COURSE DETAILS AND INFORMATION:

<table>
<thead>
<tr>
<th>Course Name</th>
<th>Clinical Reasoning and Simulation</th>
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<tbody>
<tr>
<td>Course Number</td>
<td>HLTH 2107</td>
</tr>
<tr>
<td>Graduating Class Year</td>
<td>2016</td>
</tr>
<tr>
<td>Discipline</td>
<td>Osteopathic</td>
</tr>
<tr>
<td>Course Option Type</td>
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COURSE ADMINISTRATION & DURATION:

<table>
<thead>
<tr>
<th>Department</th>
<th>Iowa Simulation Center for Patient Safety and Clinical Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>Lecture/Simulation</td>
</tr>
<tr>
<td>Chief Coordinator</td>
<td>Roberta Wattleworth, D.O., MHA, MPH</td>
</tr>
<tr>
<td>Co-Coordinator</td>
<td>Greg Kolbinger, PA. MPAS</td>
</tr>
<tr>
<td>Credit Hours</td>
<td>2.5</td>
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</tbody>
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RECOMMENDED TEXTS:

5. Symptom to Diagnosis, 2nd edition, Scott Stem, Diane Altkom & Adam Cifu, Lange, 2010

DESCRIPTION:

Clinical Reasoning and Simulation is a clinically oriented course consisting of three components: Simulation lab experiences, clinical reasoning lectures, and Standardized Performance Assessment Laboratory (SPAL) experiences. In SPAL, students will be evaluated by direct observation during their patient interactions, and by accuracy of SOAP note documentation. Standardized patients will evaluate the students for all encounters. Simulation Labs provide group team-based assessments supervised by clinicians. The course will provide the student with an introduction to essential reasoning skills needed in clinical practice. The course stresses assimilation and integration of information obtained during the history and physical examination, establishment of differential diagnoses, appropriate laboratory and ancillary tests, and clinical decision-making. Students are responsible for all information taught up to the time of their Simulation cases and SPAL experiences. The course provides a practical application for the information learned in systems courses. The course approaches clinical reasoning through lectures, group discussion, clinical case simulations, and SPAL experiences.
COURSE GOALS & OBJECTIVES:

**Goals:** To develop skills and knowledge for clinical reasoning, including:
1. Appropriate history and physical examination
2. Establishing and testing a differential diagnosis
3. Appropriate use of laboratory testing, imaging methods, and other clinical testing
4. Therapeutic decision-making

**Objectives:** The student will develop the ability to assess pediatric and adult patients:
1. Demonstrate appropriate history-taking and interviewing skills.
2. Perform a well-organized physical examination appropriate for the patient’s chief complaint or needs.
3. Select the appropriate diagnostic equipment necessary to complete an examination and use the equipment correctly.
4. Document and/or present a focused history and physical examination in an organized fashion according to a standardized format.
5. Synthesize historical and physical data in order to develop a problem list or differential diagnosis.
7. Initiate an evidence-based management plan for specific patient problems.
8. Demonstrate communication skills with the patient, families, and other members of the health care team.
9. Discuss the importance of interprofessional teams and working knowledge of each member’s skill set.
10. Assess patient’s medical status and need for rapid assessment.
11. Assess personal and team base strengths and weaknesses through self-evaluation.

REQUIREMENTS:

**Required Instrument List:**

**SPAL**
1. Stethoscope – preferably one with separate bell & diaphragm
2. Sphygmomanometer – standard adult size
3. Diagnostic kit including otoscope, ophthalmoscope
4. Pocket size flashlight
5. Tuning forks 128 or 256 cycles per second for vibratory testing and 512 cycles per second for hearing assessment
6. Percussion hammer
7. Rosenbaum pocket eye chart with measurements on one side
8. Monofilament

**All diagnostic equipment MUST be brought with you to each SPAL.** The University assumes no responsibility for the loss or damage of the student’s personal instruments. All students are encouraged to have each instrument marked or engraved with their name.

