.6.4 Pseudoexfoliative Glaucoma
- 47.6.5 Ghost Cell
- 47.6.6 Hemolytic
- 47.6.7 Traumatic Glaucoma

47.7 Describe clinicopathological characteristics of Retinal/Choroidal Disorders:
- 47.7.1 Diabetic Retinopathy, background and proliferative
- 47.7.2 Hypertensive Retinopathy
- 47.7.3 Retinal Artery Occlusion
- 47.7.4 Retinal Vein Occlusion
- 47.7.5 Ocular Ischemic Syndrome
- 47.7.6 Macular Degeneration, nonexudative (dry) vs exudative (wet)
- 47.7.7 Sickle Cell Retinopathy
- 47.7.8 Ocular Histoplasmosis
- 47.7.9 Retinitis Pigmentosa
- 47.7.10 Choroidal Malignant Melanoma
- 47.7.11 Retinal Detachment
- 47.7.12 Vitreous Floaters

47.8 Describe clinicopathological characteristics of Optic Nerve disorders:
- 47.8.1 Papilledema
- 47.8.2 Papillitis
- 47.8.3 Disc Drusen
- 47.8.4 Ischemic Optic Neuropathy
- 47.8.5 Temporal Arteritis
- 47.8.6 Meningioma

47.9 Describe clinicopathological characteristics of Pediatric Disorders:
- 47.9.1 Nasolacrimal Duct Obstruction
- 47.9.2 Retinopathy of Prematurity
- 47.9.3 Retinoblastoma
- 47.9.4 Congenital Glaucoma

48 Ophthalmic Pathology II

48.1 See Previous Learning Objectives

49 Important Demyelinating Disorders

49.1 Define multiple sclerosis and describe the neuroanatomic structures and functions that have gone wrong

49.2 Describe the autoimmune mechanism mediated by CD4+ T cells that react against self-myelin antigens in Multiple Sclerosis

49.3 Outline the clinicopathologic features of the MS and clinical course and management of the disease

49.4 Describe the importance of distinguishing ependymoma from infiltrative astrocytoma intraoperatively

49.5 List the histologic features of each of ependymoma and infiltrative astrocytoma

49.6 Explain how examination of a spinal cord at autopsy is important for the diagnosis and classification of demyelinating and/or neuromuscular diseases

49.7 Describe the pathogenesis, clinical presentation, and gross and microscopic pathologic features of Multiple Sclerosis.

50 Motor and Neuromuscular Disorders

50.1 Describe the major anatomical pathways and neurotransmitter systems involved in control of motor function

50.2 Discuss current hypotheses about the etiology and pathophysiology of Parkinson's disease

50.3 Describe similarities and differences between idiopathic and iatrogenic Parkinsonism

50.4 Describe Huntington's Chorea and discuss drugs available for its treatment and their effectiveness

50.5 Discuss the pathophysiological basis of rigidity, spasticity, muscle spasm (if not previously discussed under motor dysfunction).

51 Neurocutaneous Disorders

51.1 Understand the pathophysiology, inheritance, clinical features, complications, diagnosis and treatment of the following disorders:

51.1.1 Sturge-Weber

51.1.2 Von Hippel Lindau

51.1.3 Tuberous Sclerosis

51.1.4 Neurofibromatosis I

51.1.5 Neurofibromatosis II

52 Bacterial Infections of the Nervous System (Microbiology Overview)

52.1 Define meningitis, aseptic meningitis, encephalitis, ventriculitis, myelitis, brain abscess, paraspinous abscess and subdural/epidural empyema.

52.2 Describe the major bacterial pathogens of meningitis in the perinatal, childhood and adult periods including S. pneumonia, N. meningitides, Group B Strep, E. coli and H. influenza.

52.3 Describe the less common causes of bacterial CNS infections, and which risk groups tend to get them (Listeria, Syphilis, Tropheryma, MTB, etc.).

52.4 Describe the bacterial causes of CNS prosthetic device infections and peri-op neurosurgical infections.

52.5 Explain how the CNS may be seeded with infectious organisms, such as contiguous infection (paraspinous abscess and empyema), transient bacteremia (S. pneumoniae pneumonia, dental infection), persistent bacteremia (infective endocarditis) and by direct contamination at time of surgery/trauma.

52.6 Discuss brain and paravertebral abscesses, their causes, microbiologic flora, and their management.

52.7 Discuss the management of bacterial meningitis, importance of immediate antibiotic treatment, and the role for steroid therapy.

52.8 Explain the interpretation of CSF lab results, and what tests to order depending on the clinical scenario, stains, cultures, serology, PCR and antigen tests.

52.9 Discuss when to do LPs, and when radiologic evaluation is and is not warranted before LP is done.

52.10 Discuss modalities for prevention of bacterial meningitis, including available vaccines.

53 Viral, Fungal, Parasitic, and Non-Infectious CNS Diseases

53.1 Describe the viral causes and presentations of meningitis and encephalitis (Enterovirus, Arbovirus, WNV, LCM, Herpes group viruses, HIV, Rabies, Zika, Powassen, Influenza), and how they are diagnosed.

53.2 Discuss potential therapies for viral meningitis/encephalitis.

53.3 Discuss the presentation, findings and management of fungal CNS infections, along with their diagnostic difficulties, to include Cryptococcus, Candida, Coccidioides, Histoplasma, Aspergillus and Mucor.
53.4 Discuss the epidemiology of fungal CNS infections, and who tends to develop them.
53.5 Describe the parasitic/protozoan causes of meningitis/encephalitis, their presentations and lab findings, along with potential treatment (Toxoplasma, Plasmodium, Acanthamoeba, Naegleria, Taenia).
53.6 Describe the scenario of neurocysticercosis, including lab/radiologic findings and management.
53.7 Describe neuromuscular toxins produced by distant infection (Botulism/Tetanus), along with their pathophysiology, diagnosis and treatment.
53.8 Discuss medications that can cause aseptic meningitis.
53.9 Discuss the CNS manifestations of prion disease.
53.10 Options available to diagnose enhancing brain lesions, and clinical findings to suggest they are of infectious vs non-infectious etiology.

54 Hydrocephalus

54.1 Different types of Hydrocephalus
54.2 Etiology
54.3 Neuroanatomy affected

55 Antiepileptic Drugs

55.1 List the major classes of antiseizure drugs, the seizure types against which they are effective, their cellular mechanisms of action, and how these actions might be relevant to their roles as antiseizure agents
55.2 Describe the pharmacokinetic factors relevant to appropriate therapy with antiseizure drugs with emphasis on why the clearance of phenytoin changes with dose.
55.3 Discuss the rationale for the common practice of monitoring plasma concentrations of many antiepileptic drugs
55.4 List and describe the adverse and teratogenic effects of the major antiseizure drugs
55.5 List the antiseizure medications that induce hepatic enzymes and describe the consequences for treatment of epilepsy and for interactions with drugs used for other conditions
55.6 Define status epilepticus and explain how it is managed pharmacologically
55.7 Discuss the therapeutic use of antiseizure drugs for conditions other than epilepsy, including their use as analgesics and as mood stabilizers.
55.8 Differentiate between anticonvulsant and anti-epilepsy actions on the basis of prophylaxis and acute therapy, and differentiate seizures from epilepsy
55.9 Describe the role of anticonvulsant drug blood levels in the therapy of epilepsy
55.10 Describe the principles of antiepileptic therapy to include monotherapy vs. poly drug therapy, withdrawal of drug therapy and the factors involved in epilepsy treatment failures.

56 CNS Drugs: Local Anesthetics

56.1 Discuss the mechanism of action of local anesthetics, including a description of how the action of benzocaine differs from that of other primary agents.
56.2 List the common adverse effects of local anesthetics and indicate appropriate treatments should they occur.
56.3 List the significant differences between amide and ester-type local anesthetics.
56.4 Describe the common routes of administration of local anesthetics.
56.5 List anesthetics that cannot be used topically, that cannot be used for infiltration.
56.6 Explain why these routes are not effective.
56.7 Describe methods used to restrict local anesthetics to a desired site of action and indicate how these methods reduce adverse effects.
56.8 Compare and contrast the advantages and potential adverse effects of epidural and intrathecal use of local anesthetics with similar use of opioids.
56.9 Describe the relationship between increased cardiac morbidity and seizures when significant circulating drugs concentrations are achieved.

57 CNS Drugs: General Anesthetics

57.1 Define the terms “general anesthesia” and “balanced anesthesia”

57.2 State the objectives of general anesthesia, characteristics of an ideal anesthetic, and the stages of general anesthesia
57.3 List the current theories of the mechanisms of action of inhalation anesthetics, and of intravenous anesthetics
57.4 Compare the available inhalation anesthetics with respect to their pharmacokinetic properties including biotransformation
57.5 Explain how the solubility of a gas in a liquid is defined
57.6 List the conditions that must be specified to determine the concentration of gas in the liquid phase
57.7 Describe how the physical properties of inhalation anesthetics influence the rate of equilibration of anesthetic in the inspired air to anesthetic in alveoli, blood, brain, muscle, and fat
57.8 Explain how this information is related to onset and recovery from inhalation anesthesia
57.9 Compare commonly used intravenous induction agents—their speed of onset, and duration of action
57.10 Describe the relative roles of distribution and metabolism in determining duration of action and how duration of action may change with repeated administration of an intravenous anesthetic

58 CNS Drugs: Opioid Analgesics, Agonist-Antagonists, and Antitussives

58.1 Describe the primary site of action and prescribed opioid analgesics and their MOA
58.2 Discuss the rationale for using mixtures of opioid analgesics and NSAIDS.
58.3 Discuss potential therapeutic actions of opioids aside from analgesia in CNS and other organ systems including cardiovascular, respiratory, and GI. Discuss the salient differences in pharmacology between morphine and each of the following agonists: Meperidine, Fentanyl, Methadone, and Oxycodone.
58.4 Describe the pharmacokinetic and pharmacodynamic properties of opioid analgesics. List and describe the indications and contraindications for each opioid analgesic.
58.5 List and explain the major drug interaction of opioid analgesics
58.6 Discuss the risk of tolerance, physical dependence, and addiction in the use of opioid analgesics. Describe the signs and symptoms of Morphine and Heroin overdose and how they are managed.
58.7 Describe the opioid abstinence syndrome and how it differs from that of sedative-hypnotics. Present the clinical indications for the opioids and opioid antagonists and explain the basis for their use.
58.8 Explain how agonist-antagonists and partial agonists differ in their utility and adverse effect profile when compared to Morphine.
58.9 Discuss the maintenance therapy with Methadone and Buprenorphine. Describe the primary sites of action of antitussive drugs, expectorants, and mucolytic agents.
58.10 Discuss the mechanism of action of antitussive drugs.

59 Brain: Structure and Function

59.1 Neurons and its components
59.2 Different cell types in brain: Neurons, Astrocytes, Microglia, Ependymal cells
59.3 Myelination - Schwann and oligodendrocytes
59.4 Sensory receptors - Nerve ending, Meissner corpuscles, Pacinian Corpuscles, Merkel disc, Ruffinni corpuscles
59.5 Structure of Peripheral Nerve
59.6 Axonal Injury
59.7 Meninges Structure
59.8 Blood Brain Barrier Structure Specific Nuclei in the brain: Tractus Solitarius

60 Clinical Neurodevelopmental Defects

60.1 Neural tube defects and their classification
60.2 Spina bifida – Occulta / Cystica, Anencephaly
60.3 Congenital Hydrocephalus
60.4 Chiari types; Arnold-Chiari; Dandy-Walker
60.5 Some syndromes : Fragile-X, Down, FAS
60.6 Holoprosencephaly and Cystic malformations
60.7 Some Embryonic tumors

61 Spinal Cord Pathology

61.1 What are Neurological Types of Pain
61.2 Acute spinal injury / Spinal shock syndrome – atonic bladder
61.3 Lesion of descending tracts and ascending tracts

61.4 Spinal cord syndromes: Total, Hemi (Brown-Sequard), Anterior, Central
61.5 Multiple sclerosis
61.6 Chronic spinal cord compression
61.7 Spinal tumors
61.8 Cauda / conus syndromes
61.9 Spinal cord radiology
61.10 Clinical definitions: Paralysis, Abnormalities of muscle tone

62 Review-Spinal Cord Lesions

62.1 Review the following concepts in cases:
62.1.1 Spinal Cord Syndromes: Total, Hemi (Brown-Sequard), Anterior, Central Multiple Sclerosis
62.1.2 Chronic Spinal Cord Compressions

63 Review-Spinal Cord Lesions

63.1 See above

64 CNS Drugs for Motor Disorders and Centrally Acting Muscle Relaxants

64.1 Describe the classes of agents that are used to promote skeletal muscle relaxation (baclofen/GABAB receptors, tizanidine/alpha2 adrenergic receptors)
64.2 Describe the molecular mechanism of action of each primary drug
64.3 Describe the similarities and differences in the adverse effect profiles of LDOPA/carbidopa, COMT inhibitors, MAOB inhibitors and direct dopamine agonists
64.4 Describe the rationale for the use of levodopa in Parkinson's disease and the rationale for its use in combination with peripheral L-amino acid decarboxylase inhibitor
64.5 Discuss how the drug combination alters levodopa's therapeutic and adverse effect profiles
64.6 Discuss the changes in control of symptoms by levodopa as disease progresses
64.7 Discuss the use of other classes of drugs in treating Parkinson's disease: direct DA receptor agonists, anticholinergics, MAO inhibitors, COMT inhibitors, amantadine
64.8 Discuss drugs that can cause parkinsonism and other movement disorders, and how these drug-induced disorders can be treated
64.9 List drugs useful for treatment of spasticity and compare the mechanisms of action and adverse effects of benzodiazepines, baclofen, cyclobenzaprine and dantrolene when used for this purpose
64.10 Explain the rationale for the use of dantrolene in malignant hyperthermia and neuroleptic malignant syndrome.

65 EEG and Sleep

65.1 EEG waveforms
65.2 Brain Death
65.3 Awareness / Consciousness
65.4 Sleep architecture: Sleep states; Stages; Sleep cycle
65.5 Sleep Developmental aspects
65.6 Narcolepsy (components), Cataplexy, Hypersomnia, Sleep apnea, Insomnia, Depression; RLS; Parasomnias; Terrors vs. Nightmares; SIDS; Sleep myoclonus

66 Epilepsy and Seizure Disorders I

66.1 Define Epilepsy and characterize by the neurobiologic, cognitive, psychological, and social consequences of this condition
66.2 Describe the pathophysiology of seizures; describe and clinically correlate Seizures as paroxysmal manifestations of the electrical properties of the cerebral cortex
66.3 Describe the imbalance between the excitatory and inhibitory forces within the network of cortical neurons and effects on neurobiologic, cognitive, psychological consequences
66.4 Describe the types and prevalence of epilepsy/Seizures
66.5 Discuss briefly each of the following with respect to their possible relevance to the initiation and spread of seizure activity:
66.5.1 Mirror Foci
66.5.2 Kindling
66.5.3 Post-Tetanic Potentiation
66.5.4 Long-Term Potentiation

66.5.5 Paroxysmal Depolarizing Shift
66.5.6 Channelopathies

67 Epilepsy and Seizure Disorders II
67.1 See Previous Learning Objectives

68 Brain Lesions
68.1 Difference between Cortex (Brain), Brainstem, Vs Spinal Cord Lesion Comparison
68.2 Brain Stem Syndromes - Medullary, Pons, and Midbrain level lesion
68.3 Rigidity Types - Decerebrate vs decorticate rigidity
68.4 Vertebro-basilar syndromes
68.5 Specific areas common brain
68.6 Describe the etiology of epilepsy; describe genetic disorders that can cause seizures:
68.6.1 Syndromes in which seizures are common
68.6.2 Chromosome Deletion or Duplication Syndromes that cause seizures
68.6.3 Metabolic Diseases
68.6.4 Seizure Disorders caused by single-gene mutations
68.6.5 Mitochondrial diseases
68.7 Describe the etiology, pathogenesis, and clinical features of Amyotrophic Lateral Sclerosis.
68.8 Describe the etiology, pathogenesis, and clinical features of two types of mitochondrial diseases affecting muscle
68.9 Explain why it may be important to obtain fresh frozen muscle to aid diagnosis of mitochondria diseases.

