

Critical Care Selective Syllabus

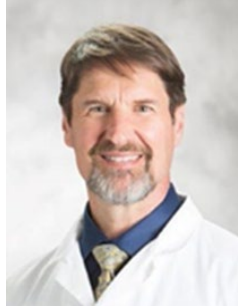

Academic Year 2024-2025

Section A – Critical Care Selective Curriculum	2
Selective Information	2
General Selective Information and Contacts.....	2
Selective Description	2
Selective Learning Objectives	3
Selective Requirements.....	3
Attendance Requirements	3
Required/Recommended Reading and Resources.....	4
Didactic/Interactive Learning/Simulation Sessions (Schedule).....	5
Required Clinical Experiences: Procedures and Diagnoses (Px/Dx) Log.....	6
Px/Dx Alternative Experiences (Only Applicable to Critical Care).....	8
Observable Learning Activities/Other Requirements	8
Selective Specific Assessment Process	9
Mid-Selective Formative Assessment.....	9
Summative Clinical Assessment	9
Calculating the Final Grade.....	9
Additional Selective Information.....	10
Selective Requirements.....	10
Helpful Tips.....	10
Simulation Appendix: Simulation Objectives	11
Section B – Selective Policy and Resources	13
General Information	13
Learning Environment Office.....	13
Educational Program Objectives	13
Attendance Requirements	13
Assessment Process Additional Information.....	15
Conflict of Interest.....	15
Standardized Grading Process.....	15
Required Student Evaluation.....	15
Deadline Compliance.....	16
Additional Resources	16
Rural Health Professions Program.....	16
Urgent/Emergent Health Care Services	17
Expectations for Mobile Communication.....	17
Accessibility and Accommodations	17
one45: Curriculum Management System.....	17
OASIS: Course Schedule.....	18
myTIPreport Formative Assessment Application (Only Applicable to Critical Care).....	18
Student Use of University Sponsored Educational Material	18
Student Code of Conduct	18

Section A – Critical Care Selective Curriculum

Selective Information

General Selective Information and Contacts

Credit Hours	4
Course Code	847
Selective Length	4 weeks
Selective Website and Contacts	Critical Care Selective Website and Contacts
Selective-Specific Resources	OASIS , SCCM Modules , one45 , myTIPreport
Clinical Sites	For a list and description of selective sites, please see: Course Catalog
Prerequisites	All students must successfully pass all third year courses* to progress to the fourth year. Link to policy: Enrollment, Sequencing and Grading for Pre-Clerkships Policy
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Course* = Any component of the curriculum where a grade is earned.

Selective Description

The Critical Care Selective utilizes a variety of supervised clinical sites, specializing in adult, pediatric and neonatal medical and surgical critical care, allowing students to focus their critical care medicine (CCM) experience in relation to their eventual career specialty. Intensive simulation training and didactics are used to enhance the students' acquisition of clinical skills needed to save the life of a patient in extremis. This is one of the most challenging and rewarding rotations - intellectually and emotionally.

Selective Learning Objectives

Each Critical Care Selective objective listed below has been mapped with relevant competencies, i.e., patient care, medical knowledge, clinical appraisal and quality improvements, interpersonal and communication skills, professionalism, and societal awareness and responsiveness and is available within [one45](#).

1. Work effectively in a team with physicians, nurses and other healthcare professionals to optimize survival and minimize patient suffering in the ICU.
2. Perform a complete pertinent history and physical exam on the critically ill patient, synthesizing clinical data to provide a reasonable assessment and treatment plan.
3. Present a service of critically ill patients effectively at rounds, interpreting clinical data in the context of the patient's illness and demonstrating an understanding of the most important priorities for the patient's survival and functional outcome.
4. Recognize a patient requiring emergent care and initiate appropriate evaluation and management.
5. Demonstrate ability to prevent common complications of critical care including iatrogenic infections, ventilator complications, adverse drug events, and delirium.
6. Use a basic knowledge of shock to guide resuscitation of a critically-ill patient. This includes knowledge of how clinical evaluation can assist in the classification of shock, determination of the adequacy of oxygen delivery and choice of resuscitative measures.
7. Treat a life-threatening infection using a time-sensitive sepsis bundle and appropriate source control measures.
8. Order simple mechanical ventilator settings appropriately including continuous positive airway pressure, volume control and pressure support. Know when to use low-tidal volume ventilation and know when the patient is ready for extubation.
9. Order drugs effectively and safely in the ICU taking into account the increased risk for adverse drug effects in critically-ill patients.
10. Demonstrate knowledge of when a patient should be transfused with blood products in urgent and non-urgent situations with adequate knowledge of transfusion complications to assist a patient in informed consent.
11. Demonstrate application of principles of cerebral resuscitation in the care of a patient with postoperative intracranial hypertension.
12. Demonstrate empathy for ICU patients by understanding their particular vulnerability and aspects of suffering inherent in their experience in the ICU.
13. Develop rapport with a patient's family with consideration of their cultural and spiritual needs, to facilitate a difficult discussion such as required to determine code status or withdraw life support.
14. Apply ethical principles in end-of-life decisions including: autonomy of the compromised patient, appropriate surrogacy, determination of futility, and the doctor's rights in relation to non-maleficence.
15. Critically appraise a journal article regarding the efficacy of an ICU therapy. Develop an appreciation of the level of evidence for common ICU practices to inform clinical decision-making.
16. Present a topic in critical care medicine incorporating a patient case history and entailing an effective review and critical appraisal of the literature.
17. Recognize the upstream social determinants of critical illness.
18. Identify the signs of burnout in yourself or a colleague and enlist appropriate assistance.
19. Be able to apply methods of improving your happiness and personal reliance.
20. To provide inclusive, excellent care to each individual patient, with respect for and without discrimination against patients with diverse race, nationality, culture, religion, socio-economic status, and personal choices (see [OEDI definition for Inclusive Excellence](#)).

