

**Guidelines for curriculum development -
Pre-clerkship – Molecular and Cellular Medicine; Integrated Core
Systems**

The Pre-Clerkship Curriculum consists of the following courses:

- Cells to Society
- Clinical Performance Development (CPD)
- Social Issues in Medicine (SIM)
- Molecular and Cellular Medicine (MCM)
- Systems Part 1
- Systems Part 2

The following procedural guidelines and policies inform our design of activities in the Next Generation curriculum for MCM and the organ systems.

Table of Content

I. Overall system design.....	4
i. Structure of weeks and modules.....	4
ii. Scheduling information.....	5
iii. Learning activities.....	6
a. Clinical Faculty compensation for teaching efforts.....	6
b. Types of learning activities.....	7
c. Active Learning	10
d. Student Participation in Educational Activities.....	11
iv. Approval of plans.....	11
v. Monitoring and Revision	12
II. Teaching materials	12
i. Learning objectives	12
ii. Independent Study Resources	12
a. Assigned reading.....	13
b. PowerPoint slides	13
c. Pre-recorded lectures.....	14
d. Session Podcasts	14
iii. Practice questions.....	15
iv. Distribution of teaching materials	16
III. Assessments.....	16
i. Types and Distributions of Assessments	16
a. Summative Assessment.....	16
b. Formative Assessment	17
ii. General guidelines for summative assessment item construction	18
iii. Review of assessments.....	19
a. Prior to the administration of weekend assessments.....	19
b. Following the closing of a weekend assessment.....	19
iv. Administering of assessments	19
a. Scheduling.....	19
b. Location.....	19
c. Challenges.....	19
d. Feedback and review	20
e. Student use of assessment questions.....	20
IV. Communication with students.....	20
V. Role of System Leaders.....	21
i. General Responsibilities of the System Leaders.....	21
ii. Specific Responsibilities of the System Leaders.....	22
VI. Role of thread leaders.....	23
i. General Responsibilities of the Thread Leaders.....	23
ii. Specific Responsibilities of the Thread Leaders.....	23
VII. Role of instructional faculty.....	24
i. Faculty Development.....	24
ii. Faculty Evaluation.....	24
VIII. Links to Student Policies	Error! Bookmark not defined.
IX. Appendixes	25

i. Appendix 1: Policy on the Digital Teaching and Learning Environment.....	25
ii. Appendix 2: X-CREDiT Instructions template.....	29

I. Overall system design

i. Structure of weeks and modules

A System's learning activities must be scheduled from 8:10 am to 12:00 noon, Monday through Friday. Students are expected to devote an average of 30 hours per week preparing for class/studying. The primary purpose of contact time with faculty is to develop critical thinking skills and learn to analyze and evaluate information and apply it in a setting that will benefit patient care and future expansion of medical knowledge. Although foundational knowledge will be acquired during class time a substantial amount of foundational knowledge is expected to be acquired from independent study resources, such that students come to class ready to apply, analyze and/or evaluate information. The provided resources and the class activities will jointly address the knowledge, skills, or behaviors described in the learning objectives of a given session.

As much as possible, each week should have a cohesive theme that builds up the basic science knowledge and progressively affords opportunities to integrate knowledge and apply it in a clinical context. Each period of 3-4 weeks will culminate with a summative assessment (see section III. Assessment and Grading).

The following table lists the duration and number of assessment periods (also referred to in this document as module) for each of the systems:

System	Length in weeks	# of summative assessment periods
Molecular and Cellular Medicine	10	3
Microbes and the Immune System	6	2
Musculoskeletal/Integument System	6	2
Gastrointestinal System	4	1
Mind, Brain and Behavior System	10	3
Cardiovascular System	4	1
Pulmonary System	3	1
Renal System	3	1
Endocrine/Reproductive System	4	1
Hematology System	3	1

The focus of the pre-clerkship curriculum is to acquire basic science knowledge and apply it to clinical problems. Throughout an organ system it is essential to devote sufficient time to the study of normal anatomy, histology and physiology before moving on to pathophysiological processes (note that threads like pathology and radiology should always reference normal, even if that information was previously covered). General principles for anatomy, cell biology and histology, biochemistry, genetics, microbiology, pathology, pharmacology and physiology are taught at different times in the pre-clerkship curriculum and should be referenced and reinforced whenever relevant.

The different organ systems should shape their content as follows*:

10% -15%: General Principles

15%-25%: Normal organ structure and function

40%–50%: Abnormal processes – main focus on understanding mechanisms of disease rather than establishing a diagnosis.

10%–20%: Principles of therapeutics – main focus on the principles rather than patient management

Note that the **content sequence** shown above is also to be followed in the structuring of each system: general principles and normal structure and function should precede abnormal processes and principles of therapeutics.

*Percentages chosen for reference, based on the information provided in the USMLE step 1 and Step 2 CK bulletins.

Step 1: <http://www.usmle.org/bulletin/exam-content/#step1>

Step 2 CK: <http://www.usmle.org/bulletin/exam-content/#step2ck>

ii. Scheduling information

A System's learning activities must be scheduled from 8:10 am to 12:00 noon, Monday through Friday. Three 5-10 minute breaks must be provided per morning. Note that there needs to be a 10-minute gap between recorded events, due to the way in which the Podcasts are captured (see Section II.ii.d. Session Podcasts)

In general, labs must be scheduled during the morning hours and may not be moved into the afternoon schedule without special permission from the Associate Dean for Undergraduate Medical Education. Note that students have Clinical Performance Development (CPD) small groups once a week and that systems are required to maintain a minimum of 3 free afternoons per week for studying. Note that each semester of the first year half of the students will have to complete 30 hours of community service as part of the Social Issues in Medicine course.

There are a number of rooms scheduled for laboratories and small group sessions in the NxGen curriculum. Large group sessions take place in the Medical Education Building, either in the Learning Studio or the Auditorium. From August to December M1 students overlap with M2 students in the use of these teaching spaces. In order to facilitate scheduling there are default room assignments for "first year" and "second year" sessions, as follows:

- "1st years" in Lecture Hall 8:10-10:00 and in Learning Studio 10:10-12:00
- "2nd years" in Learning Studio 8:10-10:00 and in Lecture Hall 10:10-12:00

Systems Leaders may exchange locations of specific sessions by mutual agreement, however:

- The classes may exchange rooms only once each morning
- The minimum session time before a switch can occur is one hour [50 min session]. However, system Leaders may arrange to occupy the same room for all sessions within a given morning.

iii. Learning activities

Learning activities must be based on the learning objectives. Structured class activities should be "slices" of the knowledge, skills, or behaviors expected of the students. Activities should be selected by the faculty with expertise to emphasize or illustrate key or complex principles and to apply the knowledge, skills, or behaviors to medical problems, especially exercises which focus on analysis and evaluation. These structured classroom activities must fit within the designated time. In the Medical Education Instructional Support Office, help is available with selecting activities that fit your objectives.