69 Review-Lesions
69.1 Review the following in cases:
69.1.1 Difference between Cortex (Brain), Brainstem, Vs Spinal Cord Lesion Comparison
69.1.2 Brain Stem Syndromes – Medullary, Pons, and Midbrain Level Lesions

70 Review-Lesions
70.1 See Above

71 Headache
71.1 Understand the Clinical Presentation, Pathophysiology, Diagnosis, and Abortive/Preventive Treatments of the following Headache types:
71.1.1 Cluster
71.1.2 Tension
71.1.3 Migraine
71.1.4 Trigeminal Neuralgia
71.1.5 Idiopathic Intracranial Hypertension

72 Autonomic and Neuromuscular Pathophysiology
72.1 Describe examples of toxin- and pharmacologically induced disorders of neuromuscular junctions
72.2 Explain the etiology, pathogenesis, clinical manifestations, and treatment of myasthenia gravis
72.3 List examples of autonomic disorders involving the central nervous system and describe general symptoms associated with the lesions.
72.4 List examples of autonomic disorders involving autonomic neuropathies and describe general symptoms associated with the lesions.
72.5 List neurogenic causes of orthostatic hypotension.
72.6 Describe autonomic function tests used to detect or follow up cases with autonomic disorders: Heart rate with deep breathing, Valsalva response, sudmotor axon reflex test, orthostatic blood pressure recording and tilt table testing.
72.7 Describe specific autonomic abnormalities attributed to amyloid and alcohol neuropathy.
72.8 Describe specific autonomic abnormalities attributed to porphyria, Guillain-Barre` syndrome and autoimmune autonomic neuropathy (AAN).
72.9 Explain the etiology, pathogenesis, clinical manifestation, and treatment of postural orthostatic tachycardia syndrome (POTS)
72.10 Describe the causes, abnormalities, and treatment options for primary hyperhidrosis.

73 Cerebellum Pathology
73.1 Cerebellar dysfunction

73.2 Vermis syndrome
73.3 Alcohol cerebellar dysfunction
73.4 Classification of diseases of cerebellum
73.5 TN repeat disorders – Friedreich's
73.6 Degenerative disorders
73.7 Cerebellar tonsillar herniation syndromes
73.8 Congenital cerebellar disorders – Chiari types, Arnold-Chiari, Dandy-Walker
73.9 Cerebellar tumors
73.10 Clinical tests for cerebellar dysfunction

74 CNS Neoplasia-Adults

74.1 Contrast the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of gliomas.
74.2 Categorize the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of neuronal tumors.
74.3 Compare the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of poorly differentiated CNS tumors.
74.4 Construct the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of cerebrovascular diseases.
74.5 Describe the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of CNS lymphoma, germ cell tumors, and pineal tumors.

75 CNS Neoplasia-Children

75.1 Diagram the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of meningiomas.
75.2 Analyze the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of tumors metastatic to the CNS.
75.3 Assess the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of paraneoplastic syndromes.
75.4 Compare the predisposing factors, pathogenesis, clinicopathologic appearance, and complications of familial tumor syndromes.

76 Cranial Nerve Lesions I

76.1 All CNs
76.2 CN parasympathetic outflow
76.3 Foster Kennedy syndrome - CN1,2
76.4 CN2 - Visual pathway lesions, Optic neuritis
76.5 Visual reflex lesions, CN 3, 4, 6 Palsies

77 Cranial Nerve Lesions II

77.1 See Previous Learning Objectives

78 Limbic System Pathology

78.1 Normal Limbic System
78.2 Memory Classification
78.3 Hippocampus Memory Function
78.4 Korsakoff/Wernicke/W-K Syndrome
78.5 Kluver-Bucy Syndrome
78.6 Amygdala Ablation
78.7 Schizophrenia

79 Basal Ganglia Pathology

79.1 Normal Basal Ganglia
79.2 Parkinson's disease Huntington's disease
79.3 Sydenham's chorea / Gravidarum
79.4 Hemiballism
79.5 Dystonias
79.6 Tardive dyskinesia
79.7 Tourette syndrome
79.8 Wilson's disease

79.9 Kernicterus
79.10 Definition of movement disorders

80 Cerebrum Dementias
80.1 Delirium vs. Dementia
80.2 Specific dementia syndromes; Vascular / Pick / CJD / HIV-related / Lewy Body
80.3 Alzheimer's disease: details
80.4 Neuro-radiology and interpretation of CT and MRI of brain

81 FBS3: Foundational Neurosciences
81.1 COMAT Shelf Exams, Board Practice

82 Zoonotic Diseases I
82.1 Define zoonosis and Zooanthroponosis (reverse zoonosis).
82.2 Define the pathophysiology and clinical presentation of various bacterial zoonoses, including plague, tularemia, brucellosis, anthrax, leptospirosis, Q fever, Pasteurella, Capnocytophaga, Bartonella, Salmonella, Campylobacter, psittacosis, M. marinum and bovis, glanders, leprosy, rat bite fever, listeriosis, typhus and tick-borne disorders.
82.3 Outline infectious issues that can develop around bites from various animals.
82.4 Discuss how infections of humans can potentially be acquired, then passed, by pets through families, such as MSSA/MRSA and dermatophytosis.
82.5 Explain Zooanthroponosis and what diseases can be passed from humans to animals, including Staph aureus, Giardia, Cryptosporidium, amoebiasis, glanders, Candida and dermatophytosis.

83 Zoonotic Diseases II
83.1 List the potential insect vectors for zoonotic infections.
83.2 Discuss the pathophysiology and clinical presentation of various viral zoonoses, including malaria, filariasis, trypanosomiasis, leishmaniasis, onchocerciasis, schistosomiasis, cryptosporidiosis, and dirofilariasis.
83.3 Discuss the pathophysiology and clinical presentation of various viral zoonoses, including dengue fever, yellow fever, chikungunya virus, encephalitis viruses, Zika virus, influenza, Hantavirus, or, tickborne encephalitis, monkeypox, cowpox, LCM, Herpes B virus and the many hemorrhagic fever viruses.
83.4 Outline preventative measures are available against zoonoses.

84 Health Care- Associated Infections
84.1 Define nosocomial and healthcare- associated (HCA) infections.
84.2 Discuss the epidemiology of HCA infections, including risk factors.
84.3 Discuss the pathogens often seen in HCA infections and contrast them with those typically seen in community- acquired infections.
84.4 Describe the problems with resistant organisms found in HCA infections these days, and what can and cannot be done to treat them.
84.5 Describe the common portals of entry for nosocomial infections.
84.6 Outline infection control/prevention methods utilized in hospitals, including types of isolation that are used.
84.7 Discuss types and indications for peri- op antibiotic prophylaxis.
84.8 Discuss antibiotic stewardship methods being used today.

85 Multisystem Review
85.1 Glycogen and Lysosomal Storage Disorders

86 Multisystem Review – A Med Biochem Board Review
86.1 Vampires, King Tut, and People that smell like mice

87 FBS4: Microbiology and Immunology
87.1 COMAT Shelf Exams, Board Practice

88 Multisystem Review – A Med Biochem Board Review
88.1 Vampires, King Tut, and People that smell like mice.

89 Multisystem Review – A Med Biochem Board Review
89.1 Vampires, King Tut, and People that smell like mice.

90 Multisystem Review
90.1 Pulmonary

91 Multisystem Review
91.1 Murmurs, Maneuvers, Split Sounds
92 Anatomy Review
92.1 Common Fractures
93 Multisystem Review
93.1 Renal
94 Multisystem Review
94.1 Endocrinology
95 Multisystem Review
95.1 Cell Injury & Adaptations, Inflammation
96 Multisystem Review
96.1 Cell Injury & Adaptations, Inflammation
97 Multisystem Review
97.1 Aplasias & Heme Pathology
98 Multisystem Review
98.1 High Yield Review
99 FBS5: Foundational Anatomical Sciences
99.1 COMAT Shelf Exams, Board Practice
100 Multisystem Review
100.1 Stats
101 Multisystem Review
101.1 Stats
102 Multisystem Review
102.1 Boards Anatomy
103 Multisystem Review
103.1 Ethics & Medical Legal
104 Multisystem Review
104.1 Genetic
105 FBS6: Physiologic Basis of Health and Disease
105.1 COMAT Shelf Exams, Board Practice
106 Multisystem Review
106.1 Boards A-Z Conditions
107 FBS7: Pharmacologic Principles and Practices
107.1 COMAT Shelf Exams, Board Practice
108 Multisystem Review
108.1 Boards A-Z Conditions
109 Multisystem Review
109.1 Boards A-Z Conditions
110 Multisystem Review
110.1 Boards A-Z Conditions
111 Multisystem Review
111.1 Acid Base
112 Multisystem Review
112.1 Aging Physiological Changes
113 Multisystem Review
113.1 Pregnancy Physiological Changes
114 FBS8: Endocrine System and Metabolism
114.1 COMAT Shelf Exams, Board Practice
115 FBS9: Genitourinary/Renal System
115.1 COMAT Shelf Exams, Board Practice
116 FBS10: Cardiovascular and Hematologic Systems
116.1 COMAT Shelf Exams, Board Practice
117 FBS11: Musculoskeletal System
117.1 COMAT Shelf Exams, Board Practice

118 FBS12: Human Development, Reproduction and Sexuality
118.1 COMAT Shelf Exams, Board Practice
119 FBS13: Respiratory System
119.1 COMAT Shelf Exams, Board Practice

ARKANSAS COLLEGE OF
OSTEOPATHIC MEDICINE

Course Name: Capstone-2
Class of/Semester/Year: 2025/Spring/2023
Date Last Revised: December 5, 2022

Approved By: 

Rance McClain, DO
Vice President of Clinical Education
and Dean of ARCOM

Note: Final Approval. May be released to students. Schedule subject to change with advance notice.

Office of the Dean
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ARKANSAS COLLEGE OF OSTEOPATHIC MEDICINE

Arkansas Colleges of Health Education
Course Syllabus

Course Name:	Capstone-2
Class of/Semester/Year:	2025/Spring/2023
Course Designation:	COM 632
Term Dates:	January 5, 2023 – May 27, 2023
Course Dates:	January 5, 2023 – April 28, 2023
Total Contact Hours:	29 Lecture Hours; 21 TBL Hours
Credit Hours:	3
Assessment/Grading:	Pass/Fail evaluation of written assignments in labs and attendance
Location:	Boreham Lecture Hall 1
Course Director:	Mark Stillwell, MD FACP; Louay Nassri, MD FAAP FCCP
Office Hours:	By appointment

Syllabus is subject to change

ARKANSAS COLLEGE OF OSTEOPATHIC MEDICINE

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ARKANSAS COLLEGE OF OSTEOPATHIC MEDICINE

Course Description:
The Capstone-2 course aims to give second year medical students exposure to both didactic and practical training necessary to optimize the transition from classroom learning about patient care to the clinical application of healthcare. This course includes information relevant to securing a position in a residency program, including how to secure audition rotations, the residency application process, and interviewing considerations. This course completes the preclinical curriculum by reinforcing and further integrating important concepts, as well as introducing some just-in-time knowledge and skills. In addition, this course will reinforce and cover subjects that will be helpful in clinical rotations, that may or may not have been covered in their previous medical school curriculum.

Course Goals:
The following course goals reflect broad and enduring knowledge, skills, behaviors, and responsibilities that students should attain as a result of successfully completing the course:

1. Apply the knowledge and skills obtained completing BLS, ACLS and PALS training.
2. Receive instruction on surgical scrub and preoperative techniques, being able to enter an operating suite prepared to use sterile techniques.
3. Learn how to write CVs and personal statements, along with practice writing these documents up. This will give students an opportunity to assemble a portfolio of professional experiences and accomplishments that will make them stronger applicants for competitive residency programs and help them be able to compose compelling personal statements for their applications.
4. Teach understanding of what a letter of recommendation should include, along with how to approach faculty to author such a letter, and how to provide the author with the appropriate information that should be put in one of these letters. By completion of this class, the student will have developed an initial residency application portfolio, including a focused CV, comprehension of what makes a strong letter of recommendation and an understanding of what constitutes the timely submission of an application that will lead to more invitations for residency interviews.
5. Understanding of how to navigate the residency/ERAS application process.
6. Reinforcement of appropriate attitudes and behaviors, using good and bad examples of professionalism. This will help the student display a professional attitude and behavior that will promote success while in clinical rotations.
7. Understanding of, and reasons for adherence to, Hospital Isolation and PPE practices.
8. Learn about how the process of a medical malpractice action unfolds over years, and behaviors that can reduce the risk for such complaints.
9. Development of a basic understanding of EMRs, including data-entry and data-access in different platforms.
10. Receive instruction on how to evaluate medical literature, using the literature to practice "standard of care' medicine, understanding of how to utilize it in settling discrepant opinions on case management, followed by practice in evaluating the literature on a particular subject. The student will complete a robust review of the literature on a subject that interests them.

11. Learning the efficient use of the Medical Library, about routinely accessed peer-reviewed journals and information sites used to read and cite, along with what is (and why to avoid) misinformation, as well as predatory journals.
12. Understand the basic science and clinical research options, and other scholarly activity, that are available to third- and fourth-year students to participate in.
13. Participate in an overview of clinical nutrition, including basic evaluation of nutritional status of patients, followed by instruction on the many evidence-based options for nutritional therapy that can be utilized in both inpatient and outpatient venues.
14. Receive further instruction on how a case presentation can be best performed for a particular situation, and to understand the importance of learning what type of presentation is expected by an attending physician beginning the first day of a clinical rotation. This will be followed by actual practice of doing the same with an attending physician in a mentee-mentor experience.
15. Receive pointers on time management and triage from experienced clinicians with past histories of having busy practices.
16. Learn how to actively participate and be a contributing team member during core and specialty clinical rotations.
17. Receive instruction on what makes students successful in their rotations, from physicians with extensive clinical teaching experiences.

Course Expectations and Student Responsibilities:
Students should refer to the Academic Policies and Regulations section in the ACHE and ARCOM Student Handbooks & the Academic Catalogue for information regarding expected professional behaviors, including conduct and dress code.