Selective Requirements

Attendance Requirements

All selective experiences are mandatory, and any absence must be recorded via the absence tracking system. To submit an absence request, please use [Formsite](#). Excused absences will be remediated as deemed appropriate by the selective director. Please see section B for the University of Arizona College of Medicine - Phoenix (COM-P) attendance policies.

The student's clinical work schedule will be determined by the site director. This schedule can be expected to comprise 6 shifts per week on average, allowing one day off per week. Shifts may include weekends and night float at some sites.

Students are encouraged to communicate early with their site director (and with the selective director if necessary) to ensure that arrangements can be made to remediate any absences prior to the end of the selective rotation. Failure to do so will result in a grade of Incomplete until the absence(s) are fully remediated.

Remember that clinical duty hours, orientation, and academic half-days are combined when determining overall duty hours, which cannot exceed an average of 80 hours per week. Contact the critical care director immediately if compliance with this requirement is in jeopardy.

Orientation and academic half-days: attendance is mandatory unless the student has been excused after discussing with the critical care director or program coordinator a minimum of 48 hours ahead of time. Absences from orientation or academic half-days must be made up. Contact the program coordinator for make-up information.

- *Orientation: First Thursday of rotation, 8:00 a.m.-12:00 p.m.*
- *Academic half-day: All other Thursdays of the rotation, 1:00 p.m.-5:00p.m.*

Required/Recommended Reading and Resources

Required:

1. *SCCM Online Modules:* Virtual critical care rounds are provided through the Society for Critical Care Medicine (SCCM) website. Students are expected to complete all modules in either the VCCR Adult I or VCCR Pediatric II series based on the critical care rotation they are in. Each student will be provided with a login and password for both series. The ICU orientation (found in the VCCR adult series) should be completed prior to the rotation by all students.
 - a. **Adult Modules:** Complete all 20 plus the double starred (**) module Peds TBI.
 - i. Virtual Critical Care Rounds I Pre-Test
 - ii. Advanced Cardiovascular Life Support (ACLS) and the Rapid Response Team (RRT)
 - iii. Airway Assessment and Management
 - iv. Antibiotics in the ICU
 - v. Arrhythmias
 - vi. Basic Mechanical Ventilation #1 **
 - vii. Burns Management
 - viii. Critical Care Aspects of Hepatic Failure
 - ix. Critical Care for Older Adults
 - x. Electrolytes
 - xi. Healthcare-associated Infectious Diseases
 - xii. ICU Orientation**
 - xiii. Medical Errors
 - xiv. Organ Donation
 - xv. Palliative Care in the ICU**
 - xvi. Pharmacology and Pharmacokinetics**
 - xvii. Shock
 - xviii. Transfusion Medicine in the ICU**
 - xix. Trauma Script
 - xx. Virtual Critical Care Rounds I Post-Test
 - b. **Pediatric Modules:** Complete all 15 plus the 5-double starred (**) modules in Adult Modules.
 - i. Virtual Critical Care Rounds Pediatric II Pre-Test
 - ii. Cardiovascular Medications
 - iii. Arrhythmias
 - iv. Shock: Assessment and Therapy
 - v. Sickle Cell Disease
 - vi. Acute Liver Failure

- vii. Diabetic Ketoacidosis
 - viii. Status Epilepticus in Pediatrics
 - ix. Traumatic Brain Injury**
 - x. Acute Kidney Injury in Children
 - xi. Pediatric Acute Respiratory Distress Syndrome
 - xii. Acute Severe Asthma
 - xiii. Toxicology
 - xiv. Oncologic Emergencies in the Pediatric Intensive Care Unit
 - xv. Virtual Critical Care Rounds Pediatric II Post-Test
2. [NEJM resident 360° section on mechanical ventilation](#)
 3. *NEJM procedural videos:*
 - a. [US guided internal jugular vein cannulation](#)
 - b. [Endotracheal intubation](#)
 4. *Users guides to the medical literature - Journal of the American Medical Association (JAMA) provided*

Recommended:

Review all the articles in the PDF archive, which includes classic articles that guide our management of shock, acute respiratory failure and other central clinical issues in the ICU. The selective coordinator will provide students access to this folder by email at the start of the selective.

Didactic/Interactive Learning/Simulation Sessions (Schedule)

(See appendix for selected simulation objectives)

Week 1 (In Simulation Center)

- [Introduction to Critical Care Medicine](#) (Case-based discussion): goals of ICU care, vulnerability/ suffering of the ICU patient and family, ICU complications, family communication, teamwork and burn-out.
- [ICU Pharmacology](#) (Case-based discussion): clinical use of sedation drugs, vasopressors, and antibiotics; Life-threatening adverse drug events.
- [Mechanical Ventilation](#) (on campus, hands-on workshop): how a ventilator works, terminology describing ventilator modes, evidence-base related to the selection of ventilator modes). This session utilizes an online ventilator simulator. [PREPARATORY ASSIGNMENT: Students should view the “NEJM Resident 360° section on [mechanical ventilation](#)]
- [ICU Procedures](#) (on campus, hands-on instruction): bag-masking, endotracheal intubation, US-guided R IJ central venous line insertion. [PREPARATORY ASSIGNMENT: Students should view the NEJM videos on US-guided [central line placement](#) and [intubation](#)]
- [Septic Shock](#) (on campus simulation): COVID-19 infection control procedures, definition of septic shock, clinical determination of the cause of shock using point of care ultrasound and other methods, antibiotic selection and administration, sepsis bundle, source control, oxygen delivery devices, indications for mechanical ventilation.
- [Multi-system Organ Failure](#) (on campus simulation): Management of ARDS, acute renal failure, and delirium, management of a pulseless electrical activity code arrest, iatrogenic complications of ICU drugs and other interventions.
- [Intracranial Hypertension](#) (on campus simulation): cerebral perfusion pressure and cerebral autoregulation, intracranial pseudo-compliance, ventriculostomy, causes of acute intracranial hypertension, treatment of intracranial hypertension), definition and treatment of status epilepticus.