**SIMULATION LAB**
1. Stethoscope
2. Any necessary reference materials will be provided by Simulation Staff
**Dress Code:**

**SPAL**

Professional Clinical Attire is Required

1. White lab coat (short)
2. Your own DMU identification badge MUST be worn at all times.
3. Men will wear a dress shirt and tie, trousers, closed-toe shoes and socks.
4. Women will wear dresses, pants, suits, or skirts with blouses and/or sweaters, closed-toe shoes and socks/hose.
5. Nails must be short to avoid risk of harm to patients.
6. No acrylic nails, open-toed shoes, or sneakers are allowed.

YOU WILL NOT BE ALLOWED TO PARTICIPATE IN ANY SPAL WITHOUT YOUR UNIVERSITY PHOTO I.D., PROPER PROFESSIONAL ATTIRE, AND EQUIPMENT. Failure to present to SPAL at your assigned time without meeting the above criteria will result in receiving a “fail” for that SPAL.

**SIMULATION LAB**

1. Surgical scrubs, or clinical attire as described above, may be worn by students while in the Simulation lab.
2. Closed-toe shoes and socks/hose are required as would be expected in a clinical setting.
3. You MUST wear your student photo I.D.

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**REOURCES:**

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<thead>
<tr>
<th>Role</th>
<th>Name</th>
<th>Title</th>
<th>Phone</th>
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<tbody>
<tr>
<td>Chief Coordinator</td>
<td>Roberta Wattleworth, D.O., MHA, MPH</td>
<td>Phone 515.271.7816</td>
<td><a href="mailto:roberta.wattleworth@dmu.edu">roberta.wattleworth@dmu.edu</a></td>
<td></td>
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<tr>
<td>Office</td>
<td>Tower 1018</td>
<td>E-mail</td>
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<tr>
<td>Co-Coordinator</td>
<td>Greg Kolbinger</td>
<td>Phone 515.271.1094</td>
<td><a href="mailto:Gregory.kolbinger@dmu.edu">Gregory.kolbinger@dmu.edu</a></td>
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<tr>
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<tr>
<td>Course Secretary</td>
<td>Alicia Kopitzke</td>
<td>Phone 515.271.1680</td>
<td><a href="mailto:alicia.kopitzke@dmu.edu">alicia.kopitzke@dmu.edu</a></td>
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<tr>
<td>Office</td>
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ATTRIBUTES & CORE COMPETENCIES:

AOA Core Competencies: This course contributes to the following sections of the Core Competencies of the Osteopathic Student and Professional. All competencies are assessed during the course.

1. Osteopathic Philosophy, Principles and Practice
   A. SPAL: Osteopathic Structural Exam performance
   B. SPAL: Somatic dysfunction documentation
   C. SPAL: Osteopathic manipulation plan development
2. Medical Knowledge
   A. SPAL: Correct differential diagnosis of patient given
   B. SIM: Demonstration of medical knowledge through case specific checklists
   C. SIM: Investigative and analytical thinking in clinical simulations
3. Patient Care
   A. SPAL: Ability to gather accurate essential data in an organized format
   B. SPAL: Ability to formulate a differential diagnosis and a patient-centered plan
   C. SPAL: Ability to perform appropriate physical exams
   D. SPAL: Ability to counsel and educate patient regarding assessment and plan
   E. SIM: Assess team’s ability to gather accurate and essential data through history, physical, testing and procedures
   F. SIM: Assess team’s ability to formulate a differential diagnosis
   G. SIM: Assessment of team’s ability to determine and monitor the nature of a patient’s concern/problem.
   H. SIM: Demonstrate ability to work effectively with other members of the health care team to provide patient-centered coordination of care
4. Interpersonal and Communication Skills
   A. SPAL: Through standardized rating instrument
   B. SPAL: Through Documentation skills (Total SOAP score)
   C. SIM: Through Team communication assessment
5. Professionalism
   A. SPAL: Through rating instrument
   B. SIM: Through team professionalism assessment
6. Practice-based Learning and Improvement
   A. SPAL/SIM: Ability to apply evidence-based knowledge and data to development of diagnostic and treatment plan
   B. SPAL/SIM: Clinical Reasoning is consistent throughout encounter
   C. SPAL/SIM: Self evaluations of clinical practice
7. Systems based practice
   A. SPAL: Systems-based practice economic approach to patient care
   B. SIM: Assessment of team’s ability to use system resources to provide care that is of optimal value to the patient and community through coordination of patient care
## COURSE POLICIES:

<table>
<thead>
<tr>
<th>Attendance Policy:</th>
<th>Practical Examinations will not be changed to accommodate a student's personal travel scheduled during regular class times.</th>
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</table>

### SPAL/Simulation Lab Excused Absence

The student may receive an excused absence in the case of a serious personal illness or a family emergency by contacting the SPAL administrative assistant at extension 1395/Clinical Reasoning administrative assistant at extension 1680. The student must make every attempt to contact the secretary prior to the absence and will be assigned an alternate date at the SPAL/SIM staff's discretion. The student must follow up with written documentation of the reason for the absence within 24 hours of the absence delivered to the course secretary.

“In the case of a missed examination due to exceptional circumstance(s) not covered by the above examination policy, the student(s) should immediately contact a course coordinator for consideration of these circumstances.”

### SPAL/Simulation Lab Unexcused Absence

If a student has an unexcused absence for his/her SPAL/Simulation Lab encounter, he/she will receive a grade of “fail” for the SPAL/Simulation Lab. The student will be assigned a make-up date at the discretion of the SPAL/Simulation staff.

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### Practical Examination Protocol:

**SPAL**

The schedule for the SPAL practical exams is attached to this syllabus. **No schedule switches or changes will be allowed.**

The content of each practical will address the system or systems listed in the examination section of this syllabus, including related material required in Physical Diagnosis, Clinical Reasoning and Simulation, and the second year “Systems” courses.

Please arrive at the Student Reception Area of Ryan Hall Atrium Area **15 minutes** before your examination to receive instructions.

Per DMU Examination Protocol: Bring only what is required for you to complete your SPAL - functioning pens and diagnostic equipment. A clipboard and paper will be provided for you. Items **NOT** permitted include: cell phones, paging devices, PDA’s, reference materials, watches - with alarms, computer or memory capability, recording/filming/listening devices, computers, purses, briefcases, book bags, calculators, food, beverages, jackets, hats. Please leave non-permitted items in your locker.

**At the Check-in Station:**
1. Present your own DMU student I.D.
2. Sign in.
3. Please listen to all of the instructions.

**Outside the Patient's Room**
1. Before entering the room, you will be given one minute to review patient information provided and make any notes you feel are needed.
2. The folder in the door chart holder contains the “presenting information” as well as any other necessary materials. You may take this folder into the exam room with you and you may make notes on the paper provided.
3. Upon receiving instruction to see your patient, knock firmly on the exam door and enter, then introduce yourself, using your full first and last name, as a second-year medical student.
4. Confirm that the name listed on the chart and your patient’s full name is identical. Treat these patients as you plan to treat your future patients.
During the Patient Encounter

Your role is that of a second-year medical student evaluating a patient presenting with a chief complaint. You are being evaluated based on the assumption that your performance represents the way you would take care of an actual patient. You are to maintain your role at all times during the encounter. Any actions or comments on your part that suggest that this is anything other than an actual patient evaluation will be interpreted as “breaking role”. A student who breaks role will be required to remediate the case in question.

You are given twenty minutes to see your standardized patient. You should ask any history questions and perform the physical examinations that you feel are pertinent to the chief complaint. There will be a clock on the wall in each patient room. You are in charge of keeping track of time. At the end of your allotted time, you will be asked to stop via intercom. You may not ask any further questions or perform any other exams at that point. Any questions asked or exams performed after the bell will not be counted for assessment. Provide a summary comment to the patient and thank them for coming to the clinic.

The examination tables are equipped with a leg extension. This extension must be pulled out completely to allow the patient to lie supine comfortably. You are responsible for maintaining the patient’s modesty and comfort without compromising the physical exam. The patient will present in either an exam gown and undergarments, or in street clothes, and a drape will be available. During chest and abdominal exams, the gown and/or drape should be adjusted to expose the body region to be examined while keeping other areas covered. Never ask your patient to remove clothing or undergarments during an exam. You are expected to perform all exams on skin.