Video Capture of Educational Content:
Consistent with the policies surrounding video capture and posting of educational content, recordings of any learning activity are considered a supplemental resource to advance student understanding and for reference at future stages of student education. Recorded materials should not be utilized to replace attendance in the classroom, laboratory, or clinical setting. ARCOM makes no guarantees of reliability for video capture and reserves the right to not allow the recording of learning activities. There is no substitute for class attendance, being actively engaged in the learning process, investing in the comprehension and application of course material, and interacting with instructors and colleagues. Becoming an osteopathic physician involves much more than the acquisition of knowledge and attainment of a professional title. Professionalism, ethics, problem solving, and communication are among the vital skills that are best developed in active and interactive settings. As such, ARCOM expects students to attend all learning activities and offers no guarantees or warranties as to the recording of educational classroom/laboratory content. There will be no video capture of in-class applications team-based learning (TBL), Foundations of Osteopathic Patient Care (FOPC), or Osteopathic Principles and Practice (OPP). Students are not permitted to render any audio and/or visual recordings of these in-class sessions.

Dress Code:
ARCOM Dress Code (refer to ARCOM Student Handbook & Academic Catalog subheading "Professional Dress Guidelines").

Professionalism:

- Students will conduct themselves professionally at all times, during all educational activities conducted on or off campus. This includes interactions with all faculty, staff, students, clinical faculty, guest lecturers, health care providers, patients, and any other member of the ARCOM community. Unprofessional behavior, conduct, or attire inconsistent with the ARCOM dress code will not be tolerated and will result in administrative action. Students are directed to the ARCOM Student Handbook & Academic Catalog for a full definition of professionalism and list of expected professional behaviors.
- Any unauthorized recording of learning materials and activities used in connection with the ARCOM curriculum or reproduction, rendering, possession, or dissemination of these materials including assessment materials, is considered unprofessional behavior and a violation of copyright. Such behavior is subject to action by the Student Conduct Committee (SCC) for disciplinary action, which may include receiving a grade of "zero" for a graded assessment, course failure, probationary action, suspension, or dismissal from ARCOM.
- Computers, tablets, or notebooks should only be used during lectures to take notes or reference appropriate class topics and reference materials. Students should not be on the internet viewing social media sites, performing online shopping, or playing games, etc. This is disrespectful to the lecturer, inhibits peer learning, and is unprofessional behavior.

Attendance Policy:
Osteopathic medical education prepares students for professional clinical practice. Lectures and labs include didactic material, case presentation, patient demonstrations, informal discussions, team-based learning, and the practice of psychomotor skills. Consistent and prompt class attendance is essential for the learner to benefit from the full educational experience provided. Therefore, ARCOM Faculty have adopted the following attendance policy:

1. Attendance at all lecture sessions within a given course is encouraged, but not required.
2. Attendance is required for guest lecturers and team-based learning experiences. A pattern of absenteeism or tardiness for these sessions is considered unprofessional behavior and will result in a referral to the Student Conduct Committee.
3. Since laboratory sessions are designed to develop clinical and psychomotor skills necessary for success as an osteopathic physician, students are expected to attend all labs, all lectures tied to labs, and all clinical training sessions. If, for any reason, a student misses more than 10% of these required sessions for a given course, the student will receive 1% decrease in final average for each percentage missed over 10%.

   Example: A course with 20 laboratory sessions.
   A student who misses 3 laboratory sessions (15%) will receive an 5% reduction in his/her final average. A student who misses 4 laboratory sessions (20%) will receive a 10% reduction in his/her final average.

4. If a student misses an exam, he/she will receive a grade of zero. A make-up exam will only be administered on a case-by-case basis with the approval of the course director and/or the Dean of ARCOM.
5. Students considered "at-risk" may be held to a separate attendance policy administered by the Office of Academic Affairs.
6. Students must be physically present to receive credit for attendance. Lectures attended virtually do not count as in-person attendance.
7. Students are responsible for all missed learning material/experiences.
8. It is not possible to replicate lab experiences; therefore, faculty members are not obligated to provide makeup learning experiences.
9. There are no excused absences; however, extenuating circumstances (serious illness/injury, etc.) will be addressed on a case-by-case basis.
10. Absence from class to attend professional events, such as a state or national conference, may be approved on a case-by-case basis.
11. Absence from class due to planned events of a personal nature are not excused absences.
12. A pattern of tardiness is unacceptable. Faculty understand there may be unavoidable instances however, tardiness will not be tolerated on exam days or when guest speakers are in attendance. Admittance to the classroom may not be allowed and the student will be marked as absent.

These attendance policies will be strictly adhered to. It is expected that students will use good judgment when taking an absence, doing so only for legitimate or necessary reasons.

Course Faculty:

Faculty Member	Office	Phone	Email
Mark Stillwell, MD	218	479-308-2339	mark.stillwell@achehealth.edu
Louay Nassri, MD	216	479-308-2324	louay.nassri@achehealth.edu
Kaitlin McNamara, DO	215	479-308-2332	kaitlin.mcnamara@achehealth.edu
Donna Shipley, MD	209	479-308-2326	donna.shipley@achehealth.edu
Andrew Ryals, DO	210	479-308-2335	andrew.ryals@achehealth.edu
Leslie Ziegler, MD	219	479-308-2333	leslie.ziegler@achehealth.edu
Rance McClain, DO	281	479-308-2382	rance.mcclain@achehealth.edu
Joseph Queeney, DO	231	479-308-2337	joseph.queeney@achehealth.edu
Monica Rojas, MD	211	479-308-2343	monica.rojas@achehealth.edu
Donald Sefcik, DO	N/A	479-308-2267	donald.sefcik@achehealth.edu
Dan Lynch, DO	233	479-308-2331	dan.lynch@achehealth.edu
Sherry Turner, DO	268	479-308-2386	sherry.turner@achehealth.edu
Nasser Adjei, MD	347B	N/A	nasser.adjei@achehealth.edu
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Tony DeMondesert, MD	347B	NA	tony.demondesert@achehealth.edu
Kerrie Sanders	207	479-308-2307	kerri.sanders@achehealth.edu
Ken Hensley, PhD	271	479-308-2361	kenneth.hensley@achehealth.edu
Connie Manning, MA	107	479-308-2310	connie.manning@achehealth.edu
Zahra Kamarei, MLS	105	479-308-2303	zahra.kamarei@achehealth.edu
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Jeffrey Osborn, PhD	348C	479-308-2251	jeffrey.osborn@achehealth.edu
Jim Turner, DO	304	479-308-2282	jim.turner@achehealth.edu
Bart Sills, MD	CoHS-339	N/A	bart.sills@achehealth.edu
Blake Metcalf, DCN	N/A	N/A	blake.metcalf@achehealth.edu
Tyler Farrar, JD	264	479-308-2279	tyler.farrar@achehealth.edu

Faculty Office Hours:
While faculty maintain an open-door policy, **it is strongly recommended that a student in need of a faculty member's time and attention reserve an appointment directly via e-mail** or telephone communication with the faculty member.

Required Course Resources:
None

Recommended Course Resources:
None

Seven Osteopathic Core Competencies:
The faculty and administration of ARCOM attest that the following Osteopathic Core Competencies are met in this course.

1. **Osteopathic Philosophy/Osteopathic Manipulative Medicine (OPP/OMM):** Demonstrate and apply knowledge of accepted standards in osteopathic manipulative treatment appropriate to the specialty. Remain dedicated to life-long learning and to practice habits in osteopathic philosophy and OMM.
2. **Medical Knowledge (MK):** Demonstrate and apply knowledge of accepted standards of clinical medicine in the respective area; remain current with new developments in medicine and participate in life-long learning activities.
3. **Patient Care (PC):** Demonstrate the ability to effectively treat patients and provide medical care that incorporates the osteopathic philosophy, patient empathy, awareness of

behavioral issues, the incorporation of preventive medicine and health promotion.

4. **Interpersonal and Communication Skills (ICS):** Demonstrate interpersonal and communication skills that enable a physician to establish and maintain professional relationships with patients, families, and other members of health care teams.
5. **Professionalism (PRO):** Uphold the Osteopathic Oath in the conduct of one's professional activities that promotes advocacy of patient welfare, adherence to ethical principles, and collaboration with health professionals, life-long learning, and sensitivity to a diverse patient population; be cognizant of physical and mental health in order to effectively care for patients.
6. **Practice-Based Learning and Improvement (PBL):** Demonstrate the ability to critically evaluate methods of clinical practice; integrate evidence-based medicine into patient care; show an understanding of research methods; improve patient care practices.
7. **Systems-Based Practice (SBP):** Demonstrate an understanding of health care delivery systems; provide effective and qualitative patient care with the system; and practice cost effective medicine.

Grading Information:
This is a Pass-Fail course

- Student must pass the attendance component
- Student must pass the written assignment component
- Both components must be passed to pass the course

Grade Determination and Schedule Assignments:

Date	Assessment (CC)	Percentage of Final Grade
Entire Course	Attendance (100% mandatory)	50%
	Written Assignments (all must be successfully completed)	50%
TOTAL:		100%

Examinations:
There will be no examinations.

TBL Module Assignments:
TBLs may be used at the discretion of the course directors or speakers.

Course content, sequencing, grading, and examination policies are subject to change by administration with the approval the Curriculum Committee. Students will be given advanced notice of any substantive changes by email and the ARCOM portal.

ARKANSAS COLLEGE OF OSTEOPATHIC MEDICINE

Capstone-2 Course Schedule:
OMSI Class of 2025
CC=Core Competency

CC	Day	Date	Time	Session #	Title	Instructor	Reading Assignment
	Thu	Jan. 5	8 AM	1	Hospital Isolation and PPE Practices	Stillwell/ Nassri	
	Thu	Jan. 5	9 AM	2	Portfolio needs for Application to Audition Rotations and Residencies	Stillwell/ Nassri	Research creating CVs and PSs
				Labs	L1, L2, L3, L4: 4 hours-lab sessions done outside of class		
	Thu	Jan. 5	10 AM	3	Letters of recommendation (LOR)	Stillwell/ Nassri	Research creating LORs
				Labs	L5, L6: 2 hours-lab sessions done outside of class		
	Tue	Jan. 24	9 AM	4	Time Management/Triage	Stillwell/ Nassri	
	Tue	Jan. 24	10 AM	5	Evaluation of the Medical Literature	Hensley	
				Labs	L7, L8, L9, L10: 4 hours-lab sessions done outside of class		
	Tue	Jan. 24	11 AM	6	Using the Medical Library	Manning/ Kamarei	
	Wed	Feb. 1	8 AM	7	Licensure Exams	Ziegler	
	Wed	Feb. 1	9 AM	8	Basic Science and Clinical Research, and other Scholarly Activity, in the OMS-III/IV Years	Osborn	
	Thu	Feb. 2	8 AM	9	Medical Malpractice Suite Issues, presented by Professionals in the Field of Law/Malpractice Insurance I	SVMIC Insurance Company Rep/ Farrar	
	Thu	Feb. 2	9 AM	10	Medical Malpractice Suite Issues, presented by Professionals in the Field of Law/Malpractice Insurance II	SVMIC Insurance Company Rep/ Farrar	
	Thu	Feb. 2	10 AM	11	Medical Malpractice Suite Issues, presented by Professionals in the Field of Law/Malpractice Insurance III	SVMIC Insurance Company Rep/ Farrar	

	Tue	Feb. 21	10 AM	12	Anesthesia in Surgical Practice	Bise	
	Tue	Feb. 21	11 AM	13	Pre-Operative Patient Evaluation, and Peri-Operative Surgical Care/Medical, Pediatric, and Surgical Viewpoints	Stillwell/ Nassri/ Bise	
	Wed	Feb. 22	10 AM	14	Case Presentations on Rotations	Stillwell/ Nassri	
				Labs	L11, L12, L13: 3 hours-lab sessions done outside of class		
	Wed	Mar. 1	9 AM	15	Clinical Nutrition I	Stillwell/ Nassri	
	Wed	Mar. 1	10 AM	16	Clinical Nutrition II	Stillwell/ Nassri	
	Thu	Mar. 2	9 AM	17	Clinical Nutrition III	Stillwell/ Nassri	
	Tue	Mar. 7	8 AM	18	Curriculum and Scheduling	Zeigler	
	Tue	Mar. 7	9 AM	19	Clinical Nutrition IV	Metcalf	
	Thu	Mar. 16	9 AM	20	Roundsmanship 102	Stillwell/ Nassri	
	Wed /Thu	Apr. 19 /20	8 AM	21	Surgical Scrub Training	Queeney/ Gooden	
	Wed /Thu	Apr. 19 /20	8 AM	Labs	L14: 1 hour-lab session will be done IN-CLASS	Queeney/ Gooden	
	Fri/ Sat	Apr. 21 /22	8 AM	22	BLS	Kerrie/ Sim Lab	
	Fri/ Sat	Apr. 21 /22	8 AM	Labs	L15, L16: 2 hour-lab sessions will be done IN-CLASS	Kerrie/ Sim Lab	
	Mon	Apr. 24	8 AM	23, 24, 25, 26	ACLS	Kerrie/ Sim Lab	
	Mon	Apr. 24	1 PM		ACLS – Written Exam	Kerrie/ Sim Lab	
	Tue	Apr. 25	8 AM	27, 28, 29, 30	PALS	Kerrie/ Sim Lab	
	Tue	Apr. 25	1 PM		PALS – Written Exam	Kerrie/ Sim Lab	
	Wed/ Thu	Apr. 26 /27	8 AM	Labs	L17, L18, L19, L20, L21: ACLS-2 hour lab/PALS-3 hour lab, labs sessions will be done IN-CLASS	Kerrie/ Sim Lab	
	Fri.	Apr. 28	9 AM	31	EXXAT/Grading	Ziegler	
	Fri.	Apr. 28	10 AM	32	Navigating the Residency/ERAS System and Audition Rotation Process	Ziegler	

ARKANSAS COLLEGE OF OSTEOPATHIC MEDICINE

Capstone-2 Course Learning Objectives:

1 Hospital Isolation and PPE Practices:

1.1 Learn the various forms of patient isolation utilized in hospital and extended care facilities.

1.2 Understand which infectious diseases require special isolations and PPE use.

2 Portfolio needs for Application to Audition Rotations and Residencies:

2.1 Understand how a CV should be constructed: Do's and Don'ts.

2.2 Learn what should and should not be in a Personal Statement.

2.2.1 ***Lab: L1, L2, L3, L4*** (**4 hours-lab session done outside of class**): Write-up of a CV and a personal statement. These documents will be turned in to course directors via hard copies (see Canvas for due date).

3 Letters of Recommendation (LOR):

3.1 Learn what Program Directors are looking for in a LOR.

3.2 Understand who one should ask for a LOR, and the importance of timeliness for such a request.

3.3 Realize what types of information your LOR author may request, and what other information should be provided ("fed")to them.

3.4 Discussion of the importance of a face-to-face meeting with a LOR author, after all of the appropriate informational material has been sent to them.

3.4.1 ***Lab: L5, L6*** (**2 hours-lab session done outside of class**): The student will practice writing a LOR for themselves, and then turn it in to the course directors via hard copy (see Canvas for due date).

4 Time Management/Triage

4.1 Discuss the issues and pressures faced with time management in a medical practice.

4.2 Hear advice from clinicians with a long history of balancing and managing busy medical practices.

5 Evaluation of the Medical Literature

5.1 How to evaluate a good vs bad study, strengths, and weaknesses, sample size, controls, and randomization, blinded vs non-blinded, and study designs.