The primary purpose of contact time with faculty is to develop critical thinking skills and learn to analyze and evaluate information and apply it in a setting that will benefit patient care and future expansion of medical knowledge. In structured activities students will practice working together in team-based activities that emphasize the collaborative nature of science and medicine. Furthermore, the structured activities provide opportunities to practice working together as in team-based patient care functions.

Learning should take place in a clinically relevant context. The learning methods should reflect the way they will practice the knowledge, skill, or behavior, as should the way they are assessed.

a. Clinical Faculty compensation for teaching efforts

Faculty teaching effort in the Integrated Clinical Sciences is compensated for based on educational activities defined as lecture, large group engagement activities, laboratory, small group engagement activities and general teaching activities (activities in which there is little or no preparation time).

Activities within each of these five categories are compensated as follows:

- Lectures: Credit of 1 hour for each hour of delivery and 3 hours of preparation for each hour delivered.
- Large Group Engagement Activity: Credit of 1 hour for each hour of delivery and 5 hours of preparation for each hour delivered.
- Small Group Engagement Activity: 1-4 hours of small group and 1 hour of preparation
- Laboratories: 1-3 hours of wet or dry laboratory and 1 hour of preparation.
- General Teaching Activities: Hour for hour (activities not covered above and not requiring preparation, e.g. panelists).

NOTES

- Events repeated within an academic year will receive the indicated compensation for the first session and the compensation of a General Teaching Activity for the remaining sessions.

- Cells to Society, Social Issues in Medicine do not receive small group prep-time support: Credit of 1 hour for each hour, no prep time
- Each clinical faculty member's hourly salary, restricted to NIH cap, including UVA fringe benefits, is the basis for compensation (assumes 55 hours per week for 48 weeks and includes UVA benefits.)

b. Types of learning activities

The following learning activity types are currently in use in the NxGen curriculum:

- Assessment (Exams/Quizzes)
- Clinical Case Presentation
- Laboratory
- Large Group Discussion
- Lecture
- Online Learning Activity
- Online Learning Activity - repeated
- Panel Discussion
- Patient Presentation
- Problem Set
- Review
- Small Group Discussion
- Team-Based Learning (TBL)

These teaching activities can be matched to the compensation categories as follows:

1. Lectures
 - Lecture (in class, less than 40% active learning, large or small group)
 - Online Learning Activity
2. Large group engagement activity
 - Clinical Case Presentation
 - Large Group Discussion
 - Problem Set
 - TBL
3. Small group engagement activity
4. Laboratory
5. General Teaching activity
 - Panel Discussion
 - Patient Presentation
 - Online Activity – repeated
 - Review
 - Events that are repeated within a single academic year
 - Lecture - R²
 - Clinical Case Presentation - R
 - Large Group Discussion - R
 - Laboratory - R
6. Assessment (activity type not subject to compensation)

¹This denotes the use of a pre-recorded lecture previously used in the curriculum

²R denotes an event that repeated within an academic year i.e. lab done twice within a week, with half the students at one time.

1. Lectures

Lectures: type of instructional activity where over 60% of the allotted time is devoted to one or more faculty members presenting information to the students, regardless of size of student group or the venue.

Online Teaching Activity: digital recording of a narrated lecture, (currently created with the Camtasia software) for viewing outside of class time.

2. Large Group Engagement Activity

Activity types within this category are organized primarily for discussion and groups contain more than 20 students. For instruction to be coded as a large group engagement activity at least 40%* of the time must be devoted to student engagement either with an instructor and/or with other students (otherwise the activity should be coded as lecture – see section I.iii.c, Active Learning).

Clinical Case Presentation: Cases are presented on paper, video or computer format. For instruction to be coded as “Case Presentation,” at least 70% of the time must be devoted to one or more clinical case presentations: Cases must include at least three of the major components of a teaching case (Chief Complaint, History of Present Illness, Past Medical History, Family History, Social History, Physical Examination, Laboratory Investigations, Procedures, Radiographic Findings, and Management). Note that in order for a case presentation to be considered active learning (as opposed to a lecture), it must substantively involve students in the discussion of the case, including the work-up or treatment of the patient presented.

Large Group Discussion: the activity is organized primarily for discussion and groups contain more than 20 students (often involving the whole class). For instruction to be coded as “Discussion,” at least 40% of the time must be devoted to student engagement either with an instructor and/or with other students (otherwise the activity should be coded as lecture).

Problem Sets are a type of Large Group Discussion where the focus is the presentation of multiple short problems for the students to work through and discuss their answers, receiving feedback from the faculty and/or peers. The problems may be given prior to class or during class; students may work on them individually or in groups either prior to or in class, and the format of the problems may be anything appropriate to the content (e.g., MCQ, vignettes, equations). The key features are that feedback is given by the faculty during the block of instructional time coded as “Problem Set” and that at least 70% of this time is spent in reviewing or working the problems.

Team Based Learning (TBL) activities are an integral element of the NxGen curriculum. TBLs should be used when appropriate to the knowledge, skills and behaviors to be learned and applied. To further TBLs as a forum for collaborative work with reflection and maintain a consistency across systems there must be an average of at least one TBL per two weeks. A TBL Education Group (TBLEG) has been formed within the Office of Medical Education to manage and maintain TBL consistency. All TBLs must be managed through the TBLEG. This includes assistance with selection of appropriate topics for TBL exercises, development of the materials and orchestration of the session. Each TBL session will be evaluated by the students and an observer from the TBLEG. The observer is to be someone other than the TBLEG member who assisted in the development and facilitation of the TBL. The contact

person for TBLEG is Dr. Casey White (924-1681). TBLEG will train faculty in TBLs. It is expected that faculty would learn the basics of TBL through a course(s) and/or experience under the guidance and supervision of the TBLEG. Then after becoming competent in TBLs under TBLEG supervision, instructors can implement and teach TBL independently. TBLs require attendance because the TBL groups/teams have peer evaluations supervised by faculty. It is expected that there will be at least one TBL for every two weeks of instruction.

3. Small Group Engagement Activity

Small Group Discussion activities are organized primarily or exclusively for discussion among groups of 20 or fewer students and an instructor. At least one instructor must be assigned to each small group and all instructors must receive training prior to moderating small group sessions. To further ensure a standardized learning experience, teaching points for the session must be shared between all instructors and posted to the system website following the session. If less than 40% of the time is devoted to student engagement either with an instructor and/or with their groups the activity must be coded as a lecture (see section c. below)

4. Laboratory

Labs involve students working individually or in groups to examine data and/or tangible specimens in order to meet defined learning goals. While Lab activities may contain some didactic presentation of material, for instruction to be coded as "Lab" the students must be engaged either hands-on or in their groups for at least 70% of the instructional time. Lab activities can be divided into two subtypes as follows:

1. Wet Lab: Students are actively manipulating specimens.
2. Dry Lab (*in silico*): Students are actively involved with specimens presented on a computer or other simulated method.