Week 2 (In Simulation Center)

- [Medical Ethics](#) (Case-based discussion): autonomy of the compromised patient, futility, surrogacy, the doctor’s right to refuse to provide non-beneficial treatments, honoring cultural values, discrimination in the medical profession). [PREPARATORY ASSIGNMENT: Students should complete a reflective writing assignment and turn it in to CC program coordinator by the end of Week Two of the rotation (Sunday at 11:59pm). This should be at least one side of one page and should describe an event that occurred during the month that affected the student

emotionally – whether it made them angry, happy, frustrated, guilty – it’s up to the student. Students should pick an event they are willing to discuss during the session.]

- Family Care and Communication in the ICU (on campus simulation): DNR discussion, withdrawal of support, cultural aspects of rapport and communication, spiritual care, ethical consideration of surrogate end-of-life decisions, futility, patient suffering, communication, compassion, and empathy.
- Life-threatening Hemorrhage (on campus simulation): basic principles of treating life-threatening medical and surgical hemorrhage, when to give hemostatic agents, platelets and FFP, role of hemoglobin in oxygen delivery, when to use the massive transfusion protocol).

Week 3 (Virtual)

- Shock Resuscitation (case-based discussion): types of shock, oxygen delivery /consumption, lactic acidosis, fluid resuscitation, vasopressors, inotropes. This session includes a focus on the use of point-of-care ultrasonography in the evaluation of shock.
- On-call Emergencies (virtual simulation): individual medical students will deal with a series of bedside emergencies including pediatric and adult sepsis, chest pain, seizure in pregnancy, sudden cardiorespiratory deterioration while receiving mechanical ventilation, ventricular arrhythmia, and life-threatening adverse drug events.
- Critical Appraisal of Literature in the ICU (Students present articles they were assigned - Group discussion). Understand the level of evidence for common ICU practices and how to use the JAMA User’s Guides to the Medical Literature. [PREPARATORY ASSIGNMENT: Students will work in teams before the session critically appraising and integrating the articles they are assigned to answer specific questions. Team assignments, articles, questions and the “User’s guides to the medical literature” will be provided to the students prior to the session]
- Personal Resilience in the ICU (Case-based discussion): personal and environmental factors associated with burn-out, complications of burn-out, developing personal resilience. [PREPARATORY ASSIGNMENT: Students should complete and score the Maslach burnout inventory (which will be provided by email) and have it with them during the discussion and read the provided article].

Week 4 (Virtual)

- Clinical Topic Presentations by students. [PREPARATORY ASSIGNMENT: Prepare a PowerPoint case-presentation. This will be discussed during orientation and an example will be shared. The presentation should be based on a patient that the student took care of during the month. It should be about 15 minutes long, approximately 20 PowerPoint slides. It should describe the presentation, treatment and course of the patient, then focus on teaching important aspects of diagnosis, treatment or other aspects of the case that the student thought were the most important teaching points. Students are encouraged to make their presentations interactive and interesting – with an aim of teaching a short list of take-home points in such a way that the audience of other students will remember]
- Feedback on the rotation

Required Clinical Experiences: Procedures and Diagnoses (Px/Dx) Log

Below is a list of Px/Dx commonly encountered on the Critical Care Selective, as well as an associated theme to reflect upon. All students are required to log each Px and Dx during the Critical Care Selective timeframe.

Required Procedures	Clinical Setting	Level of Responsibility	Alternative Experience	Associated Theme
ABG Interpretation	Inpatient	Observe and Discuss	ABG Interpretation	Evidence-Based Medicine
Arterial line placement	Inpatient	Observe and Discuss	NEJM Videos in Clinical Medicine - Arterial Line Placement	Evidence-Based Medicine
Assessment of coagulopathy	Inpatient	Observe and Discuss	Hemostasis	Evidence-Based Medicine

Central venous line placement	Inpatient	Observe and Discuss	NEJM Videos in Clinical Medicine - Central Venous Access	Evidence-Based Medicine
Chest x-ray interpretation	Inpatient	Observe and Discuss	Complete tutorial: Here	Evidence-Based Medicine
ECG interpretation	Inpatient	Observe and Discuss	Complete tutorial: Here	Evidence-Based Medicine
Endotracheal intubation	Inpatient	Observe and Discuss	NEJM Videos in Clinical Medicine - Endotracheal Intubation	Evidence-Based Medicine
Management of arrhythmias	Inpatient	Observe and Discuss	Watch video: Here	Evidence-Based Medicine
Management of elevated intracranial pressure	Inpatient	Observe and Discuss	Participate in the neurological ICU simulation	Evidence-Based Medicine
Management of mechanical ventilation	Inpatient	Observe and Discuss	Clinical cases in mechanical ventilation online	Evidence-Based Medicine
Obtain informed consent	Inpatient	Observe and Discuss	UpToDate: Informed Consent	Behavioral and Social Sciences
Thoracentesis/Thoracostomy	Inpatient	Observe and Discuss	NEJM Videos in Clinical Medicine - Thoracentesis	Evidence-Based Medicine
Transfusion of blood products	Inpatient	Observe and Discuss	Participate in the transfusion simulation.	Evidence-Based Medicine