5.2 Understand the difference and power between peer and non-peer-reviewed literature.

5.3 Learn why do 'similar' studies sometimes have discrepant results? Delving deep into methods and timing of a study may show they are not really similar.

5.4 'Paper Fights', and how to win them.

5.5 Explore what are reasonable review articles and textbooks to use and quote?

5.5.1 ***Lab: L7, L8, L9, L10*** (**4 hours-lab session done outside of class**): The student will find three papers studying the same topic, then write an analysis of them (discussing findings, differences in method and size, explaining why their results differ, strengths and weaknesses of the study) this analysis will be turned in to the course directors.

6 Using the Medical Library

6.1 Learn what is a Predatory Journal, and why they should be avoided?

6.2 Give examples of good sources to read for information, and to cite in a bibliography, plus appropriate citation of sources in a bibliography.

6.3 Understand what sources should not be cited in a talk, debate, or bibliography (weak ones).

6.4 Review some of the most important sources of information available in a medical library that is often known to few people.

6.5 Learn how librarians can assist you in searches.

7 Licensure Exams

7.1 Understand COMSAE testing, and what their results indicate, along with any school policies regarding COMSAE results and the scheduling of COMLEX/USMLE testing.

7.2 Go over COMLEX Level I and 2 testing schedules and deadlines, and how they impact progression to/on clinical rotations.

7.3 COMLEX Levels 1 and 2 preparation strategies and study resources.

7.4 Review failure/remediation of licensure exams, the number of failures allowed by ARCOM, COCA, and various state medical boards, the impact on graduation timeline and rotation scheduling, and the meaning of going "off-cycle.".

8 Basic Science and Clinical Research, and other Scholarly Activity, in the OMS-III/IV years

8.1 Review the basic science and clinical research options available to students in their third and fourth years, and how such opportunities may be found.

8.2 Discuss other research opportunities available for scholarly activities that can be used to strengthen a CV (e.g. case reports, and where they can be published).

9 Medical Malpractice Suit Issues, presented by Professionals in the Field of Law/Malpractice Insurance I

9.1 Learn how a medical malpractice action evolves over a course of years.

9.2 Understand just what you should and should not do when served with a medical malpractice claim.

9.3 Review what can be done to lower medical malpractice claims against you and/or your colleagues.

9.4 Listen to examples of clinical scenarios that lead to malpractice actions.

10 Medical Malpractice Suite Issues, presented by Professionals in the Field of Law/Malpractice Insurance II

10.1 See Previous Session

11 Medical Malpractice Suite Issues, presented by Professionals in the Field of Law/Malpractice Insurance III

11.1 See Previous Session

12 Anesthesia in Surgical Practice

12.1 Review the history of anesthesia.

12.2 Understand the various anesthetic modalities used in modern operating rooms.

13 Pre-Operative Patient Evaluation, and Peri-Operative Surgical Care/Medical, Pediatric, and Surgical Viewpoints

13.1 Understand the components of a pre-operative evaluation, and that it is done to lower peri-operative risks/morbidity, not necessarily to "clear" a patient for surgery, but to say, "no medical contraindication to surgery."

13.2 Review what labs and other testing that may be necessary to check pre-op.

13.3 Introduce anticoagulation management, antibiotic prophylaxis, and steroid issues around surgery.

13.4 Post-operative medical management, not the best time to just run away, run away!

14 Case Presentations on Rotations

14.1 Learn the methods and differences in presenting a new case, vs a follow up case, to an attending physician.

14.2 Understand that various attending physicians and specialties may have different expectations for case presentation, and that details of such presentation requirements **must be discussed with the attending physician the first day of a rotation**.

14.2.1 ***Lab: L11, L12, L13*** (**3 hours-lab session done outside of class**): The student will put together a case presentation on a complex, **new patient** with many comorbidities, and a separate presentation of a different **complex follow up patient**. The student will practice presenting these two patients. The student will then find an attending physician of their choosing to present these two cases to (without the use of notes!) and be able to then field questions regarding the patients. The attending physician will then critique these case presentations and sign off on a hard copy of an explanatory document that will be provided on Canvas (then the document will be delivered to the course directors by the due date indicated in Canvas).

15 Clinical Nutrition I

15.1 Understand how to evaluate the nutritional status of a patient by exam, and by lab and other tests.

16 Clinical Nutrition II

16.1 Review various diets.

16.2 Discuss some of the basic liquid nutritional supplements used with acute and chronically ill patients.

16.3 Learn about the various methods to deliver tube feedings.

16.4 Go over the role that major vitamins play in nutrition.

17 Clinical Nutrition III

17.1 Review some of the anatomic issues (short bowel syndrome, bypasses, bariatric, and stomach surgery) and medical diseases (pancreatitis, malabsorption, SB overgrowth syndromes, dysphagia, celiac

disease, Whipple's disease, Hirschsprung's disease, Chaga's disease, IBD, lactose intolerance, hyperthyroidism, etc.) that impact nutrition.

17.2 Discuss evaluation and treatment of the above disorders.

18 Curriculum and Scheduling

18.1 Review the clinical training manual.

18.2 Review the OMS-III curriculum, and preview OMS-IV rotation requirements and options.

18.3 Discuss how rotations are scheduled, what "away rotations" are and how to find special rotation sites (note: audition rotations will be discussed during the OMSIII year).

18.4 Go over onboarding, orientation, and attendance rules on rotations.

18.5 Understand what circumstances can lead to Student Conduct Committee (SCC) referral.

18.6 Get tips on strategies to help ensure success on rotations, along with potentially detrimental tactics to avoid.

19 Clinical Nutrition IV

19.1 Discuss parenteral nutrition, including types and how they are selected in a particular patient, method of delivery (CV line vs peripheral IV), calculating dosing, monitoring and adjustment of therapy, labs to be watched, and trace minerals supplementation that is required.

19.2 How acute inpatient therapy of an unstable patient may vary from a patient with a chronic issue requiring TPN (e.g. short bowel syndrome).

20 Roundsmanship 102

20.1 Pearls of wisdom will be imparted by physicians who have supervised rotating medical students and residents for many years.

20.2 Review what attitudes and behaviors may make a student look either good or bad on a clinical rotation.

20.3 Go over behaviors, that a student may not realize are detrimental to their perception by an attending physician.

20.4 Review situations that have historically led to both superior and suboptimal evaluations of students on rotations.

20.5 Impress upon students just how important written evaluations are in the resident selection process.

20.6 Review the importance of hard work, attitude, doing more than expected, good and caring patient service, punctuality, availability after hours, preparation for rounds and surgery, reading and learning about specific patient diseases off-hours, quality of case presentations, and being a 'team player' can help lead to hitting a home run on rotation evaluation.

21 Surgical Scrub Training

21.1 Learn and train in what is involved in a surgical scrub pre-op prep.

20.1.1 ***Lab: L14*** (**1 hour-lab session will be done IN-CLASS**): lab session will be done in-class, with timing at the discretion of presenting faculty-staggered times between 8 am-4:50 pm.

22 BLS

22.1 Understand, Learn, practice, and certify in BLS.

21.1.1 ***Lab: L15, L16*** (**2 hour-lab session will be done IN-CLASS**): lab session will be done in-class, with timing at the discretion of presenting faculty-staggered times between 8 am-4:50 pm.

23 ACLS

23.1 Understand and learn the didactic portion of ACLS.

24 ACLS

24.1 Understand and learn the didactic portion of ACLS.

25 ACLS

25.1 Understand and learn the didactic portion of ACLS.

26 ACLS

26.1 Understand and learn the didactic portion of ACLS.

27 PALS

27.1 Understand and learn the didactic portion of PALS.

28 PALS

28.1 Understand and learn the didactic portion of PALS.

29 PALS

29.1 Understand and learn the didactic portion of PALS.

30 PALS

30.1 Understand and learn the didactic portion of PALS.

30.1.1.1 ***Lab: L17, L18, L19, L20, L21*** (**lab sessions will be done IN-CLASS**; ALCS-2-hour lab/student; PALS-3-hour lab/student- staggered times between 8 am-4:50 pm.)

31 EXXAT/Grading

31.1 Go over how to maneuver through EXXAT, along with all of the learning resources available to rotating students.

31.2 Discuss syllabus requirements, how to know what are the minimal basic topics expected to be learned on a rotation, advanced OPP, and patient logs.

31.3 Discuss OnlineMedEd, how to use it, and which modules are required during the clinical clerkships.

31.4 Learn what COMAT tests are, which rotations require them, how to successfully prepare for them and what the retake policies are.

31.5 Understand what circumstances can lead to Student Progress Committee (SPC) referral.

31.6 Review how students are evaluated on a rotation, the preceptor questions that are asked, preceptor verification, what will be reported on the official transcript, and what is sent to residency programs/ERAS system the student is applying to.

31.7 Examine the processes and policies involved in course failure, remediation, and repeating a rotation.

31.8 Instruct on the procedure for documenting and accessing final rotation grades on Canvas.

32 Navigating the Residency/ERAS System and Audition Rotation Process

32.1 Understand the process and appropriate timing required for successful audition rotation and residency applications.

32.2 Learn about the inherent pitfalls and “tricks-of-the-trade” of these processes.

ARKANSAS COLLEGE OF
OSTEOPATHIC MEDICINE

Course Name: Foundations of Osteopathic Patient Care-4
Class of/Semester/Year: 2025/Spring/2023
Date Last Revised: December 6, 2022

Approved By: 

Rance McClain, DO
Vice President of Clinical Education and Dean of ARCOM

Note: Final Approval. May be released to students. Schedule subject to change with advance notice.

Office of the Dean
479.308.2380 | PO Box 10366 | Fort Smith, AR 72917

ARKANSAS COLLEGE OF OSTEOPATHIC MEDICINE

Arkansas Colleges of Health Education
Course Syllabus

Course Name:	Foundations of Osteopathic Patient Care-4 (FOPC-4)
Class of/Semester/Year:	2025/Spring/2023
Course Designation:	COM 621
Term Dates:	January 5, 2023 – May 27, 2023
Course Dates:	January 6, 2023 – April 10, 2023
Total Contact Hours:	14 Lecture Hours; 57 Lab Hours
Credit Hours:	4 Credit Hours
Assessment/Grading:	One Standardized Patient Encounter (April 3 & 4, 2023) Two Written Exams (February 8, 2023; April 13, 2023) Skills, Lab Twelve Practical Applications, One Ultrasound Skills Check, Miscellaneous as assigned.
Location:	Boreham Lecture Hall 1, OMM Lab, SIM Center, SP Center, Classroom 1 TBL Rooms, Virtual Teams
Course Directors:	Andrew Ryals, DO; Donna Shipley, MD
Office Hours:	By appointment

Syllabus is subject to change

ARKANSAS COLLEGE OF OSTEOPATHIC MEDICINE

Table of Contents

ARKANSAS COLLEGE OF OSTEOPATHIC MEDICINE

Course Description:
Foundations of Osteopathic Patient Care (FOPC 4) is the third of four active participation courses during the first two years. It is designed to introduce clinical skills including the art of medical history taking and physical examination. It also introduces the student to the concept of medical professionalism and ethics, the physician's role and duties toward society and the profession, the concept of the physician-patient relationship and the obligations and rights of both the doctor and the patients they serve. The first year of the course places an emphasis on communication skills, medical history taking and physical examination skills. The second year of the course focuses on the development of the clinical acumen necessary to diagnose and treat the patient while developing problem-solving skills that are required of today's physicians.

The course places an emphasis on respect for individuals along with an understanding of the diversity of individuals and cultures. The ability to communicate with patients effectively, educate and motivate them to advance their own health and wellness, along with the ability to work collaboratively in a team environment, are essential tools for today's physician. These tools are developed during the course.

The course requires active participation and demonstrations of mastery of the core competencies expected of an osteopathic physician. The course utilizes computer-based educational content, lecture demonstration, small group case-based learning exercises, problem-solving exercises, clinical laboratory experiences, utilization of standardized patients and simulations as well as assigned reading to provide the knowledge and skills foundation expected by the faculty. The course is a first in a series of clinical skills courses that are integrated with the osteopathic principles and practice courses offered by the college and correlated with the systems courses taught in the curriculum.

The course teaches the basics of radiology. The student will be introduced to radiological imaging of the different systems as they are being taught.

Course Goals:
The following course goals reflect broad and enduring knowledge, skills, behaviors, and responsibilities that students should attain as a result of successfully completing the course:

1. Demonstrate an understanding of and apply the principles of professionalism and ethics in the clinical, educational, and professional settings.
2. Demonstrate the ability to interview a patient and obtain the medical history for both a brief encounter (problem-oriented approach) and a complete medical history.
3. Demonstrate the skills required to perform a pertinent physical examination.
4. Demonstrate the appropriate usage of diagnostic equipment.
5. Demonstrate knowledge of the appropriate medical terminology related to the body systems and properly use them in written and verbal communication.
6. Demonstrate ability to work in an interprofessional team.

Course Expectations and Student Responsibilities:
Students should refer to the Academic Policies and Regulations section in the ARCOM Student Handbook & Academic Catalogue for information regarding expected professional behaviors, including conduct and dress code.

Video Capture of Educational Content:
Consistent with the policies surrounding video capture and posting of educational content, recordings of any learning activity are considered a supplemental resource to advance student understanding and for reference at future stages of student education. Recorded materials should not be utilized to replace attendance in the classroom, laboratory, or clinical setting. ARCOM makes no guarantees of reliability for video capture and reserves the right to not allow the recording of learning activities. There is no substitute for class attendance, being actively engaged in the learning process, investing in the comprehension and application of course material, and interacting with instructors and colleagues. Becoming an osteopathic physician involves much more than the acquisition of knowledge and attainment of a professional title. Professionalism, ethics, problem solving, and communication are among the vital skills that are best developed in active and interactive settings. As such, ARCOM expects students to attend all learning activities and offers no guarantees or warranties as to the recording of educational classroom/laboratory content. There will be no video capture of in-class applications team-based learning (TBL), Foundations of Osteopathic Patient Care (FOPC), or Osteopathic Principles and Practice (OPP). Students are not permitted to render any audio and/or visual recordings of these in-class sessions.

Dress Code:
ARCOM Dress Code (refer to ARCOM Student Handbook & Academic Catalog subheading "Professional Dress Guidelines").

During lab session where physical examination skills are taught, students must dress in a manner that facilitates a physical examination to be performed on them. Students are expected to perform and receive clinical examinations in laboratory sessions. To minimize interference in learning the physical examination techniques, students must dress in a manner such that their partner will be allowed the best possible access to the body structures.

Full body lab dress requires the following:

- Upper body – must allow for exposure of skin overlying the hands, elbows, shoulders, clavicles, scapula, spine, and most posterior rib angles.
- Men - Modest ARCOM T-shirt, scrub top, or bare skin (when requested)
- Women – Modest AROCM T-shirt or scrub top with modest sports bra or tank top
- Lower body– must allow skin exposure of abdomen, spine, PSIS, knees, ankles, and feet.
- Men and Women – Modest lightweight ARCOM shorts, scrub bottoms or exercise pants. No heavy canvas, denim, or cargo shorts.
- Garments worn for religious reasons are acceptable dress in clinical skill laboratory experiences; however, they should be modified or removed when necessary to allow palpation when they would obscure the immediate area to be examined or treated (e.g., head, neck,

upper back). Modifications can include adjustment of the covering permitting unobstructed palpation beneath the covering; or substitution of a thinner material that allows for adequate evaluation and treatment. If these modifications are not sufficient for proper exposure and examination, the student will be asked to remove their head covering. Once the examination is completed, the student can replace their head covering.