5. General Teaching Activity

Panel Discussion: Instructional activity where two or more discussants present to a group of students of any size, with exchange or coordination among the presenters. Shared lecture time where material is presented without interaction between presenters or where the objective is to tie the content together should be coded "Lecture."

Patient Presentation: This category includes both patients and cases that are presented in three dimensions as shown in the three categories below. For instruction to be coded as "Patient Presentation," at least 50% of the time should be devoted to one of the following activities:

1. Patient Presentation: A real patient is presented to the class or a small group. The patient is physically present in real-time and available to interact with the students, their instructor or both.
2. Standardized Patient (SP): An individual trained to portray a patient is used to present clinical and interpersonal features of a case. Again, this can be done individually, in groups, or for the entire class so long as the SP is available for interaction with the students, the instructor or both.
3. Simulation (Sim): A case or components of the case (e.g., individual clinical skills) is presented to the student using non-human simulation. This simulation can be full patient or partial-task trainers. If the focus of the exercise is clinical skills, the students must be significantly involved in hands-on activities in order to code as "Patient Presentation."

Patient Presentations occur once per week throughout the pre-clerkship curriculum, and are part of Clinical Performance Development (CPD). The patient is chosen based on the system's topic for that week and scheduled as a 50 min session on Thursday or Friday morning. Content from these sessions is not included in the system's assessments. Patient presentations require attendance to demonstrate professional respect for the patient. Students are expected to dress professionally and wear their white coats during all patient presentations. Entry to the room where a patient is being interviewed will not be allowed once the interview begins.

Online Activity – repeated: This activity type denotes the use of a pre-recorded lecture previously used in the curriculum.

Review: Instructional activities where the time is spent reviewing material that was previously presented; that is, less than 30% of the time is spent on the delivery of new content. If the session involves student participation in discussion for at least half of the allotted time, the activity should be coded as Large Group Discussion.

Events that are repeated within a single academic year (commonly to accommodate a fraction of the students per activity offering) will be coded with the corresponding activity type, followed by the letter "R". As an example, a lab offered four times in one week will be coded as laboratory for the first session and Laboratory-R for the subsequent 3 sessions.

6. Assessment

The goal of assessment is to provide fair, accurate, consistent and efficient measures of student progress and achievement. Assessments can be conducted by a variety of means and are not limited by format. If an activity is designed **primarily** to give a measure of student achievement, it should be coded as "Assessment" regardless of the format (i.e. Simulation, SP, Patient Presentation, OSCE, MCQ, etc.) ♦

- **Formative assessment:** Formative assessments are designed primarily to give the students a sense of their *progress* toward achievement of learning objectives. As such, they are given appropriate weight in grading (see section III. Assessment and Grading).
- **Summative assessment:** Summative assessments provide information to students as to whether learning objectives were achieved, and information to faculty regarding the extent of student mastery.

c. Active Learning

Educational activities that comprise active learning are those in which the student applies, analyzes, or evaluates information AND in which the students are interacting with BOTH the material and with others in a way that generates feedback (peer or instructor). For a session to be considered active learning the "active learning" component should represent at least 40% of the allotted time. If this definition is met then the session is counted as "active" for the entire allotted time. The goal of the NxGen curriculum is to have at least 60% of all sessions be active learning sessions.

The following are examples of "active learning" components that can be incorporated into different activity types:

1-minute paper: Short writing task designed to allow students to focus attention on a single important term, name or concept from a particular lesson. Followed by discussion. Papers do not need to be collected or graded, but answers should be shared and students should receive formative feedback on their contributions.

Audience Response system (ARS): Students participate in the sessions by responding to questions / statements via clickers, with interactive discussion. ARS can be used to administer formative assessments

Problem sets/Worksheets: Written activity in which students apply principles and concepts to real life problems.

Cases: Scenario-based problem-solving activity.

Discussions: Scenarios/activities that require students to integrate their knowledge and skills to solve problems that relate to course material while interacting with their peers and instructor.

Think-Pair-Share: Short, individual oral or written response to a prompt/question; then instructed to share and discuss briefly with partner; then asked to share with larger group.

Question and Answer: Students orally respond to a question, comment, etc., either voluntarily or by being called on.

Jigsaw: Team-based peer teaching - each member becomes a subject matter expert in 1 of 4 areas selected from current course material. Each member teaches their subject matter to the group.

Concept Maps: Drawings or diagrams that show the mental connections students make between a major concept presented and other concepts they have learned.

Defining features Matrix: Students categorize concepts presented according to presence (+) / absence (-) of defining features. Very useful to help students develop conceptual frameworks.

Debates: Small or large group structured exploration of central concepts, data, beliefs and values.

NOTE: More than 40% of the time needs to be occupied with these active learning activities to make the whole session an engagement session.

LCME defines active learning as the process by which a medical student 1) independently, or collaboratively with his or her peers, identifies his or her learning objectives and seeks the information necessary to meet the objectives and/or 2) contributes to the learning of a group with information that he or she prepares and discusses. In active learning, the learner has a role defining his or her own learning outcomes or those of his or her peers.

d. Student Participation in Educational Activities

The Next Generation Curriculum provides many diverse learning opportunities for our medical students and attendance at all activities is encouraged. Students, however, are responsible for their own learning and are not required to attend all activities. Attendance is mandatory for those activities in which team accountability is required (all Large Group Engagement Activities, Small Group Engagement Activities, Laboratories and Clinical Performance Development groups). Additionally attendance is required to all patient presentations, out of professional respect for the patient. Attendance will be monitored and patterns of absences will result in a “concern card” being submitted to the student’s college dean.

iv. Approval of plans

System leaders are expected to annually present their plans to the Curriculum Committee for approval. A draft schedule indicating session titles and activity type along with the proposed pre-class preparation and learning objectives for each session must be submitted for approval no less than 4 months prior to the start of their system.

Following approval by the Curriculum Committee plans must be presented to the system leader/thread leader community for the purpose keeping the System Leaders informed of the full content spectrum, sequence, and educational methods of the Integrated Core Systems course.

The assessment plan must be reviewed by the Assessment Specialist (Jim Martindale) and approved by the Associate Dean for Medical Education, Research and Instruction (Casey White).

v. Monitoring and Revision

[Section under development]

II. Teaching materials

i. Learning objectives

Learning objectives stem from and map back to the [12 UVA Competencies](#).