Required Diagnosis	Clinical Setting	Level of Responsibility	Alternative Experience	Associated Theme
Acute kidney injury	Inpatient	Observe and Discuss	Acute kidney injury	Evidence-Based Medicine
Delirium	Inpatient	Observe and Discuss	Read “Delirium and acute confusional states: Prevention, treatment, and prognosis” in UTDOL	Evidence-Based Medicine
Electrolyte derangements	Inpatient	Observe and Discuss	Review ILM by Dr. Brigham Willis (posted to course website)	Evidence-Based Medicine
End-of-life planning	Inpatient	Observe and Discuss	Participate in the ethics discussion session	Ethics
Ethical dilemmas in the ICU	Inpatient	Observe and Discuss	Participate in the ethics discussion session	Ethics
Good communication and professional rapport with a patient/family of a different cultural background than your own	Inpatient	Observe and Discuss	Participate in the family communication simulation	Behavioral and Social Sciences

Nursing care of ICU patients	Inpatient	Observe and Discuss	N/A, students are required to have a significant interaction with the nurses during a nursing-day or another equivalent experience	Interpersonal Education
Prevention of healthcare associated infection	Inpatient	Observe and Discuss	Read: "Infections and antimicrobial resistance in the intensive care unit: Epidemiology and prevention" in Up-to-Date online	Public Health, Prevention and Health Promotion
Don and duff personal protective equipment properly before entering the room of a patient with COVID19 infection	Inpatient	Observe and Discuss	Participate in the septic shock and MSOF simulations	Public Health, Prevention and Health Promotion
Respiratory failure	Inpatient	Observe and Discuss	Respiratory Failure (watch all parts of the video)	Evidence-Based Medicine
Sepsis	Inpatient	Observe and Discuss	Participate in the septic shock simulation.	Evidence-Based Medicine
Shock	Inpatient	Observe and Discuss	Participate in the case-based learning session on shock, and the simulation on septic shock.	Evidence-Based Medicine
Social determinants of health (upstream causes of critical illness)	Inpatient	Observe and Discuss	Watch video: Surgeon General addresses the AMA	Health Equity

Px/Dx Alternative Experiences (Only Applicable to Critical Care)

Students are expected to meet the required clinical experiences and procedures listed in the table above by the end of the Critical Care Selective. If a required Px or Dx is not encountered during the selective, the student will remedy the deficiency by completing the alternative experience utilizing the process below:

1. The student is responsible for monitoring their Px/Dx log and communicating their progress and learning goals with supervising faculty throughout each selective. This will allow for proactive attainment of these required encounters. If an alternative experience is needed for a procedure or diagnosis, the student must notify the selective director or designee a minimum of seven days prior to the end of the selective.
2. The selective director will assign an alternative experience/requirement to be completed.
3. Once the alternative experience/requirement is completed, it will be logged in OASIS by selecting the type of *Patient Encounter* in the drop-down menu.

Please see section B for information related to Px/Dx compliance.

Observable Learning Activities/Other Requirements

Non-Clinical Score (104 points)

The selective grading calculator is posted in [one45](#) for assistance calculating the final grade.

Activity	Potential Value
Small Group Sessions - If assessment is satisfactory (all responses are "yes" or "not applicable" on the small group facilitator form) 4 points are earned for each of 14 sessions.	56 points

Online modules - through Virtual Critical Care Rounds (21 Adult or 20 Pediatric modules)	100% completion: 23 points 80%-99% completion: 15 points <80% completion: 0 points
Final Presentation (see grading rubric below)	25 points

Final Presentation Grading Rubric

Categories	Standard	Points
Content	Interesting topic covered in appropriate depth, evidence-based.	0-5
Organization	Structure and timing of the talk is logical and easy to follow.	0-5
Patient case	Concise but including all pertinent features, clear that the student understands the care the patient received.	0-5
Presentation	No technical glitches due to lack of preparation. Slides are simple and clear. Speaker interacts with the audience and keeps them interested.	0-5
Questions	Mastery of topic and clinical case is apparent.	0-5

Selective Specific Assessment Process

Mid-Selective Formative Assessment

Assessment is the mechanism used to measure progress in learning over a given time. A mid-rotation formative assessment with feedback is strongly suggested for every student. Student progress, achievements, strengths, weaknesses, and areas for improvement should be discussed. If at any point during the selective the student is at risk of not meeting expectations in one or more of the Educational Program Objectives (EPOs), in-person formative feedback with written documentation is required. Any significant deficiencies or concerns should be communicated to the course* director and selective director as soon as they are identified, with written documentation that the feedback has been provided to the student. If deficiencies are noted late in the selective, timely feedback will be given. Students may be offered additional assignments to address weaknesses as approved by the course director and selective director. The Office of Student Affairs will be notified of any deficiencies or failures.

Additionally, throughout the selective, faculty and residents engaged in student teaching and supervision will provide formative feedback in a variety of formats (e.g., review of progress notes, H&P, direct observation forms, informal verbal feedback, and written narratives, etc.) that may be communicated in writing or verbally. The purpose of this feedback is to identify strengths and opportunities for improvement. Students should proactively request formative feedback on a regular basis and the required frequency for written formative feedback is outlined in the selective specific section of each syllabus.

Summative Clinical Assessment

Significant interaction in the Critical Care Selective is defined as working together on the clinical service for at least five days. Attending physicians (with faculty title) can complete an end-of-rotation (EOR) assessment form. In the instance that only one EOR assessment is submitted, it will need to be a collaborative assessment from the preceptors who had significant interaction with the student. When only a single faculty member has been assigned to work with a student, this faculty member must provide the assessment for the student. The selective EOR assessment form is distributed through [one45](#).