- Shoes and belts are NOT allowed on the examination tables, as they may rip the vinyl.

Observation, evaluation, and treatment will involve all external body surfaces except the genitalia, breasts, and rectum.

Student doctors are required to fully participate in clinical skill labs. It is necessary to both perform physical examinations and serve as a patient for your partner regardless of gender. The body region being examined and the techniques that are being practiced require adequate exposure for observation, palpation, and auscultation. This requires a male to remove his shirt, and a female to wear a sports bra.

Professionalism:

- Students will conduct themselves professionally at all times, during all educational activities conducted on or off campus. This includes interactions with all faculty, staff, students, clinical faculty, guest lecturers, health care providers, patients, and any other member of the ARCOM community. Unprofessional behavior, conduct, or attire inconsistent with the ARCOM dress code will not be tolerated and will result in administrative action. Students are directed to the ARCOM Student Handbook & Academic Catalog for a full definition of professionalism and list of expected professional behaviors.
- Any unauthorized recording of learning materials and activities used in connection with the ARCOM curriculum or reproduction, rendering, possession, or dissemination of these materials including assessment materials, is considered unprofessional behavior and a violation of copyright. Such behavior is subject to action by the Student Conduct Committee (SCC) for disciplinary action, which may include receiving a grade of "zero" for a graded assessment, course failure, probationary action, suspension, or dismissal from ARCOM.
- Computers, tablets, or notebooks should only be used during lectures to take notes or reference appropriate class topics and reference materials. Students should not be on the internet viewing social media sites, performing online shopping, or playing games, etc. This is disrespectful to the lecturer, inhibits peer learning, and is unprofessional behavior.

During **STANDARDIZED PATIENT OR SIMULATION EXERCISES** students MUST dress appropriately to participate in the examination. Attire should be professional in nature, as described in the student handbook, and in particular for patient (SP included) encounters:

- Men: Shirt and tie, dress slacks, dress shoes and socks
- Women: Dresses, skirts, or dress slacks with blouse and/or sweater. Skirts must be no shorter than 3 inches above knees, inclusive of any slits. Shoulders and cleavage should be covered completely. Undergarments should not be visible. Closed toe dress shoes. Nails must be short to avoid harm to the patient. Due to patient safety regulations, **NO** artificial nails or perfumes may be worn during Standardized Patient encounters.

For practical examinations: ALL STUDENTS MUST WEAR THEIR WHITE LAB COATS AND HAVE THEIR STUDENT ID.

BRING STETHOSCOPES. Amplified stethoscopes, any similar device that may mimic a recording or communicating device, and any attachments to a standard stethoscope (e.g., light source) are prohibited.

Do not wear wrist watches or bring other personal timing devices to the examination. Clocks are in each examination room and throughout the testing center. Regular audio timing prompts also guide candidates through their tests.

Do not bring pagers, cell/smartphones, tablets, laptops, iPods, MP3 players, manuals, or other clinical or electronic resources into the testing area. Likewise, do not bring valuables such as jewelry.

Any documentation in the SOAP note that reflects a portion of the physical examination that was NOT performed during the Practical is considered unprofessional and is prohibited and may result in a referral to the Student Conduct Committee.

Any conduct, including bringing non-approved apparel into the testing center, that is deemed unprofessional or is prohibited, may result in a warning or ending the examination at that point. No grades will be given for any actions after you are told that your exam has ended.

Attendance Policy:

Osteopathic medical education prepares students for professional clinical practice. Lectures and labs include didactic material, case presentation, patient demonstrations, informal discussions, team-based learning, and the practice of psychomotor skills. Consistent and prompt class attendance is essential for the learner to benefit from the full educational experience provided. Therefore, ARCOM Faculty have adopted the following attendance policy:

1. Attendance at all lecture sessions within a given course is encouraged, but not required.
2. Attendance is required for guest lecturers and team-based learning experiences. A pattern of absenteeism or tardiness for these sessions is considered unprofessional behavior and will result in a referral to the Student Conduct Committee.
3. Since laboratory sessions are designed to develop clinical and psychomotor skills necessary for success as an osteopathic physician, students are expected to attend all labs, all lectures tied to labs, and all clinical training sessions. If, for any reason, a student misses more than 10% of these required sessions for a given course, the student will receive 1% decrease in final average for each percentage missed over 10%.

   Example: A course with 20 laboratory sessions.
   A student who misses 3 laboratory sessions (15%) will receive an 5% reduction in his/her final average. A student who misses 4 laboratory sessions (20%) will receive a 10% reduction in his/her final average.
4. If a student misses an exam, he/she will receive a grade of zero. A make-up exam will only be administered on a case-by-case basis with the approval of the course director and/or the Dean of ARCOM.

5. Students considered "at-risk" may be held to a separate attendance policy administered by the Office of Academic Affairs.
6. Students must be physically present to receive credit for attendance. Lectures attended virtually do not count as in-person attendance.
7. Students are responsible for all missed learning material/experiences.
8. It is not possible to replicate lab experiences; therefore, faculty members are not obligated to provide makeup learning experiences.
9. There are no excused absences; however, extenuating circumstances (serious illness/injury, etc.) will be addressed on a case-by-case basis.
10. Absence from class to attend professional events, such as a state or national conference, may be approved on a case-by-case basis.
11. Absence from class due to planned events of a personal nature are not excused absences.
12. A pattern of tardiness is unacceptable. Faculty understand there may be unavoidable instances however, tardiness will not be tolerated on exam days or when guest speakers are in attendance. Admittance to the classroom may not be allowed and the student will be marked as absent.

These attendance policies will be strictly adhered to. It is expected that students will use good judgment when taking an absence, doing so only for legitimate or necessary reasons.

Course Faculty:

Faculty Member	Office	Phone	Email
Donna Shipley, MD	209	479-308-2326	donna.shipley@achehealth.edu
Andrew Ryals, DO	210	479-308-2335	andrew.ryals@achehealth.edu
Kaitlin McNamara, DO	215	479-308-2332	kaitlin.mcnamara@achehealth.edu
Monica Rojas, DO	211	479-308-2343	monica.rojas@achehealth.edu
Patty Pettway, DO	347B	N/A	Patty.pettway@achehealth.edu
Roger Bise, MD	347B	N/A	Roger.bise@achehealth.edu
Mike Gooden, MD	213	N/A	Michael.gooden@achehealth.edu
Mark Stillwell, MD	218	479-308-2339	Mark.stillwell@achehealth.edu
Joseph Queeney, DO	231	479-308-2337	Joseph.queeney@achehealth.edu
Leslie Ziegler, MD	219	479-308-2333	Leslie.Ziegler@achehealth.edu
Ryan Sullivan, MD	347B	N/A	Ryan.Sullivan@achehealth.edu
Christopher Fortson, MD	N/A	GUEST	Christopher.Fortson@Mercy.net
Jon Gustafson, MD	N/A	GUEST	

ARKANSAS COLLEGE OF OSTEOPATHIC MEDICINE

Faculty Office Hours:
While faculty maintain an open-door policy, **it is strongly recommended that a student in need of a faculty member's time and attention reserve an appointment directly via e-mail** or telephone communication with the faculty member.

Additionally, the faculty ***may not be available*** to answer student questions ***24 hours prior*** to an examination due to test preparation obligations. Students should budget their time appropriately and set appointments with faculty members during their office hours well in advance of exams. Faculty **may have limited availability** to respond to emails during the evenings, weekends or over holidays, so students should plan accordingly.

Required Course Resources:

Title	Edition	Authors	ISBN-13
Bates Guide to Physical Examination and History Taking	13th	Lynn S. Bickley	978-1496398178

Recommended Course Resources:
USCD's Practical Guide to Clinical Medicine, Charlie Goldberg, (online course)
www.meded.ucsd.edu/clinicalmed

Access Medicine: Auscultation Classroom, (online database)

Bates' Visual Guide to the Physical Examination, (online database)
http://ache.idm.oclc.org/login?url=https://batesvisualguide.com/multimedia.aspx?categoryID=21

Robbins and Cotran Pathologic Basis of Disease, 10th ed., 2020, Kumar et al., ISBN (hdbk)

Harrison's Principles of Internal Medicine, 20th ed., 2018, Jameson et al., ISBN (hdbk)

Seven Osteopathic Core Competencies:
The faculty and administration of ARCOM attest that the following Osteopathic Core Competencies are met in this course.

1. **Osteopathic Philosophy/Osteopathic Manipulative Medicine (OPP/OMM):** Demonstrate and apply knowledge of accepted standards in osteopathic manipulative treatment appropriate to the specialty. Remain dedicated to life-long learning and to practice habits in osteopathic philosophy and OMM.
2. **Medical Knowledge (MK):** Demonstrate and apply knowledge of accepted standards of clinical medicine in the respective area; remain current with new developments in medicine and participate in life-long learning activities.
3. **Patient Care (PC):** Demonstrate the ability to effectively treat patients and provide medical care that incorporates the osteopathic philosophy, patient empathy, awareness of behavioral issues, the incorporation of preventive medicine and health promotion.
4. **Interpersonal and Communication Skills (ICS):** Demonstrate interpersonal and communication skills that enable a physician to establish and maintain professional relationships with patients, families, and other members of health care teams.

5. **Professionalism (PRO):** Uphold the Osteopathic Oath in the conduct of one's professional activities that promotes advocacy of patient welfare, adherence to ethical principles, and collaboration with health professionals, life-long learning, and sensitivity to a diverse patient population; be cognizant of physical and mental health in order to effectively care for patients.
6. **Practice-Based Learning and Improvement (PBL):** Demonstrate the ability to critically evaluate methods of clinical practice; integrate evidence-based medicine into patient care; show an understanding of research methods; improve patient care practices.
7. **Systems-Based Practice (SBP):** Demonstrate an understanding of health care delivery systems; provide effective and qualitative patient care with the system; and practice cost effective medicine.

Grading Information:
Grading point values and scale are consistent with policies outlined in the Student Handbook.

Students are required to pass all components of each course to progress to the next semester. Practicals are given a pass/fail grade. Non-practical components must average a C (70%) or higher grade to pass. Components of this course are separated into practical and non-practical components.

Grade Determination and Scheduled Assignments:

Date	Assessment (CC)	Percentage of Final Grade
Wednesday, February 8, 2023 @ 8:00 AM – 11:00 AM	Written Examination #1 (MK)	30%
Friday, March 10, 2023	Case/SP Write Up	5%
Monday, March 13, 2023 @ 8:00 AM – 5:00 PM	Ultrasound Practical	Pass/Fail
Monday & Tuesday, April 3 & 4, 2023 @ 8:00 AM - 5:00 PM (both days)	SP Practical (MK)	Pass/Fail
Thursday, April 13, 2023 @ 8:00 AM – 11:00 AM	Written Examination Final (MK)	40%
Throughout Semester	Skills, Labs, Misc. Assignments	5%
Throughout Semester	Practical Applications	20%
TOTAL:		**100%**

Examinations:
There will be one standardized patient practical and two written examinations.

Practical: The practical will require the students to perform a History and Physical on a patient(s) and write SOAP notes on each patient that they encounter, as well as present the patient. This semester the student must pass 4/4 elements on the SOAP Note and 3/3 elements on the Encounter.

Additional Assignments: Additional assignments may be given throughout the semester. Five percent of your grade will be derived from assignments associated with labs, skills days, or lectures.

Written examinations: There will be a total of 2 written examinations which include the final examination. All written examinations may have questions from any lecture or lab that was presented at least 48 hours prior to the written examination.

Miscellaneous Points: Five percent of the grade will be derived from miscellaneous assignments given during lab. This may come in the form of a pop quiz or students being required to turn in work that is performed in lab (e.g., SOAP notes).

Case Study: Students, in groups of five (5) students per group, will develop one (1) standardized patient case. Each student group must sign up/submit a topic for approval by January 27, 2023. Each standardized patient case study must have a minimum of five (5) references and include completed SOAP note with the standardized patient case template. The completed case study must be submitted, in full by March 10, 2023. Students will be required to evaluate everyone in their group to ensure that each member of the group is participating in the development of the case.

Assessment of core competencies is accomplished by observation of the faculty, evaluations, demonstrations, performance and presentations in small group, laboratory, standardized patient, and simulation setting and cases. The principles of osteopathic medicine should pervasively integrate with your education as you acquire and apply the medical knowledge gained from your studies in all courses. Additionally, the practice of medicine does require cumulative and comprehensive knowledge from multiple disciplines. Resultantly, information from other courses and previous semesters may be included on the examinations when relevant to the material presented. The integration of such content from other courses will be reflected in the learning objectives for the course.

Course content, sequencing, grading, and examination policies are subject to change by administration with the approval the Curriculum Committee. Students will be given advanced notice of any substantive changes by email and the ARCOM portal.