Each learning objective is an outcome statement that captures specifically the knowledge, skills, or behaviors the learner should be able to exhibit following instruction. Learning objectives employ specific terminology that has an unequivocal interpretation AND provides a learning outcome that can be assessed. Therefore each learning objective must be narrow and specific, such that it can effectively guide the selection of content, development of an instructional strategy, development and selection of instructional materials, and construction of instruments for assessing and evaluating student learning outcomes.

Well-crafted objectives identify only one learning outcome, are consistent with course goals, and are precise. They **unequivocally** inform learners of what is to be achieved.

The Office of Instructional Support can provide assistance to anyone wishing assistance in writing learning objectives.

ii. Independent Study Resources

The Curriculum Committee determined that ~30 hours of preparation/study time is a reasonable expectation for medical students in the pre-clerkship period (three afternoons per week -12 hours; 3 hours per evening – 15 hours; weekend - 3 hours = 30 hours total).

Students must be provided with resources to efficiently acquire the knowledge, skills, or behaviors specified in the learning objectives. Aside from the resources provided during the schedule instructional activities, the students can be given independent study resources to prepare for class. Such independent study resources might take the form of assigned readings (e.g. a text, article or handout), a video, a website, etc. The library is available to help select references and can answer questions about access to online resources.

a. Assigned reading

Assigned reading can be provided in one of three forms

1. Textbook

- ❖ **Textbook with online access** through the Health Sciences Library. Recommended option.
- ❖ **Textbook adopted** for use in the NxGen system (Students have purchased a copy of the textbook).
- ❖ **Textbook with copies on reserve** in the Health Sciences Library. We advise against this choice, since it is improbable all students will be able to access a limited number of copies within the brief timeframe provided.

A list of books with required readings in the SOM preclerkship curriculum can be accessed at: <https://www.hsl.virginia.edu/portal/somedicine/firstyear.cfm>

2. Article

In order to comply with copyright rules please provide the link to the article, not the article itself.

3. Handout

If you choose to provide a handout you must attribute all materials that are used, i.e., label the material clearly as “copyrighted” to the source and “not for redistribution”. Additionally, per doctrine in copyright of fair use, instructors should use only a reasonable amount of material from any third-party source without getting permission or paying fees (see guidelines designed to assist instructors with complying with copyright restrictions when using the School of Medicine's Learning Management System. <http://www.medicine.virginia.edu/education/medical-students/UMEd/system-leaders/policies-and-guidelines/Copyright%20Guidelines%20for%20SOM%2020121.pdf>

Handouts should only be provided when an adequate published resource is not available.

The library is available to help select references and can answer questions regarding access to online resources and copyright rules.

For help please contact:

Karen Knight, MSLS

Medical Librarian

Email; kknight@virginia.edu

Phone: (434) 924-0056

b. PowerPoint slides

PowerPoint slides used during sessions (commonly termed **post-class version**) must be posted to the Student Source by 1 PM on the day of the session. However, we encourage distribution of slides ahead of the session, since many students benefit from annotating the

slides during class. If the providing the slides ahead of time “gives away” the active learning component you can create a **pre-class version** where the engagement activities are removed or blocked* and distribute this pre-class version ahead of the session. The complete version of the slides (post-class version) must be distributed by 1 PM on the day of the session.

* If removing (deleting) slides from the presentation you must replace each deleted slide with a blank slide and include slide numbers on all your slides. This allows students to follow your presentation and take notes on the correct slide, to later reference the post-class version. For instructions on numbering slides refer to <http://office.microsoft.com/en-us/powerpoint-help/add-a-slide-numbers-page-numbers-or-the-date-and-time-HA010118193.aspx> or contact the Office of Instructional Support. In order to block slides an opaque rectangle can be inserted over the slide, covering all contents. The box can contain a statement such as “*This slide is blocked because it contains an active learning activity. It is an honor code violation to remove this box and view the slide prior to its presentation in the live session.*” Addition of this box prevents the students from accidentally advancing to the answer slide of an engagement exercise yet permits to take notes in the right place. Students can easily removing the box and, by the end of the session, have a fully annotated, final version of the slides.

c. Pre-recorded lectures

Lectures may be narrated and recorded. We currently use the Camtasia Studio or Camtasia for Mac software (<http://www.techsmith.com/camtasia.html>) to generate pre-recorded lectures. The process entails narrating the slides, the same way as one would during a live lecture. The recorder voice and screen capture results in a recorded lecture in mp4 format, for viewing outside of class time. A maximum of 4 hours of pre-recorded lectures may be assigned per week. If more than 4 hours of pre-recorded lectures need to be assigned in a given week, a corresponding amount of time needs to be cleared from the scheduled class time (8:10 AM to 12:00 PM) to accommodate these lectures.

The Camtasia Studio software is available through the office of instructional support For assistance in creating a pre-recorded lecture (PRL) please contact: Matthew Dickerson, Educational Technology, Medical Education Support
Email: jmj5g@virginia.edu; Phone: 924-1528

d. Session Podcasts

Podcasts can be created for any session scheduled in the Medical Education Building (Learning Studio or Auditorium). The podcast captures the video signal being projected in the room (in the case where split projection is used in the Learning Studio it capture ONLY the video signal for screen 1) and combines it with the audio capture from all microphones in the room. Note that for this reason an accurate recording of the session requires that both instructors and students speak through a microphone at all times AND that the mouse cursor is used as a pointer instead of a laser pointer. Additionally use of laser pointers represents an ADA issue, as 7-10% of men are red-green colorblind, making the laser pointer almost invisible to them. Instructors are prohibited from using laser pointers.

Podcasts are automatically scheduled to occur for all sessions scheduled in the Medical Education Building with the following exceptions:

- Sessions that contain educational materials that are not personally authored or created by SOM faculty (“Third Party Content”) and are not covered under Fair Use
- Sessions that disclose private healthcare information protected by HIPA.

Note on sessions with in-class assessments: Often there will be in class assessments administered at the beginning or end of a session. The assessment portions of the class should be entered into Oasis as a separate session, with activity type quiz/exam and a descriptive title (i.e. iRAT for activity x) and the remainder of the session should be podcasted.

Information on whether a session will or will not be podcast should be included in the session’s instruction file (see Appendix 2). For sessions not being podcasted the reason must be indicated.

Changes in recording preference can be made through Oasis. The recorded sessions are available to all students enrolled in the system and can be accessed through the Student Source immediately after the session.

Any recording time length can be accommodated for the podcasts. For example, following the Oasis schedule recordings could be scheduled for instance from 8:10 - 9:20; then 9:30 - 10:00; then 10:10-11:00. The only limit is that there needs to be a 10 minute gap between recorded events, for we actually record 8 minutes after the scheduled ending, and start 2 minutes before the scheduled start time.

iii. Practice questions

A **minimum** of 25 practice questions (equivalent to 5 questions per day of new content) must be provided for every curricular week. The number of practice questions can be proportionally reduced for weeks with substantial numbers of review activities.