Students are graded on four evaluation criteria for these EPOs:

- Does not meet expectations
- Almost meets expectations
- Meets expectations
- Exceeds expectations

The grading is four tiers: Honors/High Pass/Pass/Fail.

Calculating the Final Grade

Final grade determinations will be made using the table below:

CLINICAL GRADE	NON-CLINICAL GRADE	FINAL GRADE
Honors	Pass	Honors
High Pass	Pass	High Pass
Pass	Pass	Pass
Honors or High Pass or Pass	Fail	Fail
Fail	Pass or Fail	Fail

The student fails the selective if any of the following occur:

1. The clinical and/or non-clinical grade is Fail
2. Receive a final “does not meet” on two or more different EPOs*
3. Achievement of a score of less than 70% from the “non-clinical” / required activities

*For the purpose of assessment in the clinical years, an individual EPO rating of “Almost Meets Expectations” (previously a “Level 1.5”) will not trigger the ramifications or follow up of a “Does Not Meet Expectations” rating be considered (previously a “Level 1”) as defined in the [Competency Assessment Policy](#).

Additional Selective Information

Selective Requirements

1. Completion of assigned site, faculty and end of the selective evaluations (see the [Assessment and Evaluation of Students, Faculty and Curriculum Policy](#)).
2. Online SCCM Modules
3. Reflective writing assignment
4. Participation in all on-campus sessions, or completion of approved make-up activities
5. Final Presentation

Helpful Tips

- The best way to learn ICU is by seeing things happen in the ICU. Spend as much time as you can in the unit and volunteer to see as many patients, do as many procedures, talk to as many families as you can. The more you do, the more you will learn. If nothing is going on in the ICU, stay there to do your reading – you never know – the code bells could go off 5 (five) minutes later, giving you an opportunity to participate. If an echo tech is in your patient’s room doing a study, enter the room, introduce yourself and ask them questions. Same for line team, and respiratory techs and nurses - they can all teach you.
- Keep up with the selective assignments; do not leave them all for the end.
- Working well with nurses is an essential skill in the ICU. Nursing day is a recommended experience. Ask your site director to arrange for you to spend a day with an experienced nurse in the ICU and get an idea what the nurses do – you might learn how to hang meds, operate intravenous infusion pumps, place a foley, place a feeding tube, and many other useful skills that will help you appreciate and work well together with nurses.

Simulation Appendix: Simulation Objectives

Mechanical Ventilation Demonstration

- Understand how a ventilator triggers and cycles (starts and stops inspiration).
- Understand the difference between volume control and pressure control.
- Be able to rationally change ventilator settings in response to hypoxia and hypercarbia.
- Operationally define/recognize ARDS.
- Be able to order low tidal volume/low plateau pressure ventilator settings for a patient with ARDS.
- Be able to avoid auto-peep in a patient with asthma requiring mechanical ventilation.

Septic Shock (due to COVID-19) Simulation

- Don/duff COVID-19 personal protective equipment effectively.
- Operationally define/recognize sepsis and septic shock.
- Determine the cause of shock using history, physical examination, and point of care ultrasound.
- Order the six elements of the sepsis bundle.
- Properly order oxygen delivery devices.
- Recognize a patient that requires mechanical ventilation.

Multi-system Organ Failure (due to COVID-19) Simulation

- Recognize ARDS and provide low tidal volume, limited plateau pressure mechanical ventilation.
- Recognize and manage forms of ventilator-associated barotrauma.
- Recognize and manage life-threatening complications of acute renal failure.
- Resuscitate a patient in PEA arrest.
- Use point-of-care ultrasonography in the ICU to identify treatable causes of shock.
- Recognize adverse neurological and hemodynamic effects of drug therapy in the ICU.
- Take personal responsibility for end-of-life decisions regarding your patients.

Neurocritical Care Simulation

- Recognize and treat status epilepticus.
- Apply understanding of cerebral perfusion pressure, the principle of Monro-Kellie, intra-cranial pseudo-compliance and cerebral autoregulation to clinical management.
- Position a patient's head/torso appropriately to measure intracranial pressure using an extradural ventricular device.
- Apply five therapies to ameliorate acute intracranial hypertension.

Family Communication Simulation

- Be able to identify the legal surrogate decision-maker for a patient who cannot speak for themselves and lacks a MPOA.
- Apply a step-approach to effectively and compassionately deliver bad news to a patient's family.
- Respect cultural beliefs of patients and their families in end-of-life decisions.
- Explore the role of spiritual care at the end of life for patients of diverse faiths.
- Define futility.
- Consider difficult end-of-life decisions in an ethical framework.

Life-threatening Hemorrhage Simulation

- Apply the "Hs & Ts" acronym in a pulseless electrical activity (PEA) arrest.
- Recognize life-threatening hemorrhage.
- Manage logistics of resuscitating a patient who is bleeding to death.
- Appropriately consult to achieve source control of bleeding.
- Loosen a tourniquet appropriately.
- Apply a FAST exam as part of the work up of a trauma patient.
- Order hemostatic medications and agents that reverse anti-thrombotic drugs appropriately.
- Apply the principle of permissive hypotension in a trauma patient.

- Order balanced (6:6:1) transfusion and massive transfusion protocol appropriately.

Shock Resuscitation (case-based discussion)

- Recognize and classify shock (distributive, cardiogenic, obstructive and hemorrhagic) when it is encountered clinically.
- Use point of care ultrasonography to explore the differential diagnosis of shock.
- Clinically apply principles of oxygen delivery and consumption.
- Resuscitate children and adults with IVF fluids and vasopressors/inotropes.

Section B – Selective Policy and Resources

General Information

Prerequisites: All students must successfully pass all 3rd Year courses* to progress to the 4th Year. Link to policy: [Credit Requirement Years 3 and 4 Policy](#)

Students are responsible for their own transportation to and from, and parking fees at clinical sites as indicated in the [Clinical Site Placement and Transportation Policy](#).