Foundations of Osteopathic Care-4 Course Schedule:
OMSI Class of 2025
CC=Core Competency

CC	Day	Date	Time	Session #	Title	Instructor	Reading Assignment
	Fri	Jan 6	8 AM	Practical Appl. 1	Journal Club	*Online Modules* Shipley	

MK, PC, SBP	Mon	Jan 9	11 AM	1	Toxicology Lecture	*LH 1* Ryals	
OPP, PC, ICS, ICP, MK, CS	Mon	Jan 9	1 PM	Lab 1	Toxicology Lab	*Sim Lab* Ryals	
OPP, PC, ICS, ICP, MK, CS	Fri	Jan 20	8 AM	Practical Appl. 2	GI SP Case	*SP Center/ TBL* Stillwell	
OPP, PC, ICS, ICP, MK, CS	Mon	Jan 23	10 AM	2	Patient Safety Lecture	*LH 1* Ziegler	
OPP, PC, ICS, ICP, MK, CS	Mon	Jan 23	11 AM	Lab 2	Patient Safety and Communication IPE	*SP Center/ TBL* Ryals	
PC, ICS, ICP, MK, CS	Fri	Jan 27	8 AM	Practical Appl. 3	GI Sim Lab	*SIM Lab* Gooden	
PC, ICS, ICP, MK, CS	Mon	Jan 30	10 AM	3	Suture Skills Lecture	*LH 1* Gooden	

PC, ICS, ICP, MK, CS	Mon	Jan 30	11 AM	Lab 3	Suture Skills Lab	*LH 1* Gooden	
PC, ICS, ICP, MK, CS	Fri	Feb 3	8 AM	Practical Appl. 4	GI Sim Case	*SIM Lab* Shipley	
PC, ICS, ICP, MK, CS	Fri	Feb 3	1 PM	4	Central Lines Placement – *Pre-Recorded*	*Anychronous Virtual* Ryals	
PC, ICS, ICP, MK, CS	Mon	Feb 6	8 AM	Lab 4	Central Lines Skills Day	*Classroom 1* Sullivan	
	Wed	Feb 8	8 AM		**Written Exam #1**		
PC, ICS, ICP, MK, CS	Fri	Feb 10	8 AM	Practical Appl. 5	Critical Care Patient Case	*SIM Lab* Bise	
PC, ICS, ICP, MK, CS	Mon	Feb 13	11 AM	5	Presenting the Patient	*LH 1* *Fortson	
OPP, PC, ICS, ICP, MK, CS	Mon	Feb 13	1 PM	Lab 5	Patient Presentation Skills	*OPP Lab* *Fortson	

OPP, PC, ICS, ICP, MK, CS	Fri	Feb 17	8 AM	Practical Appl. 6	SP Case	*SP Center/ TBL* Shipley	
PC, ICS, ICP, MK, CS	Mon	Feb 20	11 AM	6	Stroke	*LH 1* *Gustafson	
PC, ICS, ICP, MK, CS	Mon	Feb 20	1 PM	Lab 6	Stroke Lab/TBL	*OPP Lab/ TBL* *Gustafson	
PC, ICS, ICP, MK, CS	Fri	Feb 24	8 AM	Practical Appl. 7	Neuro Case	*SP Center/ TBL* *Gustafson	
PC, ICS, ICP, MK, CS	Fri	Feb 24	4 PM	7	Lumbar Punctures - *Pre-Recorded*	*Anychronous Virtual* Queeney	
PC, ICS, ICP, MK, CS	Mon	Feb 27	8 AM	Lab 7	LP Placement Skills Day	*Classroom 1* Ryals	
PC, ICS, ICP, MK, CS	Fri	Mar 3	8 AM	Practical Appl. 8	CNS Infection TBL	*SP Center/ TBL* Stillwell	

PC, ICS, ICP, MK, CS	Mon	Mar 6	10 AM	8	Palliative Care and Hospice with VR	*LH 1* McNamara	
PC, ICS, ICP, MK, CS	Mon	Mar 6	11 AM	9	Dementia and Mood Disorders	*LH 1* Ryals	
PC, ICS, ICP, MK, CS	Mon	Mar 6	1 PM	Lab 8	Depression/Dementia Screening and Diagnostic Tools	*OPP Lab* Ryals	
PC, ICS, ICP, MK, CS	Fri	Mar 10	8 AM	Practical Appl. 9	Beatriz and Alzheimers TBL	*LH 1* Shipley	
OPP, PC, ICS, ICP, MK, CS	Mon	Mar 13	8 AM		Ultrasound Practical	*OPP Lab* Shipley/ Ryals	
OPP, PC, ICS, ICP, MK, CS	Tue	Mar 14	8 AM	Practical Appl. 10	SP Practice	*SP Center* Shipley	
OPP, PC, ICS, ICP, MK, CS	Fri	Mar 17	8 AM	Practical Appl. 11	Practice Feedback Day	*TBL* Shipley	

PC, ICS, ICP, MK, CS	Mon	Mar 20	10 AM	10	Autoimmune Disorders	*Anychronous Virtual* Ziegler	
,PC, ICS, ICP, MK, CS	Mon	Mar 27	11 AM	11	OB Complications and GYN Disorders	*Anychronous Virtual* Shipley	
PC, ICS, ICP, MK, CS	Mon	Mar 27	1 PM	Lab 9	OB Complications and GYN Disorders Modules	*Online Modules* Shipley	
OPP, PC, ICS, ICP, MK, CS	Fri	Mar 31	8 AM	Practical Appl. 12	IPE Event	*LH 1* Atchley	
OPP, PC, ICS, ICP, MK, CS	Mon	Apr 3	8 AM		SP PRACTICAL	*SP Center* Shipley	
OPP, PC, ICS, ICP, MK, CS	Tue	Apr 4	8 AM		SP PRACTICAL	*SP Center* Shipley	
OPP, PC, ICS, ICP, MK, CS	Fri	Apr 7	8 AM	Practical Appl. 13	Skills Review Day (Online Modules/Live Practice Opportunities)	*Online Modules* Shipley	

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OPP, PC, ICS, ICP, MK, CS	Mon	Apr 10	8 AM	Lab 10	Mega Skills Day--Final Check-off	*Classroom 1 /SP Center* Shipley	
	Thu	Apr 13	8 AM		**Written Exam Final**		

ARKANSAS COLLEGE OF OSTEOPATHIC MEDICINE

Foundations of Osteopathic Care-4 Course Learning Objectives:

Practical Application 1 Journal club

1. Toxicology

- 1.1. Discuss signs and symptoms of many different poisonings and overdoses, including Tylenol, opioids, cyanide, methanol, strychnine, arsenic, and benzodiazepines
- 1.2. Recognize the pathophysiologic effects of toxins and medication overdoses
- 1.3. Discuss the treatments for reversing effects of toxins, including opioids and benzodiazepines
- 1.4. Be able to manage the patient who has overdosed
  - 1.4.1. ***Lab 1 Toxicology SIM Lab***
    - 1.4.1.1. Objectives as stated above

Practical Application 2 GI SP Case

2. Patient Safety Lecture

- 2.1. Understand common errors of communication
- 2.2. Describe methods to ensure effective communication
- 2.3. Review patient safety and precautions
- 2.4. Review reportable occurrences
- 2.5. Describe effective ways to communicate concerns and the chain of command if you feel your concerns are not heard.
  - 2.5.1. ***Lab 2 Patient Safety and Proper Communication IPE***
    - 2.5.1.1. Objectives as stated above

Practical Application 3 GI Sim Lab

3. Suture Skills Lecture

- 3.1. Demonstrate various types of suturing techniques
- 3.2. Explain the difference between common suture materials and when you would use them
- 3.3. Explain the difference between different suture needle types
  - 3.3.1. ***Lab 3 Suture Skills Lab***
    - 3.3.1.1. Objectives as stated above

Practical Application 4 GI Sim Case

4. Central Lines Placement

- 4.1. Describe the indications for placement of central lines
- 4.2. Demonstrate sterile techniques necessary for invasive procedures
- 4.3. Demonstrate the approach to placement of central lines
- 4.4. Describe common errors and complications of central lines
- 4.5. Describe informed consent as it applies to central lines
  - 4.5.1. ***Lab 4 Central Lines Skills Day***
    - 4.5.1.1. Objectives as stated above

Practical Application 5 Critical Care Patient Case

5. Presenting the Patient

- 5.1. Discuss common methods for patient presentation
  - 5.1.1. ***Lab 5 Patient Presentation Skills***
    - 5.1.1.1. Objectives as stated above

Practical Application 6 SP Case

6. Stroke

- 6.1. Differentiate history and physical findings of CVA vs TIA
- 6.2. Describe presentation of various CNS tumors
- 6.3. Demonstrate the ability to perform a stroke evaluation
  - 6.3.1. ***Lab 6 Stroke Lab/TBL***
    - 6.3.1.1. Objectives as stated above

Practical Application 7 Neuro Case

7. Lumbar Punctures

- 7.1. Demonstrate Sterile Techniques necessary for invasive procedures
- 7.2. Describe the indications and contraindications for lumbar puncture

7.3. Demonstrate the approach to performance of a lumbar puncture
7.4. Describe common errors and complications of lumbar punctures
7.5. Describe informed consent as it applies to lumbar punctures
7.6. Discuss the tests for CSF fluid and the tubes that are used for them
7.6.1. ***Lab 7 LP Placement Skills Day***
7.6.1.1. Objectives as stated above

Practical Application 8 CNS Infection TBL

8. Palliative Care and Hospice with Virtual Reality
8.1. Discuss the purpose of palliative care
8.2. Discuss regulations regarding placing patients on hospice
8.3. Discuss different settings for which hospice occurs
8.4. Discuss appropriate ways to effectively manage dyspnea, nausea and vomiting, and cognitive impairment in a palliative care patient
8.5. Discuss how to effectively prescribe opioids including monitoring for side effects
8.6. Discuss advanced directives and end-of-life care
8.7. Discuss the common findings that usually appear within the last few
8.8. Hours of life of somebody on hospice and how physicians respond
8.9. Discuss how to approach patients about initiating palliative care
8.10. Discuss how palliative care is a team approach

9. Dementia and Mood Disorders
9.1. Review common types of dementia and discuss differences in history and physical findings
9.2. Review signs and symptoms of anxiety and depression
9.3. Discuss types of bipolar illness and how it differs from unipolar depression
9.4. Discuss common treatments of anxiety, depression, and bipolar illness
9.4.1. ***Lab 8 Depression/Dementia Screening and Diagnostic Tools***
9.4.1.1. Objectives as stated above

Practical Application 9 Beatriz and Alzheimers TBL
Practical Application 10 Ultrasound Practical
SP Practice
Practical Application 11 Practice Feedback Day

10. Autoimmune Disorders
10.1. Discuss some of the more prevalent autoimmune diseases and common treatments
10.2. Discuss side effects of many of the treatments for autoimmune diseases
10.3. Discuss common testing for autoimmune diseases
10.4. Identify risk factors for autoimmune disorders
10.5. Identify signs/symptoms of autoimmune disorders

11. Ob/gyn Disorders and Complications
11.1. Discuss post-partum hemorrhage
11.2. Discuss prenatal infections and how to prevent them
11.3. Discuss uterine tone, post-partum hemorrhage, and uterine rupture
11.4. Discuss serious conditions that may occur during pregnancy. (HELLP syndrome, eclampsia, DIC)
11.5. Be able to identify karyotype of complete molar pregnancies versus partial mole
11.5.1. ***Lab 9 OB Complications and GYN Disorders Modules***
11.5.1.1. Objectives as stated above

Practical Application 12 IPE Event
SP Practical
SP Practical
Practical Application 13 Skills Review Day (Online Modules/Live Practice Opportunities)
Mega Skills Day –Final Check-off

ARKANSAS COLLEGE OF
OSTEOPATHIC MEDICINE

Course Name: Osteopathic Principles and Practice-4
Class of/Semester/Year: 2025/Spring/2023
Date Last Revised: December 5, 2022

Approved By: Rance McClain, D.O. _____

Rance McClain, DO
Vice President of Clinical Education
and Dean of ARCOM

Note: Final Approval. May be released to students. Schedule subject to change with advance notice.

Office of the Dean
479.308.2380 | PO Box 10366 | Fort Smith, AR 72917

ARKANSAS COLLEGE OF OSTEOPATHIC MEDICINE

Arkansas Colleges of Health Education
Course Syllabus

Course Name:	Osteopathic Principles and Practice-4 (OPP-4)
Class of/Semester/Year:	2025/Spring/2023
Course Designation:	COM 612
Term Dates:	January 5, 2023 – May 27, 2023
Course Dates:	January 5, 2023 – April 13, 2023
Total Contact Hours:	14 Lecture Hours; 34 Lab Hours
Credit Hours:	3 Credit Hours
Assessment/Grading:	Two Lecture Exams (February 8, April 13) Two Lab Practicals (February 8, April 13)
Location:	Boreham Lecture Hall 1
Course Director:	Dan Lynch, DO
Office Hours:	By appointment

Syllabus is subject to change

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Course Description:
Osteopathic Principles and Practice-4 (OPP-4) is designed to provide the student with a fundamental understanding of the history, principles, and philosophies of osteopathic medicine. During this course, the student will be introduced to the lexicon, foundational principles, and professional expectations upon which the profession was built. The faculty also works in conjunction with other departments to complement and integrate the knowledge received from the systems-based and clinical medicine courses. Whenever possible, the OPP-4 curriculum is designed to integrate with the basic science departments to help enhance your knowledge of structure-function relationships, particularly in the musculoskeletal, nervous, cardiopulmonary, GI, and GU systems, as they apply to osteopathic patient care.

Additionally, the student will sequentially initiate training in the tactile and psychomotor skills necessary for the diagnostic palpation of and manipulative treatments for their future patients, regardless of the medical specialty chosen. This course will instruct the student in the philosophic and diagnostic underpinnings upon which they will continue to build their osteopathic knowledge, the structurally based examination, palpatory and clinical methods and modalities which will continually develop for the rest of their clinical careers.

The OPP Course is cumulative over 4 semesters. Evaluation of concepts and skills will reflect cumulative knowledge.

Course Goals:
The following course goals reflect broad and enduring knowledge, skills, behaviors, and responsibilities that students should attain as a result of successfully completing the course:

1. Be conversant in the theories, history, principles, and tenets of osteopathy, as well as the five models of osteopathic care.
2. Continue to develop foundational palpation skills with an understanding of the theory and application of the following:
   a. Barrier Concept
   b. Spinal Mechanics (Application of Fryette's I, II, & III Principles)
   c. Barrier Concept
   d. TART changes
   e. Somatic Dysfunction
   f. Bony Landmarks
   g. Sacrum
   h. Lower Extremity
   i. Upper Extremity
   j. Visceral
   k. Cervical Spine
   l. Etc.
3. Promote and integrate osteopathic principles as a method of improving the anatomic and physiologic functioning of the patient both as a stand-alone treatment and as a component of a treatment plan.
4. Apply knowledge of the biomedical sciences, such as functional anatomy, physiology,

biochemistry, histology, pathology, and pharmacology to support the appropriate application of osteopathic principles and Osteopathic Manipulative Treatment (OMT).

5. Identify the association between organ systems, function, and structural findings.
6. Palpate, diagnose, and treat osteopathically the various regions of the body with both indirect and direct methods of OMT.
7. Continue to develop professionalism.
8. Continue to develop the professional skills, confidence, and rapport necessary to examine and palpate a patient regardless of age, sex, or body habitus.
9. Continue to develop appropriate medical documentation related to osteopathic findings and treatment.

Course Expectations and Student Responsibilities:

Students should refer to the Academic Policies and Regulations section in the ACHE and ARCOM Student Handbooks & the Academic Catalogue for information regarding expected professional behaviors, including conduct and dress code.

OPP Laboratory Training Sessions:

Table assignments for the OPP Laboratory Training Sessions will be made by the OPP Course Director or OPP Coordinator. Students are not allowed to choose their own lab partners. Partners will be randomly assigned to enable the student to observe, examine, receive, and practice palpation and techniques with people of different genders, different body sizes, and body types to prepare students for a variety of patient care experiences.

It is necessary to palpate and receive palpation from both genders. There are clear differences between genders in terms of skin characteristics (turgor, thickness, hair density, etc.), location of landmarks (e.g., PSIS location), and dealing with "sensitive areas" of palpation (anterior ribs on women and pubic tubercles on both genders). There is an ideal opportunity for the student to appreciate these differences in the OPP Laboratory when table trainers are readily available for assistance.

Video Capture of Educational Content:

Consistent with the policies surrounding video capture and posting of educational content, recordings of any learning activity are considered a supplemental resource to advance student understanding and for reference at future stages of student education. Recorded materials should not be utilized to replace attendance in the classroom, laboratory, or clinical setting. ARCOM makes no guarantees of reliability for video capture and reserves the right to not allow the recording of learning activities. There is no substitute for class attendance, being actively engaged in the learning process, investing in the comprehension and application of course material, and interacting with instructors and colleagues. Becoming an osteopathic physician involves much more than the acquisition of knowledge and attainment of a professional title. Professionalism, ethics, problem solving, and communication are among the vital skills that are best developed in active and interactive settings. As such, ARCOM expects students to attend all learning activities and offers no guarantees or warranties as to the recording of educational classroom/laboratory content. There will be no video capture of in-class applications team-based learning (TBL),

Foundations of Osteopathic Patient Care (FOPC), or Osteopathic Principles and Practice (OPP). Students are not permitted to render any audio and/or visual recordings of these in-class sessions.