All practice questions should reflect the style and difficulty of those used in summative exams (see below), should be keyed to the learning objective(s) they assess and should provide immediate and detailed feedback on right and wrong answer choices.

Each system is to have a separate section within the Subject Areas of the System website entitled “Practice Questions”. The questions for each week should be made available within a different subject area, as shown below.

PRACTICE QUESTIONS

Learning Objectives

■ [Week 1 Practice Questions](#)

■ [Week 2 Practice Questions](#)

■ [Week 3 Practice Questions](#)

■ [Week 4 Practice Questions](#)

Questions that do not reflect those used on summative exams may be made available to students, but to avoid confusion these should be clearly labeled "Study Aids," not "Practice Questions."

iv. Distribution of teaching materials

Teaching materials are exclusively distributed to the students through the [Student Source](#). Teaching materials can be posted under Handouts, Presentations, Links, Practice Questions and Podcasts. Every activity must have a file containing instructions that explain what the student must prepare, what resources are being made available, and what deadlines may apply (see template in Appendix 2). Such file is created through X-CREDiT and is posted to the Student Source in the Handouts section.

All teaching materials must be posted at least 4 days before the session is held. The goal is to have all materials posted for the coming week no later than Wednesday at 12 PM, if not earlier.

All materials posted to the School of Medicine's Learning Management System must comply with the Policy on the Digital Teaching and Learning Environment (see Appendix 1)

III. Assessments

i. Types and Distributions of Assessments

The grade for each system will be derived as follows:

60% summative assessment(s)

40% formative assessments

a. Summative Assessment

Summative assessments are designed to allow students to demonstrate mastery of the material upon completion of a system. Each summative exam consists of 90-120 USMLE-style questions (30 questions per week being assessed) and is administered over the weekend (Friday 12 PM to Sunday 1PM), allowing 2 minutes per question for completion of the assessment. Systems longer than 3-4 weeks will have more than one summative exam, as indicated in the table on page 3.

New material may be introduced on Fridays before summative exams but not tested on that exam. System Leaders may choose to leave the Friday before a summative exam open for independent study or schedule review sessions or sessions requiring no assessment.

NxGen policy requires that 15% of each summative assessment test material from prior parts of the UME curriculum. Retrospective items must be relevant to the materials covered by the system and need not be referenced in an activity's instruction sheet. System Leaders should strive for broad based questions when testing review material. Note that X-CREDiT allows

instructors to recall learning objectives from previous activities as review learning objectives for their activities. Such review learning objectives appear on the instruction sheet and are linked to the corresponding teaching materials in the Student Source. Although instructors are not required to reference learning objectives for retrospective items they should utilize this X-CREDiT function to specifically direct students to review important relevant materials. All retrospective/review questions should receive a keyword in the format "system.retrospective.year" i.e. gi.retrospective.2012 to allow for easy retrieval of retrospective questions and facilitate assessment review.

Note that current SOM policies require students achieve at least 60% on **each** summative examination even if their total average for the year was above 70%. Students achieving less than 60% will be referred to the ASA Committee and may be asked to take a make-up examination. The reexamination grade will be an additional grade factored into their cumulative total (<http://www.med-ed.virginia.edu/handbook/policy/examPolicy.cfm>).

b. Formative Assessment

[Section currently under development]

Formative assessments are designed to give students frequent feedback on their individual learning - the emphasis is on learning, not on grade so no one activity should be worth too much. [percentages currently being discussed]

The formative score will be calculated by the addition of scores from a variety of **formative activities** administered throughout the system. These formative activities can assess student preparation for an activity, their application of knowledge or their mastery of materials following the session. [frequency and weight of each formative assessment type currently being discussed]

Assessment of student preparation:

- Individual Readiness Assessment Test or iRAT (done as part of a TBL)
- Group Readiness Assessment Test or gRAT (done as part of a TBL)
- Pre-class quiz

Assessment of knowledge application:

- Graded worksheet
- Graded problem set
- Graded lab report
- Grade derived from TBL peer evaluation?

Assessment of status of progress towards mastery of materials:

- Retrospective quiz (administered at the end of class time or outside of class time i.e. weekend formative)

Although open book questions can be an effective assessment method effective implementation requires instructor training. Systems leaders are not to use open book questions as a form of graded formative assessment. Open book questions can be given to students as an ungraded formative assessment.

Recall that, per student policies, there is no make-up for weekend formative assessments that comprise less than 8% of a final grade. However, the formative score is adjusted by a factor of 1.10 to offset absences or other life activities, not to exceed the maximum allowable formative

points.

Under no circumstance are grades to be derived from attendance or participation.

ii. General guidelines for summative assessment item construction

Summative assessments are used to evaluate student-learning outcomes. It is therefore essential for summative assessment items to sample learning objectives, including as many high level (application, analysis and evaluation) questions as appropriate for the student's level of learning. Assessments should not be solely centered on a given organ system but rather include items that integrate concepts across disciplines and systems. Assessment of students should reflect the emphasis on clinical relevance, integration, and on application, analysis and evaluation.

- Test items should specifically assess learning objectives, e.g., questions should be representative of the knowledge, skills, or behaviors expected of the student. One assessment item can cover more than one learning objective, particularly when items are analysis- or evaluation- level.
- All questions should be written in USMLE-style as clinical or experimental vignettes. Test items should be "one-best answer" multiple-choice questions.
- Test items should have accompanying feedback, explaining why one answer is correct/the best answer and why other answers are not correct/the best answer.
- Assessments must include items that **integrate** concepts across disciplines and systems. SOM policy requires that 15% of each summative assessment tests material from prior parts of the UME curriculum. System leaders are encouraged to increase the Bloom's taxonomy level at which review materials are presented and assessed by integrating it to new content and building on prior knowledge.
- At least 50% of questions within a given assessment should assess learning objectives within higher bloom taxonomies i.e. comprehension or above. Ultimately the objective is to have no more than 30% of questions within a given assessment assessing factual recall.

The faculty are directed to the USMLE website guide to writing test questions:

<http://www.nbme.org/publications/item-writing-manual.html>

Some general tips include:

- Make sure the item can be answered without looking at the options.
- Include as much of the item as possible in the stem.
- Avoid superfluous information, "tricky" and overly complex items.
- Write options that are grammatically consistent and logically compatible with the stem; list them in logical or alphabetical order. Write distractors that are plausible and the same relative length as the answer.
- Avoid using absolutes such as always, never, and all in the options; also avoid using vague terms such as usually and frequently.
- DO NOT use negatively phrased items (e.g., those with except or not in the lead-in).
- DO NOT include "all of the above" or "non of the above" as answer choices.
- Ask, "In what kind of situation do I expect students to need or be able to use this knowledge" and then create a question or problem that replicates this real-life context as closely as possible.

