Clerkship Preparation Course Syllabus PICE 7001

(catalog id=PICE – PLFSOM Integrated Curricular Elements)

Course Director

Dr. Naomi L Lacy

naomi.lacy@ttuhsc.edu

Office: Medical Center of the Americas Building (MCA) 211

Phone: (915) 215-4393

Course Co-Director

Dr. Tanis Hogg

Office: Dept of Medical Education Suite (MEB 2200)

Phone: (915) 215-4340

Associate Director

Francisco J. Maldonado, MPA

Frankj.maldonado@ttuhsc.edu

Office: Dept of Medical Education Suite (MEB 2200)

Phone: 915-215-4342

Course Coordinator

Elizabeth Garcia

Elizabeth.garcia@ttuhsc.edu

Office: Dept. of Medical Education Suite (MEB 2200)

Phone: 915-215-4374

I. Course Description

The clerkship preparation course (PICE) is designed to assist you in

- integrating your basic sciences knowledge,
- ensuring you have the needed clinical skills for clerkships, and
- enabling you to demonstrate the self-directed learning skills needed by practicing physicians.

The majority of the course time is self-directed learning time. Passing the course prepares the student for their clinical curriculum and Step 1 of the USMLE

The following are the elements of this course; a more complete explanation follows:

- Course Orientation & ACLS Pretest/Training (Week 1)
- ACLS Training & Certification Exam (Week 2)
- End of Year OSCE (Week 3)
- Self-Directed Learning (SDL) Plan (Week 4)
- Tankside Grand Rounds (Week 4)
- Self-Directed Learning / Completion of SDL Assignment (Weeks 4-8)
- Comprehensive Basic Science Exam (CBSE) (end of week 8)

ACLS (Advanced Cardiovascular Life Support)

ACLS training is expected to assist students in their preparation for work in the wards and clinics. ACLS certification is required by most residencies and some M4 away rotations. Certification is good for 2 years, after which an individual must renew their certification (a half day course). There is a prequalifying exam for ACLS training (administered asynchronously) which students will be required to pass by 5:30 PM Wednesday 22Feb2017. Any student who does not pass the prequalifying exam by this time will need to remediate this element of the course at their own expense and provide the course directors with proof of completion. The student's transcript will indicate in progress" on their transcript pending successful completion of this portion of the course. If remediation results in a delay in starting the student's M3 year, a notation to that effect will be placed in the student's Medical Student Performance Evaluation (MSPE).

Training consists of: independent study materials, 1 day of lecture, and 1 day of simulations (skills practice followed by code testing). Simulation will occur by college to keep the group size small enough to provide a good learning opportunity. The week will end with a review session, followed by the ACLS written certification exam. Students must sit for the ACLS certification exam. Students may pass the course without passing the ACLS certification exam provided the instructors'

assessments indicate appropriate preparation and consistent effort. Goals and objectives for ACLS training are provided in the Appendix.

Tankside Grand Rounds (TSGR)

TSGR is designed to have students integrate their basic science knowledge in the context of clinical presentation schemes and relevant findings from their donor cadaver. In addition, this element is designed to assess students' ability to employ self-initiated learning strategies, work within a team, and communicate effectively with peers and other health-care professionals. TSGR is a team-based oral presentation activity in which each anatomy team will present their cadaveric findings to their student peers and faculty. Basic science and clinical faculty judge team presentations using the TSGR grading rubric provided in the Appendix. The course director will compile these to create a final judgement of pass or remediation required.

The purpose of TSGR is to present a pathophysiologic picture of your cadaver and his/her cause of death. The expectation will be a clinicopathologic correlation with appropriate reference to expected clinical findings and literature support for your explanations of the observed pathology. The content of each presentation will derive from the anatomy lab sessions over the span of SPM years 1-2. It will be important to document significant gross and microscopic findings as your dissection sessions occur because you will need good pictures and measurements of significant findings for your presentation at the end of the second year. Data collection is ungraded and therefore, you could potentially not enter any data into your record; this would only present a problem at the time of TSGR when you would be expected to present your findings for a grade. The tanks are divided between the three pathologists and you should contact them when you have a finding you want to ask about. Pathologists will be available in the anatomy labs for the 'more likely to have significant findings' dissections such as head and neck, thorax, and abdomen. If you find that you need to ask something and a pathologist is not there, please email or text or call them and they will come help.

You are encouraged to take at least 4 biopsies (total) during your dissections with pathologist guidance, however, biopsies are not mandatory. Biopsies serve the purpose of helping confirm your conclusions, especially when coupled with pictures of your anatomic findings. The pathologist responsible for your tank will be glad to review the slides with you and provide feedback as you put your case together.

If a grade of 'remediation required' is received, the group may be required to attend an autopsy at the County Medical Examiner's office and give a clinicopathologic

presentation to the Medical Education faculty as remediation; such remediation will be judged by the Medical Education faculty using the same rubric.

End of Year OSCE

This is a comprehensive gateway exam designed to ensure you possess adequate clinical skills to safely provide patient care at the M3 level. Students who do not pass the OSCE will be required to remediate it. In the event that a student does not pass the remediation, the student will receive an F and a referral will be made to the Grading and Promotions Committee.