Dress Code:
ARCOM Dress Code (refer to ARCOM Student Handbook & Academic Catalog subheading "Professional Dress Guidelines").

Students should arrive to all lab course activities in the required OMM uniform in accordance with the ARCOM Student Handbook & Academic Catalog. In lecture, aspiring physicians should "dress to reflect" the professional behavior associated with serving patients and colleagues with respect and dignity.

The required OMM lab uniform is available for purchase at the ARCOM Campus Store. Lab uniforms are required for all didactic labs and practical assessment when students are required to act as "patients" for their lab partner in order to allow the best possible access to body structures. Full body lab dress requires the following:

1. Upper body – must allow for exposure of skin overlying the hands, elbows, shoulders, clavicles, scapula, spine, and posterior rib angles.
   - Men – modest T-shirt, or bare skin (when requested)
   - Women – modest T-shirt with modest sports bra
2. Lower body– must allow skin exposure of abdomen, spine, PSIS, knees, ankles, and feet.
   - Men and Women – modest lightweight shorts (No heavy canvas, denim, or cargo shorts).
3. Under Armour type clothing is not permitted. During cold weather, the student may wear light weight athletic jacket and pants (outer wear) with required uniform underneath.
4. Hats or head coverings (other than for religious purposes) are not permitted in lab.
5. Garments worn for religious reasons are acceptable dress in OMT laboratory experiences; however, they should be modified when necessary to allow visualization and palpation when they would obscure the immediate area to be examined or treated (e.g., head, neck, upper back, etc.). Modifications can include adjustment of the covering permitting unobstructed palpation beneath the covering or substitution of a thinner material that allows for adequate evaluation and treatment. If these modifications are not sufficient for proper exposure and examination, the student will be asked to remove the interfering garment(s) until the examination is complete. (Shoes and belts are NOT allowed on the OMT tables as they may rip the vinyl).
6. Observation, evaluation, and treatment will involve all external body surfaces except the genitalia, breasts, and rectum. Student doctors are required to fully participate in OPP labs as developing OMM palpatory skills will serve the student well in any field of medicine he or she chooses. It is necessary to both give and receive palpation from both genders in order to develop proper OMM skills. The body region being examined and the techniques that are being practiced require adequate exposure for observation and palpation. This requires a male to remove his shirt, and a female to wear a sports bra.

Professionalism:

- Students will conduct themselves professionally at all times, during all educational activities conducted on or off campus. This includes interactions with all faculty, staff, students, clinical faculty, guest lecturers, health care providers, patients, and any other member of the ARCOM community. Unprofessional behavior, conduct, or attire inconsistent with the ARCOM dress code will not be tolerated and will result in administrative action. Students are directed to the ARCOM Student Handbook & Academic Catalog for a full definition of professionalism and list of expected professional behaviors.
- Any unauthorized recording of learning materials and activities used in connection with the ARCOM curriculum or reproduction, rendering, possession, or dissemination of these materials including assessment materials, is considered unprofessional behavior and a violation of copyright. Such behavior is subject to action by the Student Conduct Committee (SCC) for disciplinary action, which may include receiving a grade of "zero" for a graded assessment, course failure, probationary action, suspension, or dismissal from ARCOM.
- Computers, tablets, or notebooks should only be used during lectures to take notes or reference appropriate class topics and reference materials. Students should not be on the internet viewing social media sites, performing online shopping, or playing games, etc. This is disrespectful to the lecturer, inhibits peer learning, and is unprofessional behavior.

Attendance Policy:

- Students are responsible for all information presented in the lecture as well as pre-reading or pre-viewing assignments posted to Canvas.
- Consistent with both ARCOM's standards and expectations for professional attitude and behavior and with the ARCOM Student Handbook & Academic Catalog, participation in all learning activities and curricular events is expected. Refer to the ARCOM Student Handbook & Academic Catalog for ARCOM's complete policy on attendance.
- **Attendance of OPP lectures and labs is mandatory**. Punctuality is also required. Learning of a psychomotor skill such as OMT requires the paired activity of palpating, diagnosing, and treating one another. A pattern of absenteeism and tardiness may be grounds for referral to SCC.
- Lectures are pre-requisites to labs. The didactic material in each lecture and the corresponding reading assignment and videos are preparatory for the laboratory sessions. Therefore, the student is responsible for all information presented in the lecture.
- **Attendance at all laboratory and small group sessions is considered mandatory and is recorded with all absences reported to the Office of Student Affairs (OSA).** Laboratory pod assignments will be posted on Canvas. You are not allowed to change pods unless instructed to do so by faculty. Should an emergency arise, it is the student's responsibility to contact the OSA
- Any students who plan to be absent from a lecture, lab or examination for planned events (e.g. ARCOM travel, educational event) must contact the Office of Student Affairs in writing prior to the date of the absence. Upon the student's return, he or she must contact the Office of Student Affairs to discuss remediation. Students are responsible for any assignments, labs, and lecture material missed during their absence. Students who miss a scheduled examination for such an event will be entitled to take a make-up examination.

- Students who miss lab and have an excused absence will need to make up the lab and any assessment before the next exam. The time and date of the make-up will be decided by the course director.
- **A student who is not present within the first five minutes of a graded assessment or activity will be considered tardy and may forfeit the opportunity to earn any points associated with that assessment/activity.** Additional time for the assessment/activity will not be granted to students who are tardy.

Course Faculty:

Faculty Member	Office	Phone	Email
Rance McClain, DO	281	479-308-2382	rance.mcclain@achehealth.edu
Dan Lynch, DO	233	479-308-2331	dan.lynch@achehealth.edu
Joseph Queeney, DO	231	479-308-2337	joe.queeney@achehealth.edu
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Kaitlin McNamara, DO	215	479-308-2332	kaitlin.mcnamara@achehealth.edu
Charles Craft, DO	N/A	N/A	charles.craft@achehealth.edu
Marshall Parker, DC	N/A	N/A	mashall.parker@achehealth.edu
Paige Parker, DC	N/A	N/A	paige.parker@achehealth.edu

Faculty Office Hours:
While faculty maintain an open-door policy, **it is strongly recommended that a student in need of a faculty member's time and attention reserve an appointment directly via e-mail** or telephone communication with the faculty member.

Required Course Resources:

Title	Edition	Authors	ISBN-13
Foundations of Osteopathic Medicine	4th	Seffinger, M	978-1496368324
Atlas of Osteopathic Techniques	4th	Nicholas, A. & Nicholas, E	978-1975127480
Osteopathic Approach to Diagnosis and Treatment	4th	DiGiovanna, E., Amen, D.J., Burns, D.K.	978-1496385994
Outline of Osteopathic Manipulative Procedures: the Kimberly Manual	2008 Update	Kimberly, P. & Funk, S. Kirksville College of Osteopathic Medicine	978-0967133317

Atlas of Common Counterstrain Tender Points	1st	Snider, K. & Glover, J. Kirksville College of Osteopathic Medicine	978-0988262775
Greenman's Principles of Manual Medicine	5th	Destafano, L.	978-1451193909
The Pocket Manual of OMT	2nd	Beatty, D.	978-1608316571
Somatic Dysfunction in Osteopathic Medicine	2nd	Nelson, K. & Glonek, T	978-1451103052

Seven Osteopathic Core Competencies:

The faculty and administration of ARCOM attest that the following Osteopathic Core Competencies are met in this course.

1. **Osteopathic Philosophy/Osteopathic Manipulative Medicine (OPP/OMM):** Demonstrate and apply knowledge of accepted standards in osteopathic manipulative treatment appropriate to the specialty. Remain dedicated to life-long learning and to practice habits in osteopathic philosophy and OMM.
2. **Medical Knowledge (MK):** Demonstrate and apply knowledge of accepted standards of clinical medicine in the respective area; remain current with new developments in medicine and participate in life-long learning activities.
3. **Patient Care (PC):** Demonstrate the ability to effectively treat patients and provide medical care that incorporates the osteopathic philosophy, patient empathy, awareness of behavioral issues, the incorporation of preventive medicine and health promotion.
4. **Interpersonal and Communication Skills (ICS):** Demonstrate interpersonal and communication skills that enable a physician to establish and maintain professional relationships with patients, families, and other members of health care teams.
5. **Professionalism (PRO):** Uphold the Osteopathic Oath in the conduct of one's professional activities that promotes advocacy of patient welfare, adherence to ethical principles, and collaboration with health professionals, life-long learning, and sensitivity to a diverse patient population; be cognizant of physical and mental health in order to effectively care for patients.
6. **Practice-Based Learning and Improvement (PBL):** Demonstrate the ability to critically evaluate methods of clinical practice; integrate evidence-based medicine into patient care; show an understanding of research methods; improve patient care practices.
7. **Systems-Based Practice (SBP):** Demonstrate an understanding of health care delivery systems; provide effective and qualitative patient care with the system; and practice cost effective medicine.

Grading Information:

Grading point values and scale are consistent with policies outlined in the ARCOM Student Handbook & Academic Catalog. Students will receive a numerical grade (percentage) at the end of the course with 70% or greater required to pass.

Students are required to pass all components of each course with a C (70%) or better to progress to the next semester. In order to receive a 70% or better, a student must complete all requirements of the course as defined in the syllabus.

Assessment of acquired medical scientific knowledge will be evaluated by formative and summative examinations (written and practical). Assessment of technical competencies will be assessed by check-out assessments, faculty observation of students, peer feedback, and practical examinations. The principles of osteopathic medicine should pervasively integrate the educational process as medical knowledge is acquired and applied in all courses. Additionally, the practice of medicine requires cumulative and comprehensive knowledge from multiple disciplines. **Therefore, information from other courses may be included on examinations when relevant to the material being assessed.** The integration of such content from other courses will be reflected in the learning objectives for the course.

Grade Determination and Scheduled Assignments:

Date	Assessment (CC)	Percentage of Final Grade
Wednesday, February 8, 2023 @ 8:00 AM – 11:00 AM	Written Exam #1 (MK)	40%
Wednesday, February 8, 2023 @ 12:40 PM – 7:00 PM	Practical Exam #1 (MK)	P/F
Thursday, April 13, 2023 @ 8:00 AM – 11:00 PM	Written Exam #2 (MK)	60%
Thursday, April 13, 2023 @ 12:40 PM – 7:00 PM	Practical Exam #2 (MK)	P/F
TOTAL:		**100%**

Written Examinations:

There will be two written exams **and** a written final examination in the OPP 1 course. Written exams will contain current material as well as cumulative material. These will assess student's biomedical knowledge and their ability to apply the information to solve patient problems within a clinical context. The assessments will emphasize clinical integration and application of course material commensurate with student training. Each of the three written assessments will include new material and up to 50% cumulative component of previous major concepts from any previously presented material from lecture, lab, or supplemental material. The format of any make up examinations that results from an excused absence is at the discretion of the course director (e.g., A similar exam over similar material with different questions, a comprehensive multiple-choice exam, essay questions, and/or an oral examination). An unexcused absence from a written examination will result in a grade of zero and no remediation for the given examination will be offered. The learning objectives for the course should guide student's learning, however, they are not intended to serve as an examination key. **All written examinations are cumulative.**

The weighted average of the two written exams and final written exam must be at least 70% to pass the OPP course. Additionally, the student must pass each practical exam to pass the course. If a student does not pass the course and remediation is offered through the Student Progress Committee, the type and style of remediation will be at the sole discretion of the course director. Remediation may take the form of a comprehensive written, oral or essay assessment. Remediation may or may not include a practical assessment as well.

OPP Practical Examinations:
One OPP practical exam and an OPP final practical exam will occur during the semester. These will be administered during a lab session and are designed to keep students up to date with their palpatory skills. **The practical exams are P/F. To pass the course, the student must pass each practical.** A student who fails a practical examination shall be required to remediate at a time of the department's choosing (outside of other lecture or lab hours and within faculty availability) and student availability.

Student will be allowed one attempt to remediate the practical examination. Remediation and retesting for the practical examination are to take place within ten days of the original test date or by the department's choosing. It shall be considered unprofessional behavior if the student does not appear for remediation and the student will be referred to the SCC committee. **All practical examinations are cumulative.**

A failed practical exam **must** be remediated with a review of the material covered on the exam. If the student successfully passes the remediation, the score will be a **P**. If a student misses their initially scheduled practical time assignment due to an unexcused absence, they will receive an **F**. The student must retake the missed exam and be successful to receive a P.

Do not schedule other appointments on the day of a practical as you may be rescheduled at the last minute because of a student emergency or to serve as a "patient" for a student who does not have a partner.

Course content, sequencing, grading, and examination policies are subject to change by administration with the approval the Curriculum Committee. Students will be given advanced notice of any substantive changes by email and the ARCOM portal.

Osteopathic Principles and Practice-4 Course Schedule:
OMSI Class of 2025
CC=Core Competency

CC	Day	Date	Time	Session #	Title	Instructor	Reading Assignment
MK, OPP, PRO, PC	Thu	Jan 5	11 AM	1	Posture, Gait, and Scoliosis	Queeney	

MK, OPP, PRO, ICS	Thu	Jan 5	1 PM	L1	Lab 1 Group B Posture, Gait, and Scoliosis	Queeney	
MK, OPP, PRO, ICS	Thu	Jan 5	3 PM	L2	Lab 2 Group A Posture, Gait, and Scoliosis	Queeney	
MK, OPP, PRO, PC	Mon	Jan 9	1 PM	L3	Lab 3 Group B BAT Lab	All Faculty	
MK, OPP, PRO, ICS	Mon	Jan 9	3 PM	L4	Lab 4 Group A BAT Lab	All Faculty	
MK, OPP, PRO, ICS	Wed	Jan 11	11 AM	2	Osteopathic Approach to the Cardiovascular Patient	McNamara	
MK. OPP, PRO	Wed	Jan 11	1 PM	L5	Lab 5 Group B Cardiovascular Patient	McNamara	
MK, OPP, PRO, ICS	Wed	Jan 11	3 PM	L6	Lab 6 Group A Cardiovascular Patient	McNamara	
MK, OPP, PRO, ICS	Wed	Jan 18	11 AM	3	Osteopathic Approach to the Pulmonary Patient	McNamara	
MK, OPP, PRO, ICS	Wed	Jan 18	1 PM	L7	Lab 7 Group B Pulmonary Patient	McNamara	
MK, OPP, PRO, ICS	Wed	Jan 18	3 PM	L8	Lab 8 Group A Pulmonary Patient	McNamara	
MK. OPP, PRO	Wed	Jan 25	9 AM	4	Osteopathic Approach to the GI Patient	Lynch	