Learning Environment Office

The [Learning Environment Office](#) (LEO) provides guidance, support, and information to students on professionalism issues and challenges they may face in the learning environment. The LEO supports students in the development of strong, positive professional practices with peers, faculty, patients and the broader community through effective communication and conflict management.

- Professionalism concerns may be reported directly to the course* director, the LEO liaisons or in the student evaluations of the clerkship, site, and faculty, which links to the LEO form.
- The [Learning Environment Feedback Form](#) is an online mechanism for students to report any concerns, including those about supervision, across the four-year curriculum. This mechanism ensures confidentiality and is collected directly by the LEO and allows the student to track their report through the process to action.
- A professionalism lanyard card with a LEO QR code for direct, real-time reporting of exemplary examples of professionalism or concerning professionalism/mistreatment behaviors has been distributed to each student.



The University of Arizona College of Medicine – Phoenix (COM-P) is committed to creating and maintaining an environment free of discrimination, harassment, and retaliation that is unlawful or prohibited by university policy. Please see the [Reporting Mistreatment or Harassment of Medical Students Policy](#), the [Anti-Harassment and Nondiscrimination Policy](#) and the [Professionalism Policy](#) for additional information. In addition, professional attributes are expected of all students. These attributes are within the [Teacher Learner Compact Policy](#).

Website and contact information for the Learning Environment Office can be located [here](#).

Educational Program Objectives

The Educational Program Objectives (EPO) comprise competencies and the measurable objectives by which attainment of each competency can be assessed. The full text of the COM-P educational program objectives can be accessed in the [Educational Program Objectives Policy](#) and requires dissemination as noted in the [Orientation to EPOs and Curricular Unit Objectives Policy](#).

In addition to EPOs, the selective objectives are closely tied to student learning outcomes. COM-P measures these outcomes both quantitatively (via National Board of Medical Examiners [NBME] shelf exams) and qualitatively (via behavioral competency assessments).

Attendance Requirements

All selective experiences are mandatory, and any absence must be recorded via the absence tracking system. To submit an absence request, please use [Formsite](#).

All absences will be remediated as deemed appropriate by the selective director and are not to exceed 0.5 days per week on average. Exceptions to this may be considered in consultation with the selective director and the dean, student affairs/or designee. Please see links to the following policies:

- [Years 3 and 4 Attendance and Absence Policy](#)
- [Leave of Absence Policy](#)

Required Clinical Experiences: Procedures and Diagnoses (Px/Dx) Log (Only Applicable to Critical Care)

COM-P in accordance with the [Core Clinical Skills Observation Policy](#), monitors and tracks the types of patients and clinical conditions that medical students must encounter, so as to remedy any identified gaps in patients, Px, or Dx across clinical sites. Details of supervision expectations for student clinical encounters can be reviewed in the [Faculty Supervision of Medical Students in Clinical Learning Situations Policy](#) and the [Faculty Supervision of Sensitive Physical Examination Policy](#). Procedures and clinical conditions will be recorded in the student's Px/Dx log and reviewed with the site or selective director at the mid-selective and end of selective review.

Across the fourth year, students must encounter the following clinical conditions, Dx, and Px at the indicated level of student responsibility. Levels of student responsibility include the following:

1. **Observe and Discuss:** this includes observing the key elements of care (e.g., physical exam, procedure, etc.) as they are performed by another member of the team and discussing the case, condition, and relevant clinical aspects with the team.
2. **Actively Participate in Care:** this includes observing and discussing, but also indicates increased active responsibility for the patient, such as performing a physical exam and workup, entering progress notes or history and physicals (H&Ps), presenting the patient on rounds, scrubbing into a case, and/or counseling or discussing prevention with the patient.
3. **Perform Procedure:** this includes actively participating in care and is additionally defined as the student performing the procedure with supervision.

To best prepare you for your future career in medicine, the following scaffolding outlines the minimum understanding of each Dx and each Px. In the spirit of self-directed learning, your approach to mastery of each component is up to you.

List for each Px:

1. Explain the anatomy and pathophysiology related to the Px
2. Define relevant pharmacology to the Px
3. Summarize the informed consent process (including risks, benefits, indications, and alternatives) for the Px
4. Compare associated imaging modalities for the Px
5. Analyze potential complications and prevention or management strategies for the Px
6. Understand post procedural care, patient education, and anticipatory guidance for the Px
7. THEME: Reflect upon the assigned theme objective related to Px

List for each Dx:

1. Define the key epidemiological characteristics of Dx
2. List the risk factors for acquiring Dx
3. Describe the pathophysiology of Dx
4. Create a differential diagnosis algorithm for Dx
5. Develop and initiate an effective treatment plan for Dx
6. Obtain a relevant history and physical examination for Dx
7. THEME: Reflect upon the assigned theme objective related to each Dx

Alternative Experiences

If the student does not encounter all the required clinical experiences as listed on the global Px/Dx list and detailed in each selective syllabus, the student will remedy the deficiency by completing the alternative experience with the appropriate selective director, utilizing the process outlined in the selective specific portion of the syllabus.

Assessment Process Additional Information

Formative Assessments

Any significant deficiencies or concerns should be communicated by the faculty to the selective and/or site director with written documentation that the feedback has been provided to the student. If deficiencies or problematic issues are noted late in the selective, timely feedback will be given by an assessor to offer the student the opportunity to improve. Ideally this should have occurred prior to assigning a score of a “does not meet expectations” on an EPO. The selective director maintains the ability to assign a summative Level 1 for an egregious action even late in a selective.