If you have any questions with logistics or procedures during the SPAL, ask a SPAL staff member. You are not to speak to anyone in the hallways except SPAL staff members.

After the Patient Encounter

You will be assigned either a SOAP note write-up or an oral presentation. The time allotment for these will be specifically defined for each SPAL.

SIMULATION LAB

The schedule for Simulation Labs is in the block schedule. Any student who finds it necessary to reschedule a simulation lab session must arrange to switch times with another student who is scheduled to attend lab at that desired time. Finding another student to switch with is your responsibility. This must be accomplished in advance of the lab that will be missed (24 hours notice minimum) and must be arranged through Alicia Kopitzke in Tower 1024 - alicia.kopitzke@dmu.edu or # 271-1680. The list of circumstances that qualify a student for an authorized switch include the following:

- Medical issues (illness for which you should document that you have received medical services or surgery)
- Death of an immediate family member (travel necessitated by such a loss should be clearly documented.)
- Medical issues of a child or significant other (illness for which you are responsible to ensure that another individual receives necessary medical services. You should document these activities)
- Educational/professional experiences for which you have been granted leave by the University administration (leave time for which you should provide documentation).

You MAY NOT bring and use personal references. Electronic devices, including computers, cell phones, and PDAs are prohibited. Please do not bring extra items with you to the Simulation area. You will be supplied with a clipboard and paper.
1. Student should arrive **15 minutes** before schedule time
2. Sign in and wait in student waiting area
3. No reference material will be allowed in the actual Simulation
4. Simulations may range from simple to complex
5. Students should expect to see pediatric, adult, and obstetric patients
6. Settings may include office or hospital rooms, including emergency rooms
7. Teams are traditionally set up with 5 students: leader, medical recorder, historian, procedures, physical exam
8. Attending and consultants may be present
9. SP’s may be utilized to teach compassionate care
10. Following each scenario there will be a debriefing for discussion and case analysis
11. Following each scenario, students will fill out a team-based evaluation.

The course faculty in accordance with the policies and statements in the student handbook must approve any exceptions to the policies stated in this syllabus.

**EVALUATION:**

**Grading:** Clinical Reasoning and Simulation is a required course. Final grades will be entered on the transcript as Pass/Fail.

**SPAL**

Students will be graded on an individual basis. There are seven SPAL encounters throughout the year, six single patient encounters and one experience where students will have two SPAL patient encounters in succession. Students will be given a “pass” or a “fail” (which will require a remediation of the SPAL), at the completion of each SPAL exam.

SPAL exams are divided into a global patient rating instrument and case specific checklists. Checklists will include history and physical items to be performed on the standardized patient and will also include SOAP note documentation or oral presentation. Students must complete pass both the Global Patient Instrument with an average score of 3 or higher and the case specific checklists with a score of 70% or higher to pass. Any student earning less than an average score of 3 on the Global Patient Instrument will meet individually with course faculty to review content of the humanistic domain, followed by repeat performance(s) of that SPAL until the minimum score is achieved.

Students are expected to perform all SPALs as scheduled. Students will receive a failing grade for that SPAL if they have an unexcused absence (see Excused/Unexcused absence policy). Remediations will be scheduled at the discretion of the SPAL administrative assistant. Only one remediation per SPAL system will be allowed. Any student receiving a “fail” for two SPALs in one system or three SPALs throughout the year will fail the Clinical Reasoning course, even if the student subsequently passes each failed SPAL upon repeating the encounter. The entire course (both Simulation Lab and SPAL) will need to be subsequently repeated and successfully remediated per handbook policy. Any failure, even if successfully remediated, counts toward the total failures allowed for the year.