- Focus on important concepts; don't waste time testing trivial facts.

iii. Review of assessments

a. Prior to the administration of weekend assessments

An assessment review group will review both the formative and summative assessments accounting for 8% or more of a module grade. The Assessment Specialist (Jim Martindale) is in charge of recruiting the assessment review group and chairing the review sessions.

b. Following the closing of a weekend assessment

Assessment items must be reviewed by the System Leaders and Jim Martindale following the assessment closing and before the final points are assigned.

Summative Assessment grades must be posted through Oasis no later than one week following the opening of the summative examination unless there is a holiday during this period of time, in which case grades need to be posted on the first day in which classes resume.

Formative assessment grades will be posted within three business days of the quiz closing.

iv. Administering of assessments

a. Scheduling

Weekend formative and summative assessments are administered through the Online Testing Center. Assessments must be open for login on Friday at 12:00 noon and close for login Sunday at 1:00pm*. There is pre-determined time window after login to take and finish the exam (exam duration). It is recommended that students be allowed 2 minutes per question.

* Exceptions may be made for summative exams that fall on major holiday weekends (Easter, Memorial Day). These exams may open at 8am Friday, with the permission of the administration

b. Location

Weekend formative exams can be taken anywhere. Summative exams must be taken from the Health Sciences Library or the Medical Education Building.

c. Challenges

Students are allowed to challenge question used in summative assessments. Challenges guidelines are as follows:

- Students may challenge a maximum of three questions per exam.
- Challenges will be accepted through the online testing system.
- Students will have 30 minutes after completing the exam to submit their challenges.
- Students will not be given answers or scores before they submit their challenges.

d. Feedback and review

Feedback can be configured independently for each assessment, and independent of the challenge feature. There are 3 options: no feedback, feedback only on missed questions, and feedback for all questions. The feedback can be displayed immediately, as soon as the student completes the exam, or at the end of the exam period. If the immediate feedback option is chosen, feedback is available for 1 week after the exam period. If final feedback is chosen, the feedback is available indefinitely.

Formative Assessment Policy as of 11/11

- ☒ Challenge questions: OFF
- ☒ Feedback: Immediate feedback for all questions, viewable until the end of the system, as many times as desired.

Summative Assessment Policy as of 11/11

- ☒ Challenge questions: ON
- ☒ Feedback: Immediate feedback on missed questions, viewable for 1 week following the exam closing, as many times as desired.

Important considerations: If an exam is reopened, for example for a student who did not take the exam initially, this will extend the period in which feedback is viewable, since the close date of the exam has been extended.

e. Student use of assessment questions

- Students may not discuss exam items with other students or with faculty while the exam is still open.
- After the exam closes, students may discuss the items but they may not disseminate the items in any form.

IV. Communication with students

An essential part of the administrative duties of a System Leader is their communications with students. Throughout a system, System Leaders are expected to:

- Be present at the overwhelming majority of sessions, to provide clinical continuity and answer student questions.
- Ensure students receive prompt replies to queries and/or requests, providing individual guidance to students by direct contact or electronic means (email discussion forum, etc.).
- Send out reminders about important deadlines and any special instructions for their work. At a minimum such communications should include:

- No less than a week before the system starts (ideally earlier): Distribute a draft version of the schedule for review by the students. Highlight assessments, list books for the system and indicate any preparation needed for week 1 (especially day 1).

- At the beginning of the system, for all weeks (through the system's website) **OR** weekly (by email, sent no later than noon on Wednesday of the week prior)*:

- a) Distribute the final schedule for the upcoming week(s).

- b) Indicate all graded assignments other than formatives and summatives (pre- or post-class problem sets, cases, quizzes, etc.) with deadline for completion and their associated formative grade.

- c) Distribute groupings for any group activities.

- d) For weeks containing a formative/summative weekend assessment inform students about the nature of the assessment--number of questions, amount of time that students will have to complete the exam, etc. Students should be made aware of which sessions will be assessed or not assessed on the summative or formative examinations.

* Unless all the information outlined above is posted to the system's website by the start date of the system, system leaders must send a weekly reminder by email.

- Daily, as needed: Inform the students of any changes in the schedule, updated materials or newly posted materials, release of assessment grades, etc. Med Ed staff can assist with this one by sending an email to the system leader(s) at the end of each day, detailing the changes made to materials.

Note that while the system is running, only system leaders and senior administration should directly email the class. This ensures clear and efficient communication with students and minimizes mailings.

V. Role of System Leaders

i. General Responsibilities of the System Leaders

Systems Leaders are in charge of a designated System Unit and establish the goals, learning objectives, and teaching and learning methods for each System Unit of the medical curriculum. System Leaders operate and administer the System Unit with Curriculum Committee oversight and are charged with actively supporting curricular innovation, improvement and evaluation.

ii. Specific Responsibilities of the System Leaders

A. Course Design. In collaboration with the System Leaders Committee and with the approval of the Curriculum Committee, the Systems Leaders will:

- a. Determine the content and learning objectives of the System Unit (knowledge, skills, behavior)
- b. Select appropriate learning methods and design, or, collaborate on the design of specific learning sessions.
- c. Develop appropriate assessment activities (in collaboration with Content Thread Leaders)
 - i. solicit and/or write assessment material e.g. MCQ, clinical vignettes, one-minute papers, etc. from teaching faculty
 - ii. organize assessment team to vet, grade, and review questions
 - iii. determine the schedule and location of structured learning and assessment activities for the System Unit consistent with guidelines established by the curriculum committee
- d. Liaise with leadership and faculty in the Clinical Performance Development experience to insure robust integration of basic and clinical sciences and clinical skill development

B. Course Administration. System Leaders will perform all duties necessary for the System Unit operation and will:

- a. Coordinate structured learning activities including laboratories and extramural sites
- b. Monitor and evaluate System Unit activities and provide reports on student performance and program effectiveness
- c. Provide daily oversight of the ongoing System. One Clinician System Leader must be present the overwhelming majority of time during the run of your System (typically 8am-12 noon) to provide clinical continuity and answer student questions.
- d. Oversee administration of in class assessment activities
- e. Prepare summative student evaluations and grades (including narrative evaluations, contributing to portfolios, etc. as appropriate)
- f. Identify students with academic, professional or other problems and report to college deans.
- g. Provide guidance to students by direct contact or electronic means (email, etc.)
- h. Oversee maintenance of a System Unit website and ensure content and resources are posted in accordance with SOM recording and storage policies
- i. Discuss System with a student advisory committee
- j. Identify, recruit, and mentor System Unit faculty
- k. Evaluate faculty teaching within the System Unit
- l. Recommend and encourage faculty development training programs

C. Leadership and Service. System Leaders will:

- a. Lead and cultivate the designated system community
- b. Serve on the System Leaders Committee and attend monthly meetings to work with other Systems Leaders to integrate and coordinate the curriculum. As such you must attend a minimum of 80% of the System Leader meetings per year.
- c. If requested by the Dean, serve on committees in the SOM.