Summative Assessment

COM-P has internal deadlines for the summative assessment forms to ensure the LCME 6-week requirement is met. The EOR form is to be completed by the faculty within two weeks of the rotation ending. This will allow for selective directors to complete the final grades as close to the four-week mark as possible. All EOR assessment forms and the selective final grade form can be viewed by students in one45 six weeks after the end of the selective according to the [Final Grades Reporting Timeline Policy](#).

What to do if an assessor is not listed in one45 or MyTIPReport

Contact the COM-P coordinator, (PBC-Evaluation@arizona.edu) and selective director.

Conflict of Interest

It should be noted that faculty at the COM-P who are family members of the student, have a personal relationship with the student, or are/have been health service providers of the student, may not be involved in the academic assessment or promotion of the medical student as described in the [Conflict of Interest - Physician - Student Personal Relationship Policy](#) and the [Conflict of Interest - Physician-student Health Services Relationship Policy](#).

Standardized Grading Process

The final selective grade will be determined by the selective director using the composite score (comprised of clinical score, exam score, “non-clinical” score) and additional criteria for grading approved by the Curriculum Committee (explained further in the “calculating the final grade” section below). The final selective grade will be divided into four categories: Honors, High Pass, Pass, or Fail (H, HP, P, F). Details regarding grading in the selective are included in the [Grading and Progression for Clerkships and Selectives Policy](#).

Calculating the Final Grade

See the selective specific portion of the syllabus.

Narrative Feedback

The selective final grade form includes two separate areas which include narrative feedback. The first area includes formative comments from the EOR forms, the second includes formalized summative comments which will be included in the Dean’s Letter (Medical Student Performance Evaluation [MSPE]). The summative final comments are generally not a direct “cut and paste” but rather a sample summary determined by the selective director. The selective director has the discretion to include or not include comments based on their interpretation of which best summarize the student’s performance over the entirety of the selective. Students are not permitted to select specific comments to be included or excluded in their narrative grade form. Students do not grade or summarize their own performance. Any concerns regarding narrative comments may be addressed to the selective director, dean clinical curriculum, or dean, student affairs/or designees (see the [Student Progress Committee Procedures and Process for Dismissal Policy](#) for more information).

Required Student Evaluation

Assigned student evaluation of the selective sites, and didactics is required. The student must complete evaluations online in the required time frame. All comments will be expected to model constructive feedback using the W3 model and must contain references and comments to specific behaviors and/or events (positive or negative).

If the student does not complete the required assigned evaluations within one week after the end of the selective, the student will be assigned a formative Level 1 for the EPO targeting giving and receiving constructive feedback and will be required to submit the missing evaluation data in narrative form within the second week after the selective.

Once the student has successfully submitted their evaluation in narrative form within the second week after the selective the student will have successfully demonstrated meeting expectations in professionalism.

If the student has not successfully submitted their evaluation in narrative form within the second week after the selective the student will be considered as having not met expectations and a summative Level 1 rating for the EPO targeting giving and receiving constructive feedback, will be automatically assigned. The Office of Assessments and Evaluation will track this and report to the selective director.

For more information, see the [Assessment and Evaluation of Students, Faculty and Curriculum Policy](#).

Deadline Compliance

The following requirements must be completed as part of the selective requirements.

1. Duty hour logging is due at the end of the rotation by **Sunday at 11:59pm**. See the [Duty Hours Policy](#) for specifics regarding duty hour limits, documentation of hours, and a FAQ section.
2. Required procedure/diagnosis (Px/Dx) logging is due at the end of the rotation by **Sunday at 11:59pm**.

NOTE

- **A formative Level 1** will be given if the duty hour or Px/Dx log requirement is not completed by the end of the rotation **Sunday at 11:59pm**. The student will have until Tuesday at 11:59pm following the conclusion of the selective to remediate the duty hour or Px/Dx logging requirement. All logs must be completed accurately.
 - **A summative Level 1** will be given for any failure to properly complete the duty hour or Px/Dx log requirement by **Tuesday at 11:59pm** following the completion of the selective. **A grade of Incomplete** will be given until requirements are met. All logs must be completed accurately.
 - The Level 1 will be on a single professionalism EPO related to accountability. Compliance with these deadlines will be determined by the clinical and competency based education (CCBE) team and reported to the Office of Assessment and Evaluation.
 - A summative Level 1 will be taken into account as part of a comprehensive assessment and final grade. All summative, or “final,” Level 1 ratings are tracked by the Office of Assessment and Evaluation in collaboration with the Office of Student Affairs. Cumulative level ratings are retained throughout the student’s enrollment. See [Competency Assessment Policy](#).
3. Completion of the mid-selective feedback forms (PRIME+) (see the [Competency Assessment Policy](#)).
 4. Completion of assigned site, faculty, and end of the selective evaluations (see the [Assessment and Evaluation of Students, Faculty and Curriculum Policy](#)).

Additional Resources

Rural Health Professions Program

Students scheduled for rural rotations must complete required documents and attend a rural rotation orientation.

Housing expenses are supported by the rural health professions program (RHPP) and funded by [Arizona Area Health Education Centers](#) (AzaHEC). Students are responsible for damages and incidental charges. Housing options vary depending on rotation location. In most cases, it is pre-arranged by RHPP staff, in others, the preceptor or health center hosting the student provides housing (occasionally in the home of the faculty). Occasionally, students are asked to make their own arrangements. Housing options, at times, are limited and may require sharing common areas and bathrooms with other students. Individualized accommodation requests cannot be guaranteed; therefore flexibility and a resilient attitude is key to having a great experience. Once housing has been secured, changes are generally not allowed less than six weeks prior to

the rotation. In addition to housing, AzAHEC also funds one round trip to and from the rural site and a small stipend applied to the student's bursar's account.