Students receiving a score of less than 80% on their case specific checklists in any SPAL encounter are required to attend the SPAL review for that system (with the exception of Capstone). Students scoring less than 80% on their case specific checklists and not attending the entire SPAL review session will have 10 points deducted from their total SPAL score.
The review of the performance for each SPAL encounter in the required time allotment and completion of an online self-evaluation sheet is mandatory. It is the student’s responsibility to view the encounter via video streaming, (which must be done on campus) and to complete and submit the online self-evaluation in the allotted time frame. The student is encouraged to view their video capture promptly after the encounter to insure that any delay won’t prevent viewing before video streaming of his/her performance is discontinued. Ability to access video streaming will be available for 7 days only once SPALs are completed for that system. Any student failing to watch your video(s) and complete and submit the online self-evaluation will be penalized 10 points for that SPAL. This may result in a failure of that SPAL. It is the student’s responsibility to print the completed self-evaluation submission page to prove completion, in case the transmission is lost.

After the SPAL encounters are completed and SOAP notes are graded, there will be a review session scheduled for the first six scheduled SPALs. This allows students to review comments made by the Standardized Patient and the clinician grading the note/oral presentation. Students with questions on their SPAL scores will be given an opportunity in the review setting to address any concerns with their SPAL scoring. Charts will be handed out at the beginning of the hour and must be turned in at the end of the hour. Students must stay for the entire session. Students are highly encouraged to attend. This is the only time any changes will be made to the final score. After the review session hour, scores for that SPAL will be finalized with no further adjustment allowed. No student may have books, backpacks, purses, notes, or electronic equipment (cell phone, computer, calculator, etc.) with them during a review session unless directed to do so by the course coordinator. Any items of this nature must remain outside of the room.

The Professional Integrity Code is to be followed as noted in your student handbook for these examination encounters. It is based on the notion that your current level of clinical skill will be genuinely assessed by the video-captured patient encounter and the post-encounter SOAP note documentation. Prior knowledge of the cases and their content or sharing and discussing cases/case content with other students subverts this intent. Any transmission of information regarding these cases, either verbal or written will be considered cheating. Any student suspected of cheating shall be referred to the SPEC Committee for further evaluation and disciplinary action. (Student Handbook).

The Standardized Patients whom you will assess will complete an evaluation form based on your performance. Keep in mind that each Standardized Patient provides valuable feedback to you regarding the patient’s perception of you as a person and as a health care professional. It is strongly recommended that you review these forms at the post-SPAL review session. Please note that review sessions dates are subject to change at the discretion of the course coordinator.

**SIMULATION LAB**

Students will be graded as a team. Teams will be given a “pass”, or a “fail” (which will require a remediation of the session); a failing grade will be given in the event a student does not show up for his/her scheduled Simulation case. If the team does not perform satisfactorily, the entire team will be required to remediate. Satisfactory completion of a Simulation Lab case will include but is not limited to the following areas: patient care (information utilization, situational assessment and coordination of care), interpersonal and communication skills (team communication), systems-based practices (team coordination), professionalism (team interactions), medical knowledge (case specific goals and objectives), and
practice-based learning (clinical reasoning). Teams will be assessed in these eight areas and each area is worth 5 points for a total of 40 points. Any team scoring less than 24 points fails the scenario. After each scenario, students will fill out a self-evaluation of team performance.

Any team or team member failing a simulation case will receive a temporary failing grade and will require a prompt remediation simulation scenario. If the remediation is unsuccessful, a failing grade will be recorded for that simulation scenario. Any team or team member who records two initial and subsequent remediation failures will have failed the Clinical Reasoning course and will be removed from both future simulation labs and SPAL sessions. The entire course (both simulation lab and SPAL) will need to be subsequently repeated and successfully remediated per handbook policy.

*SPAL and simulation lab testing will follow the guidelines set forth in the student policy handbook.*

**Remediation:**

**SPAL**

Students failing a SPAL encounter will not be allowed to go to the review. The student will not be allowed to retake a failed SPAL without meeting with the course coordinator or their designee. Following this individualized instruction, the student will be allowed to repeat a SPAL encounter. The student will have only one opportunity for remediation of the encounter. Any student failing a second encounter on the same subject matter will fail the course. A remedial course of studies will then be arranged by the course coordinator according to student handbook policy.