- d. Collaborate with the Curriculum Evaluation Community to evaluate the processes and outcomes of the System Unit.
- e. Represent the university in regional and national medical education meetings, conferences, and interest groups.

VI. Role of thread leaders

i. General Responsibilities of the Thread Leaders

Content Thread Leaders assist the Systems Leaders in establishing the goals, learning objectives, and teaching and learning methods for their subject discipline through the medical curriculum. Content Thread Leaders aid in the operation and administration of their discipline components and are charged with actively supporting curricular innovation and improvement and with providing content material that ensures each System Unit achieves its aims.

ii. Specific Responsibilities of the Thread Leaders

A. Course Design. Content Thread Leaders actively assist the System Leaders to:

- a. Determine the content and learning objectives of their subject discipline within each System Unit (knowledge, skills, behavior)
- b. Identify appropriate learning methods
- c. Develop appropriate assessment activities
 - i. Gather appropriate assessment material e.g. MCQ, clinical vignettes, one-minute papers, etc. from teaching faculty
 - ii. Develop a remediation plan for their subject discipline
- d. Determine the schedule and location of structured learning and assessment activities for the Systems Unit
- e. Identify faculty for structured learning activities based on expertise and teaching ability
- f. Recommend and design faculty development activities

B. Subject Discipline Administration. Content Thread Leaders will:

- a. Monitor and evaluate the delivery of subject material across the continuum of the pre-clinical years (ensure the orderly sequence knowledge/skills/behaviors)
- b. Maintain a record of departmental faculty contributions for P&T purposes
- c. Assist with preparation of student evaluations for their particular subject discipline
- d. Provide guidance to students in their particular subject discipline
- e. Liaise with Clerkship Directors to integrate his/her discipline into the clerkship and elective programs

C. Leadership and Service. Content Thread Leaders will:

- a. Actively contribute and participate in the Systems Unit communities
- b. Liaise with other Content Thread Leaders to insure robust integration between the subject disciplines

- c. Collaborate with the Curriculum Evaluation Committee to evaluate the processes and outcomes of the subject discipline thread through the preclinical and clinical years
- d. Represent the university in regional and national medical education meetings, conferences, and interest groups

VII. Role of instructional faculty

[Section currently under development]

i. Faculty Development

ii. Faculty Evaluation

IX. Appendixes

i. Appendix 1: Policy on the Digital Teaching and Learning Environment

Date: April 20, 2010

Number:

Status: Draft

Contact Office:

Director of Educational Technology
Office of Medical Education Support
School of Medicine
P.O. Box 800859
Charlottesville, VA 22908
Phone: 434-924-1528
Fax: 434- 982-4238

Oversight Executive:

Senior Associate Dean for Education
Medical Education, School of Medicine
PO Box 800005
Charlottesville, VA 22908
phone: 434-243-2522
fax: 434-982-2586

Applies to:

All School of Medicine faculty, staff, and medical students, and others teaching or learning within School of Medicine academic programs or activities.

Reason for Policy:

This policy clarifies faculty, staff and student responsibilities regarding educational materials recorded or distributed for educational purposes.

Policy Statement:

§ 1 Scope and Purpose

This policy addresses the School of Medicine's ("SOM") implementation of a comprehensive digital teaching and learning environment. The SOM's facilities enable systematic recording of faculty lectures and presentations, as well as student clinical skills education sessions (including standardized patients or patient simulations). The SOM's Learning Management System ("LMS") enables online distribution of outlines, handouts, power-points, and other curricular materials ("Educational Materials").

This policy applies to students, faculty, and staff of the SOM, or others teaching or learning within School of Medicine academic programs or activities.

and provides important information about their rights and responsibilities related to the SOM's digital teaching and learning environment. This policy supplements existing SOM and University policies and does not replace them. The SOM reserves the right to revise this policy as deemed necessary in its sole discretion to address new technical or legal requirements.

§ 2 Ownership of Educational Materials

Pursuant to the University of Virginia's Copyright Policy, RES-001¹, the University has rights to Educational Materials created by SOM faculty in the course and scope of their regular teaching activities.

“By operation of the copyright law, the University owns in the name of The Rector and Visitors of the University of Virginia (the University's corporate name) all rights, title and interest in copyrightable works created by University employees while acting within the scope of their employment. The University cedes copyright ownership to the author(s) of scholarly and academic works (such as journal articles, books and papers) created by academic and research faculty who use generally available University resources. However, the University asserts its right of copyright ownership if significant University resources (including sponsor-provided funds) are used in the creation of such works, and: (a) the work generates royalty payments; or (b) the work is of commercial value that can be realized by University marketing efforts. The University retains a non-exclusive, royalty-free right to use for non-commercial purposes works produced by its employees while acting within the scope of employment even if copyright ownership is ceded to the author or authors.”

The University may use, adapt, modify, and distribute such works for non-commercial teaching, research, or related educational purposes it deems appropriate. SOM faculty also retain rights to the Educational Materials they create, and are free to use, adapt, modify, and distribute them for teaching, research, or related educational purposes, whether commercial or non-commercial.

§ 3 Creation, Distribution, and Use of Educational Materials

§ 3.1 Copyright Responsibilities and LMS Distribution

SOM faculty, staff, and students are responsible for observing copyright law, educational fair use guidelines, and other relevant policies in their creation, distribution, and use of Educational Materials.

The LMS enables digital delivery of educational content at two different access levels:

- Level One: University-wide (all UVA students, faculty and staff); or
- Level Two: General public web access.

SOM faculty are responsible for indicating the appropriate access level for all Educational Materials they upload or cause to be uploaded to the LMS. This determination is essential to ensure that educational materials that are distributed by the LMS are consistent with

¹ <https://policy.itc.virginia.edu/policy/policydisplay?id='RES-001>

copyright law and other legal responsibilities. The following basic principles apply to access determinations for the LMS:

- Educational Materials *that are not personally authored or created by SOM faculty* (“Third Party Content”) cannot be distributed through the LMS without careful consideration and review, typically involving permission from the copyright holder.
- Educational Materials *created by SOM faculty* that include *short excerpts* from Third Party Content, are typically appropriate for Level One authenticated delivery via the LMS to the University community.
- Educational Materials *created entirely by SOM faculty*, may be shared at the Level Two via the LMS with the general public if so designated by the responsible faculty member.