Contact Information: Director, RHPP - Jonathan Cartsonis, MD
Email: jcartsonis@arizona.edu, Phone: 602-684-0598

Urgent/Emergent Health Care Services

On-Campus and in the Immediate Phoenix Area

Students can access the list of local healthcare services on the [COM-P website](#). Students are given a rectangular card that contains a list of emergency contact numbers and local healthcare service addresses and phone numbers. This card is placed in their identification holder along with their COM-P identification to allow easy access to healthcare information while at instructional sites. All information is accessible on the wellness website at wellness.arizona.edu.

For a list of emergency contact numbers please visit the COM-P website at the following link: [Security - Emergency Numbers](#).

All sites are assessed for student safety. Details of this assessment are included in the [Training Site Safety Policy](#).

Faculty shall not provide health services for students if they are directly involved in the assessment of the students; however, in the event of an emergency, faculty should perform services to stabilize a student until the appropriate transfer of care can occur. Please see the [Conflict of Interest - Physician-Student Health Services Relationship Policy](#).

COM-P requires that all students have an updated immunization record. Please see the [Immunization and Health Screening Policy](#) for details regarding the contents of the record.

In the event of any exposure to blood/bodily fluids through needle stick, inhalation, mucus membrane or skin exposure, or percutaneously, students must follow the required procedures as indicated in the [Student Exposure to Potentially Infectious Agents and/or Hazardous Materials Policy](#), with steps on the student occupational exposure procedure card.

Expectations for Mobile Communication

The student must always be reachable during usual extended work and on-call hours, and if in a clinical setting, the student should respond within 15 minutes. Most students opt to provide their mobile number for texts; however, the pager and/or voice capability of the cell phone must be functional and available i.e., on the student's person for calls/pages daily. Not responding to calls or pages will be viewed as a deficit in *interpersonal skills and communication*, as well as *professionalism*. This may be reflected in the student's overall assessment (grade). Students who are unable or unwilling to utilize their personal mobile device while in their clinical rotation should reach out to the associate dean of student affairs to discuss alternatives.

Accessibility and Accommodations

The University of Arizona strives to make learning experiences as accessible as possible. If there is anticipation or experience of barriers based on disability or pregnancy, please contact the disability resource center (520-621-3268, <https://drc.arizona.edu/>) to establish reasonable accommodations.

one45: Curriculum Management System

one45 is the curricular management system used to manage evaluations, EOR assessments, final grade forms, and to access learning materials and schedules. General information about the selective rotations, such as syllabi, site information, learning objectives, materials for didactic sessions, links, etc. will be attached as handouts to each selective "course" under handouts and links within one45. one45 can be accessed at the web address: [one45](#)

Assessments are collected via one45, and automatic emails are sent to attendings with instructions and reminders to complete. A list of pending and completed assessments can be reviewed in one45, if applicable. Students will use OASIS to

log observed Px/Dx at clinical sites. Students can use their smartphones to make log entries on-the-go, if allowed by site policy where the student is rotating.

OASIS: Course Schedule

COM-P uses a web-based scheduling system, OASIS. OASIS maintains site information, student schedules, course catalog, and various other details that are pertinent to the clinical rotations. OASIS has detailed, up to the minute course information, and allows students to request schedule changes. All students will use this resource for any scheduling purpose throughout their 3rd and 4th year of clinical rotations. OASIS can be accessed on the web address: [OASIS](#)

myTIPReport Formative Assessment Application (Only Applicable to Critical Care)

myTIPReport is an application (app) that COM-P uses to collect formative assessments and EOR student self-assessment/reflection for the selective rotations. myTIPReport can be accessed via the app and at the web address: [myTIPReport](#)

Automatic emails are sent to assessing faculty, fellows, or residents with instructions and reminders to complete. A list of pending and completed assessments can be reviewed in myTIPReport.

Student Use of University Sponsored Educational Material

Statement of copyrighted materials: All lecture notes, lectures, study guides and other course materials (besides the required reading) disseminated by the instructor to the students, whether in class or online, are original materials and reflect the intellectual property of the instructor or author of those works. All readings, study guides, lecture notes and handouts are intended for individual use by students. These materials may not be distributed or reproduced for commercial purposes without the express consent of the instructor. Students who sell or distribute these materials for any use other than their own are in violation of the [Arizona Board of Regents Intellectual Property Policy](#). Violations of the instructors' copyright may result in course sanctions and violate the Code of Academic Integrity.

Use of Video Recordings of Students

Recordings of certain simulation activities, by the University of Arizona College of Medicine-Phoenix, for the purposes of academic assessment are required and students may not opt-out. These videos and/or audio recordings are a part of the educational record, and subject to the privacy provisions under the Family Educational Rights and Privacy Act (FERPA). If you have questions regarding the video recording of classroom simulations, please contact the Office of Clinical Curriculum for Years 3 and 4.

Student Code of Conduct

Medical students are required to follow the policies and codes of conduct governing all students at the University of Arizona. In addition, medical students are also bound by the COM-P [Code of Conduct and Procedures for the Honor Code](#) Committee.

COM-P recognizes the existence of generative artificial intelligence (AI) tools (e.g., ChatGPT & Grammarly) and the educational benefits they can provide when used ethically. It is imperative any use of generative AI is appropriately disclosed and referenced (e.g., APA, Chicago, MLA). Use of generative AI without citation is considered a form of plagiarism and therefore a breach of Academic Integrity. Students are advised to review assignment instructions for specific guidelines concerning the use of generative AI.

COM-P requires medical students to abide by the professional standards required of physicians under Arizona law students must also abide by A.R.S 32-1401, et.seq. which can be accessed at: <http://www.azleg.gov/arsDetail/?title=32>