**SIMULATION LAB**

Any team or team member failing a simulation case will receive a temporary failing grade and will require a prompt remediation simulation scenario. If the remediation is unsuccessful, a failing grade will be recorded for that simulation scenario. Any team scoring less than 24 points fails the scenario. Any team or team member who records two initial and subsequent remediation failures will have failed the Clinical Reasoning course and will be removed from both future simulation labs and SPAL sessions. The entire course (both simulation lab and SPAL) will need to be subsequently repeated and successfully remediated per handbook policy.

**Documentation of SPAL Encounter:**

The format presented to you during the Physical Diagnosis course should be followed when documenting your SPAL encounter.

1. When documenting your patient’s Chief Complaint use the patient’s own words, in quotes.
2. The History of the Chief Complaint should include a detailed, chronological record of the patient’s chief complaint. It is recorded in paragraph form in chronological order. Do not record this information as an outline using your mnemonics from PD labs. The outline is fine for note-taking while at the patient’s bedside. It is not acceptable for medical documentation purposes.
3. The pertinent review of systems is part of the history, not the physical. If you are uncertain of the type of information to include in this section, please refer to handouts given to you during PD or your textbook.
4. The “Physical” section includes a description of the findings of your examination. Simply recording a “normal”, “fine”, “ok”, or “unremarkable” is unacceptable.
5. No invasive examinations will take place, including breast, pelvic, rectal or genital exams, although an appropriate history should be taken.
6. Assessment including differential diagnosis and problem list as well as appropriate plan using clinical reasoning skills are expected for each case.
**Check-out**
After completing the patient encounter and your SOAP note, turn in your student exam folder with all of your paperwork (including notes made in exam room) to the SPAL proctor. When you are finished with your SPAL encounter, please leave the area quietly.

Your performance with the patient will be captured on video. A student’s videotape will be reviewed by SPAL staff and/or a faculty member should there be concern regarding either a student’s or Standardized Patient’s performance. A certain percentage of student performances are audited on a random basis. You may be contacted by a course coordinator following a SPAL if there are aspects of your performance that necessitate comment, or if your tape was randomly selected for review.

### COURSE LECTURE SCHEDULE:

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<thead>
<tr>
<th>LECTURER</th>
<th>LECTURE TITLE</th>
<th>Keywords</th>
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<tbody>
<tr>
<td>1. Wattleworth, Kolbinger, Gardner</td>
<td>Introduction to Simulation Lab 1</td>
<td>Introduction Simulation Teamwork</td>
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<tr>
<td>2. Wattleworth, Kolbinger, Gardner</td>
<td>Introduction to Simulation Lab 2</td>
<td>Communication Situational Assessment Practice based Assessment Clinical Reasoning</td>
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<td>3. Wattleworth</td>
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<td>Ordering Labs Normal and abnormal Labs</td>
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<td>4. Nish</td>
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<td>5. Nish</td>
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<td>6. Nish</td>
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<td>7. Nish</td>
<td>Radiology 4</td>
<td>Abdominal images-abnormal</td>
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<td>Stages of labor Normal Delivery Procedure</td>
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<td>9. Wattleworth, Kolbinger, Gardner</td>
<td>Interprofessional Team Lecture</td>
<td>Interprofessional teams, communication, systems based practice</td>
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<td>Introduction to SPAL</td>
<td>Introduction Global Assessment (humanistic skills) Self Assessment</td>
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<td>Gastrointestinal SPAL Preview</td>
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<td>GI- Individual Performance evaluation GI- Case based review</td>
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COURSE EXAMINATION SCHEDULE:

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<td>3. Respiratory</td>
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<td>5. Renal</td>
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<td>6. Neurology</td>
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<td>7. Capstone – 2 SPALs from any second year system (not necessarily those listed above)</td>
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*All SPAL encounters and Simulation encounters will take place on the ground floor of Ryan Hall. Please refer to each system’s block schedule for date/time of preview and review sessions for each SPAL.*
**FACULTY, GUEST FACULTY, & GUEST LECTURERS:**

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