MK, OPP, PRO, ICS	Wed	Jan 25	10 AM	L9	Lab 9 Group B GI Patient	Lynch	
MK, OPP, PRO, ICS	Wed	Jan 25	3 PM	L10	Lab 10 Group A GI Patient	Lynch	
MK, OPP, PRO, ICS	Fri	Jan 27	1 PM	L11	Lab 11 Group B OMM Practice Experience	All Faculty	
MK, OPP, PRO, ICS	Fri	Jan 27	3 PM	L12	Lab 12 Group A OMM Practice Experience	All Faculty	
MK. OPP, PRO	Wed	Feb 1	10 AM	5	Osteopathic Approach to Chronic Pain Management	Queeney/ Lynch	
MK. OPP, PRO	Wed	Feb 1	11 AM	6	Osteopathic Approach to Hospitalized/Surgical Patient	Lynch	
MK, OPP, PRO, ICS	Wed	Feb 1	1 PM	L13	Lab 13 Group B Hospitalized Patient	Lynch	
MK, OPP, PRO, ICS	Wed	Feb 1	3 PM	L14	Lab 14 Group A Hospitalized Patient	Lynch	
MK, OPP, PRO, ICS	Fri	Feb 3	8 AM	L15	Lab 15 Group B Historical Techniques	All Faculty	
MK, OPP, PRO, ICS	Fri	Feb 3	10 AM	L16	Lab 16 Group A Historical Techniques	All Faculty	
	Wed	**Feb 8**	**8:00 AM**		**Exam #1**		
	Wed	**Feb 8**	**12:40 PM**		**Practical Exam #1**		

MK. OPP, PRO	Wed	Feb 15	10 AM	7	Introduction to Chiropractic	M & P Parker	
MK. OPP, PRO	Wed	Feb 15	11 AM	8	Osteopathic Approach to Low Back Pain	Queeney	
MK, OPP, PRO, ICS	Wed	Feb 15	1 PM	L17	Lab 17 Group B Patient with Low Back Pain	Queeney	
MK, OPP, PRO, ICS	Wed	Feb 15	3 PM	L18	Lab 18 Group A Patient with Low Back Pain	Queeney	
MK. OPP, PRO	Wed	Feb 22	11 AM	9	Osteopathic Approach to the OB Patient with LBP	Lynch	
MK, OPP, PRO, ICS	Wed	Feb 22	1 PM	L19	Lab 19 Group B OB Patient with LBP	Lynch	
MK, OPP, PRO, ICS	Wed	Feb 22	3 PM	L20	Lab 20 Group A OB Patient with LBP	Lynch	
MK. OPP, PRO	Wed	Mar 1	11 AM	10	Osteopathic Approach to Neck Pain	Queeney	
MK, OPP, PRO, ICS	Wed	Mar 1	1 PM	L21	Lab 21 Group B Patient with Neck Pain	Queeney	
MK, OPP, PRO, ICS	Wed	Mar 1	3 PM	L22	Lab 22 Group A Patient with Neck Pain	Queeney	
MK. OPP, PRO	Wed	Mar 8	11 AM	11	High Yield Board Review Part 1 of 3	All Faculty	

MK, OPP, PRO, ICS	Wed	Mar 8	1 PM	L23	Lab 23 Group B Review Lab 1	All Faculty	
MK, OPP, PRO, ICS	Wed	Mar 8	3 PM	L24	Lab 24 Group A Review Lab 1	All Faculty	
MK, OPP, PRO, ICS	Fri	Mar 10	1 PM	L25	Lab 25 Group B OMM Practice Experience	All Faculty	
MK, OPP, PRO, ICS	Fri	Mar 10	3 PM	L26	Lab 26 Group A OMM Practice Experience	All Faculty	
MK. OPP, PRO	Wed	Mar 15	11 AM	12	Fibromyalgia and Other Rheumatological Issues	McNamara	
MK, OPP, PRO, ICS	Wed	Mar 15	1 PM	L27	Lab 27 Group B BAT Lab	All Faculty	
MK, OPP, PRO, ICS	Wed	Mar 15	3 PM	L28	Lab 28 Group A BAT Lab	All Faculty	
MK. OPP, PRO	Wed	Mar 29	11 AM	13	High Yield Board Review Part 2 of 3	All Faculty	
MK, OPP, PRO, ICS	Wed	Mar 29	1 PM	L29	Lab 29 Group B Review Lab 2	All Faculty	
MK, OPP, PRO, ICS	Wed	Mar 29	3 PM	L30	Lab 30 Group A Review Lab 2	All Faculty	
MK. OPP, PRO	Wed	Apr 5	11 AM	14	High Yield Board Review Part 3 of 3	All Faculty	

MK, OPP, PRO, ICS	Wed	Apr 5	1 PM	L31	Lab 31 Group B Review Lab 3	All Faculty	
MK, OPP, PRO, ICS	Wed	Apr 5	3 PM	L32	Lab 32 Group A Review Lab 3	All Faculty	
MK, OPP, PRO, ICS	Fri	Apr 7	8 AM	L33	Lab 33 Group B OMM Practice Experience	All Faculty	
MK, OPP, PRO, ICS	Fri	Apr 7	10 AM	L34	Lab 34 Group A OMM Practice Experience	All Faculty	
	Thu	**Apr 13**	**8 AM**		**Exam #2**		
	Thu	**Apr 13**	**12:40 PM**		**Practical Exam #2**		

ARKANSAS COLLEGE OF OSTEOPATHIC MEDICINE

Osteopathic Principles and Practice-4 Course Learning Objectives:

1 Posture, Gait, and Scoliosis

- 1.1 Define posture and gait
- 1.2 Review the development of normal curvatures (sagittal plane) of the vertebral column
- 1.3 Explain the biomechanical effects of gravity on the body
- 1.4 Understand the planes and points of reference/evaluation of gait & posture and how to evaluate them
- 1.5 Identify areas of posture that are common sites of somatic dysfunction
- 1.6 Describe Dr. Gordon Zink patterns at vertebral transitions zones and their general relevance. Understand how deviation from ideal can cause compensation in overall structure of the body
- 1.7 Identify and describe the phases of the gait cycle
- 1.8 Understand the general principles of energy recoil and transfer during gait
- 1.9 Define common types of abnormal gait
- 1.10 Special considerations in posture
- 1.11 Describe some importance features of posture as they relate to homeostasis
- 1.12 Introduce scoliosis and discuss its diagnosis, nomenclature, and treatment options
- 1.13 Discuss short leg syndrome
  - 1.13.1 ***Lab 1, 2*** **Posture, Gait, and Scoliosis Lab**
    - 1.13.1.1 Diagnose posture imbalance by observation
    - 1.13.1.2 Discuss the relationship of posture/somatic dysfunction and impaired lymphatic drainage
    - 1.13.1.3 Define optimum posture
    - 1.13.1.4 Identify the more common factors influencing altered posture
    - 1.13.1.5 Describe methods beneficial for promotion of optimal posture
    - 1.13.1.6 Visually inspect gait and identify areas of normal as well as abnormal gait mechanics
    - 1.13.1.7 Perform screening examination for scoliosis
  - 1.13.2 ***Lab 3, 4 Build a Technique Lab (BAT Lab)***
    - 1.13.2.1 Practice applying fundamentals of OMT when specific technique is unknown

2 Osteopathic Approach to the Cardiovascular Patient

- 2.1 Discuss the relevant anatomy as it relates to the cardiovascular patient
- 2.2 Review viscerosomatic, somatovisceral, viscerovisceral, somatosomatic reflexes
- 2.3 Discuss how somatic dysfunction presents in the cardiovascular patient
- 2.4 Discuss how to evaluate and treat the cardiovascular patient osteopathically
- 2.5 Correlate diagnostic and physical exam findings with indications and contraindications for OMT in cardiovascular patient
  - 2.5.1 ***Lab 5, 6*** **Cardiovascular Lab**
    - 2.5.1.1 Evaluate for somatic dysfunction in areas related to cardiovascular system
    - 2.5.1.2 Discuss various manipulative techniques (both direct and indirect) to address somatic dysfunction in the cardiovascular patient
    - 2.5.1.3 Perform various manipulative techniques (both direct and indirect) to address somatic dysfunction in the cardiovascular patient

3 Osteopathic Approach to the Pulmonary Patient

- 3.1 Discuss the relevant anatomy as it relates to the pulmonary patient
- 3.2 Describe viscerosomatic, somatovisceral, and somatosomatic reflexes
- 3.3 Discuss how somatic dysfunction presents in the pulmonary patient
- 3.4 Discuss how to evaluate and treat the pulmonary patient osteopathically

3.4.1 ***Lab 7, 8 Pulmonary Lab***
- 3.4.1.1 Evaluate for somatic dysfunction in areas related to pulmonary system
- 3.4.1.2 Discuss various manipulative techniques (both direct and indirect) to address somatic dysfunction in the pulmonary patient
- 3.4.1.3 Perform various manipulative techniques (both direct and indirect) to address somatic dysfunction in the pulmonary patient

4 Osteopathic Approach to the GI Patient
- 4.1 Review the relevant anatomy in a GI patient
- 4.2 Review the vertebral segments associated with sympathetic innervation to the GI tract and related areas and their effect
- 4.3 Review the cranial and sacral regions associated with parasympathetic innervation to the GI tract and related areas and their effects
- 4.4 Review how somatic dysfunction presents in the GI patient
- 4.5 Review how to evaluate and manage the GI patient osteopathically
  - 4.5.1 ***Lab 9, 10 GI Patient Lab***
    - 4.5.1.1 Review osteopathic techniques beneficial for the patient with gastrointestinal disorders
  - 4.5.2 ***Lab 11, 12 OMM Practice Experience***
    - 4.5.2.1 Practice taking history from volunteer
    - 4.5.2.2 Evaluate volunteer for somatic dysfunction
    - 4.5.2.3 Perform OMT on volunteer under guidance of faculty

5 Osteopathic Approach to Chronic Pain Management
- 5.1 Define chronic pain.
- 5.2 Discuss difficulties in diagnosing and managing chronic pain
- 5.3 Briefly review the responsible and irresponsible uses of opioids for pain management
- 5.4 Review common pain management techniques
- 5.5 Discuss the role of OMT in pain management

6 Osteopathic Approach to the Hospitalized/Surgical Patient
- 6.1 Identify conditions in hospitalized patients where OMT is commonly used
- 6.2 Discuss indications and contraindications for use of OMT in the hospitalized patient
- 6.3 Discuss appropriate dose and frequency of OMT in the hospitalized patient
- 6.4 Introduce the concept of allostasis and allostatic load
  - 6.4.1 ***Lab 13, 14 Hospitalized/Surgical Patient Lab***
    - 6.4.1.1 Review osteopathic techniques beneficial for the hospitalized or surgical patient
  - 6.4.2 ***Lab 15, 16 Historical Techniques***
    - 6.4.2.1 Recreate techniques from the early days of osteopathy

7 Introduction to Chiropractic
- 7.1 Discuss history of the chiropractic profession
- 7.2 Introduce different chiropractic modalities/techniques

8 Osteopathic Approach to Low Back Pain
- 8.1 Be able to identify various sources and causes of low back pain
- 8.2 Become familiar with the terminology of lumbar spinal pathology
- 8.3 Be able to identify various pathological processes of radiographs
  - 8.3.1 ***Lab 17, 18 Patient with Low Back Pain***
    - 8.3.1.1 Be able to identify various pathological processes on plain x-ray, CT, and MRI
    - 8.3.1.2 Understand the terminology in radiograph reports
    - 8.3.1.3 Understand the layout of MRI and CT images

9 Osteopathic Approach to the OB Patient with Low Back Pain
- 9.1 Review biomechanical and hormone changes that occur during pregnancy
- 9.2 Discuss epidemiology of back pain in pregnancy
  - 9.2.1 ***Lab 19, 20 OB Patient with Low Back Pain***
    - 9.2.1.1 Review osteopathic techniques beneficial for the pregnant patient with low back pain

10 Osteopathic Approach to Neck Pain
- 10.1 Be able to distinguish the differences in pathological entities that afflict the cervical spine
- 10.2 Review the neurological exam and its importance in patient care
- 10.3 Be able to recognize and interpret varying radiographic presentations of cervical spine pathology
- 10.4 Review treatment options for common cervical spinal pathologies
  - 10.4.1 ***Lab 21, 22 Patient with Neck Pain***
    - 10.4.1.1 Review various techniques beneficial for a patient with cervical spine pathologies

11 High Yield Board Review, Part 1 of 3
- 11.1 Review history/philosophy of Osteopathic Medicine
- 11.2 Review the Concept of somatic dysfunction and barrier concepts and planes of motion
- 11.3 Review Principles of OMT modalities
- 11.4 Review of Lymphatic treatment
- 11.5 Review viscerosomatic Reflexes and Chapman's Points
- 11.6 Review special populations (pediatric, OB/Gyn, cardiac, pulmonary, GI (Visceral), hospitalized patient
- 11.7 Review Cranial Diagnosis and Treatment (holds, strain patterns, phantom hands, clinical)
  - 11.7.1 ***Lab 23, 24*** **Review Lab 1**
    - 11.7.1.1 Region/Modality Review-techniques chosen for review will be based on input from students via survey or other means
  - 11.7.2 ***Lab 25, 26 OMM Practice Experience***
    - 11.7.2.1 Practice taking history from volunteer
    - 11.7.2.2 Evaluate volunteer for somatic dysfunction
    - 11.7.2.3 Perform OMT on volunteer under guidance of faculty

12 Fibromyalgia and other Rheumatological Issues
- 12.1 Review common rheumatological issues that may present with musculoskeletal pain
- 12.2 Discuss diagnostic findings and common treatments
- 12.3 Discuss the role of OMM in the management of rheumatological diseases
  - 12.3.1 ***Lab 27, 28 Build A Technique Lab (BAT Lab)***
    - 12.3.1.1 Practice applying fundamentals of OMT when specific technique is unknown

13 High Yield Board Review, Part 2 of 3
- 13.1 Review Spinal mechanics Review Cervical Diagnosis and Treatment (ME, CS, HVLA, FPR, Still, BLT)
- 13.2 Review Cervical diagnosis and treatment (ME, CS, HVLA, FPR, Still, BLT)
- 13.3 Review Thoracic Diagnosis and Treatment (ME, CS, HVLA, FPR, Still, BLT)
- 13.4 Review Lumbar Diagnosis and Treatment (ME, CS, HVLA, FPR, Still, BLT)
- 13.5 Review Sacrum Diagnosis and Treatment (ME, CS)
- 13.6 Review Clinical Conditions of the Spine (short leg and scoliosis)
  - 13.6.1 ***Lab 29, 30 Review Lab 2***
    - 13.6.1.1 Region/Modality Review-techniques chosen for review will be based on input from students via survey or other means

14 High Yield Board Review, Part 3 of 3

- 14.1 Review Rib diagnosis and treatment (ME, CS, HVLA)
- 14.2 Review Pelvis Diagnosis and Treatment (ME, CS)
- 14.3 Review Gait
- 14.4 Review upper extremity diagnosis and treatment (Clinical, ME, CS, HVLA, Spencer)
- 14.5 Review lower extremity diagnosis and treatment (Clinical, ME, CS, HVLA)
  - 14.5.1 ***Lab 31, 32 Review Lab 3***
    - 14.5.1.1 Region/Modality Review-techniques chosen for review will be based on input from students via survey or other means
  - 14.5.2 ***Lab 33, 34 OMM Practice Experience***
    - 14.5.2.1 Practice taking history from volunteer
    - 14.5.2.2 Evaluate volunteer for somatic dysfunction
    - 14.5.2.3 Perform OMT on volunteer under guidance of faculty