§ 3.2 Duplication or Redistribution of Recordings by Students Prohibited

Students may not copy or redistribute Educational Materials they receive through the LMS without the express written consent of the course instructor. Unauthorized duplication or dissemination of Educational Materials is a violation of this policy.

§ 3.3 Archiving

Educational Materials made available through the LMS are archived annually and are retained (to the extent technically feasible) until changes in file formats make the files unusable. Archived materials remain searchable and viewable at the access level first set at the time of their deposit in the LMS. Archived Educational Materials will be clearly labeled to clarify their original date, historical nature, and potential lack of scientific currency.

§ 4 Audio and Video Recording

§ 4.1 Purpose

Audio and video recordings created pursuant to this policy are authorized for the SOM’s internal teaching, learning, research or evaluation activities. The SOM will obtain written consent prior to commercial use or external distribution of such recordings.

§ 4.2 Types of Recordings Made and Uses of Recordings

The SOM regularly records faculty lectures and presentations, as well as student clinical skills education sessions (including standardized patients or patient simulations) in support of its core curricular activities. All decisions about access to such audio and video recordings are made in the sole discretion of the SOM.

- SOM Faculty lectures and presentations are regularly recorded and made available through the LMS for student study and learning.

- Any recordings made of interactive classes and seminars (teaching environments in which students are expected to speak and participate actively) are distributed only to students enrolled in that class to protect student privacy under FERPA.²
- Educational sessions disclosing private healthcare information protected by HIPAA are not recorded.
- Standardized patient interactions and simulations are regularly recorded for evaluation purposes.
 - Recordings involving individual students may be made available to the student upon request.
 - Recordings involving multiple students will not be made available to students due to privacy considerations arising under FERPA.

§ 4.2 Duplication or Redistribution of Recordings by Students Prohibited

Audio or video recordings created and shared with students under this policy are for personal academic and study purposes only. Recordings may not be duplicated or disseminated. Unauthorized duplication or dissemination of recordings is a violation of this policy.

§ 4.3 Retention and Ownership of Recordings

Audio or video recordings are retained by the SOM for as long as is deemed administratively appropriate to meet the teaching and research mission of the institution. The SOM owns all audio or video recordings created under this policy.

§ 5 Responsible Use of SOM Facilities

SOM teaching facilities and services are to be used in a manner that is compliant with copyright, privacy, and other relevant legal considerations. Sponsors of events held in SOM facilities are responsible for ensuring that appropriate policies or written consents ensure such compliance.

Definition of Terms:

FERPA – The Family Educational Rights & Privacy Act
<http://www.virginia.edu/registrar/privacy.html>

Related Policy:

University of Virginia's Copyright Policy, RES-001
<https://policy.itc.virginia.edu/policy/policydisplay?id=RES-001>

Next Scheduled Review:

May, 2012

Revision history: This is the first version of this policy.

Supersedes: This does not supersede any other policy.

² The Family Educational Rights & Privacy Act <http://www.virginia.edu/registrar/privacy.html>

ii. Appendix 2: X-CREDiT Instructions template

[Template not yet reviewed by System Leaders' community and subject to change]

X System	
Curricular Week # - System Week #: Weekly theme	
Session Title	
Instructor, MD/PhD	Coding : X-CREDiT shortname/ System.week#.day#.session#.instructor.2011
Day of week, Month & # , 2012	Time #:00-#:00
Activity type:	Curricular Thread:

The information below will be copied into the X-CREDiT Instructions box. Instructors are to choose the statements that apply to their session and delete all others. Organization of the template, font style and size are not to be changed.

PRE-CLASS PREPARATION

Required:

Recommended:

The PowerPoint slides used in this activity will be made available on the system's website in advance of the session.

The PowerPoint slides used in this activity will be made available on the system's website immediately following the session. A pre-class version of the slides will be posted ahead of the session.

ATTENDANCE

Attendance to this activity is not required.

Attendance to this activity is not required but will be monitored.

Attendance to this activity IS REQUIRED.

There will be a patient present for part of the class. Please wear your white coat and dress professionally.

SEATING ASSIGNMENT

None

Yes –assigned groups are posted on the system website

ASSESSMENTS

There is a pre-class online quiz associated with this activity. Please see the pre-class instructions.

There will be an in class quiz, accounting for x% of the system's/summative period's grade.

There will be an in-class formative activity accounting for x% of the system's/summative period's grade.

There is a post-class formative assignment, accounting for x% of the system's/summative period's grade.

This activity does not have an in-class graded assessment.

Learning objectives for this session will be assessed in the formative and summative assessments.

Learning objectives for this session will be assessed in the summative assessment.

POST-CLASS ASSIGNMENTS

[Any information you wish to provide about post-class assignments]

It is recommended that after reviewing all teaching resources you answer the practice questions on the course website (part of the week # practice set).

INFORMATION ABOUT THE SESSION

[Any information you wish to provide about the session]

This session will be Podcasted

This session will not be podcasted because it contains educational materials *that are not personally authored or created by SOM faculty and therefore not authorized for redistribution.*

This session will not be podcasted because it *discloses private healthcare information protected by HIPA.*

Make sure that you have fulfilled the Learning Objectives and understand the material. If you have questions please post them to the appropriate section of the discussion forum. If needed you can contact **name**, at **email**.

Additional information to be entered into X-CREDiT. A feature that maps individual LOs to threads is under development and should be done very soon. It will make it possible to pull all the LOs for a given thread (which currently can not be done) but will generate additional work when entering materials in X-CREDiT. A list of threads as they appear in X-CREDiT is provided in the next page.

LEARNING OBJECTIVES

Learning Objective	Thread

REVIEW LEARNING OBJECTIVES (from earlier in the curriculum)

LOs already entered into X-CREDiT can be recalled into a session as review objectives. A link to the teaching materials for the recalled LO will be automatically generated and included in the

instruction's sheet. We strongly encourage you to identify materials the students would benefit from reviewing prior to your session. System leaders can help you find review learning objectives.

Thread(s) (* required field, check at least one)

- No thread is applied / Or I don't know
- Anatomy
- Biochemistry
- Cultural Competency
- Genetics
- Histology/Cell Biology
- Imaging
- Immunology
- Infectious Diseases
- Information Sciences
- Integrative Medicine
- Interprofessional Education
- LGBT
- Microbiology
- Neuroscience
- Nutrition
- Oncology
- Palliative Care/EOL Care/and Pain Management
- Pathology
- Pharmacology
- Physiology
- Professionalism/Ethics/Medical Humanities
- Public Health Sciences
- Quality & Patient Safety
- System-Based Practice