Self-Directed Learning (SDL)

Medicine is a rapidly advancing field that requires the effective acquisition of new knowledge and skills by medical professionals at all stages of education, training and practice. As such, self-directed lifelong learning is a crucial skill for today's medical graduates. Self-directed learning (SDL) is a process where the learner identifies their learning needs, creates learning objectives or goals, identifies appropriate resources to help in their learning, chooses learning strategies appropriate for the learning objectives, implements their plan, and then assesses the outcomes. For the SDL portion of this course, you will be required to create a self-directed learning plan that identifies the major areas of learning that you will concentrate on for the remaining weeks of the course. You will also be required to identify and appraise appropriate resources and choose the learning strategies that you intend to use. The SDL plan must include the items listed in the Learning Plan (see Appendix: 'Learning Plan Required Elements'). Note that the plan must identify specific resources to meet your learning needs. While we acknowledge that most students will want to include First Aid for Step 1 as one of their resources, you are expected to identify a broad array of high-quality peer-reviewed resources. Plans which include only First Aid for Step 1 (or its equivalent) or learning materials prepared by PLFSOM faculty (e.g., PowerPoints) will be returned for improvement. Other resources may include faculty consultations.

Plans will be reviewed with your college master or other Medical Education faculty members (See Appendix: 'Self-Directed Learning Assessment Rubric'). In the event that a plan is not complete, you will need to rewrite it and present the revision to your college master. When your college master/faculty member signs off on the plan, you will be required to submit a signed copy to the course director.

SDL Assignment

To further promote the development of life-long SDL skills, students are required to engage in the independent SDL-guided authorship of an assessment item that

addresses one or more self-identified areas for improvement. This exercise involves the following steps:

1) Self-identification of one or more areas for improvement. Selection of the appropriate discipline(s)/topic(s) must be substantiated by CBSE/summative assessment data and aligned with your self-directed learning plan as described in the previous section.
2) Articulation of your specific learning need(s) in the form of one or more learning objectives. A learning objective is a statement in specific and measurable terms that describes what the learner should know or be able to do. The objective must contain an appropriate action verb that forms the basis for measuring the student's mastery of the learning objective. See examples of action verbs in the Appendix under 'Bloom's Taxonomy'.
3) Identify, appraise, and utilize a peer-reviewed electronic resource containing learning materials that can help you achieve your specific learning objectives. A good collection of peer-reviewed resources is available at the National Library of Medicine (http://www.nlm.nih.gov/). Other peer-reviewed resources are available through the TTUHSC electronic library (http://elpaso.ttuhsc.edu/libraries/). You are encouraged to seek assistance from the PLFSOM librarians: they are a terrific resource! References to study guides such as 'First Aid for Step 1' or PLFSOM curriculum PowerPoint presentations are not acceptable.
4) Demonstrate you have sufficiently met your learning need(s) by writing a clinical or experimental vignette-based multiple-choice question that assesses mastery of your learning objective(s). The question must fit a 'One-Best-Answer' format and include:
    a. A stem
    b. A lead-in
    c. A minimum of 4-5 answer options
    d. A thoughtful ~1-page summary/explanation. This should be 300-500 words (with one or more figures/illustrations where appropriate), contain brief explanations for each of the answer choices, and include numerical in-text citations.
    e. A Bibliography containing a numerical list of your in-text citations as electronic hyperlinks to the primary literature, i.e., the specific peer-reviewed resources used to meet your learning objective(s).

Prior to writing the question you should refer to sections I and II of the Item Writing Manual of the National Board of Medical Examiners (NBME):

(http://www.nbme.org/publications/item-writing-manual-download.html).

Particular attention should be paid to the subsections dealing with 'The One-Best-Answer Family' and 'The Basic Rules for One-Best-Answer Items'.

Important note: The assignment must be vetted and approved by an appropriate discipline expert among the PLFSOM Department of Medical Education faculty. Students must contact their proposed faculty reviewer to confirm their availability prior to discussion of the self-directed learning plan during week 4 of the course. Since students should anticipate the need to engage in one or more rounds of review and revision prior to receiving final faculty approval, it is expected that the first draft be provided to the faculty reviewer within 10 days (i.e., by the end of week 6 of the course). Students must upload their faculty-approved assignments to the SDL assignment portal no later than the last day of the course (**Friday April 14th, 2017**). A link for uploading completed projects will be available on Canvas under the PICE course page. Failure to submit the approved assignment by the deadline will result in a course grade of 'F' and referral to the Grading and Promotions Committee.

Both plagiarism and failure to get final faculty approval prior to submission of the assignment will be considered professionalism issues (see section V and the TTUHSC PLFSOM Medical Student Handbook).

Comprehensive Basic Science Exam (CBSE)

The National Board of Medical Educators' CBSE is the final event of the course. Scores are considered indicative of whether you are prepared to pass USMLE Step 1. A CBSE score of 65, which is a generous approximation of a near-passing score on USMLE Step 1, is required to pass the course. If you do not receive a score of 65 or greater on this administration of the CBSE, you will be permitted to take a CBSE remediation exam 2 weeks following the initial CBSE date. A failure on the remediation exam will result in a grade of "in progress" until the student takes the Step 1. If the student fails Step 1, then the grade will be converted to an F and the student will be referred to the Grading and Promotions Committee. If a failure results in a delay in starting the student's M3 year, a notation to that effect will be placed in the student's MSPE.

II. Associated PLFSOM Medical Education Program Goals and Objectives (PGOs)

The goal of the course is to ensure that students have acquired the skills necessary for lifelong learning and ensure readiness for the next stage of the curriculum. Each of the PICE elements is associated with specific PLFSOM Medical Education Program Goals and Objectives (PGOs) as tabulated below:

Learning Objectives by Educational Activity	
Activity	Associated PGO
ACLS training	1.1 Gather essential information about patients and their conditions through history taking, physical examination, and the use of laboratory data, imaging studies, and other tests. 1.2 Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment. 1.3 For a given clinical presentation, use data derived from the history, physical examination, imaging and/or laboratory investigation to categorize the disease process and generate and prioritize a focused list of diagnostic considerations. 1.5 Recognize a patient requiring urgent or emergent care, and initiate evaluation and management. 1.6 Describe and propose treatments appropriate to the patient's condition and preferences. 2.1 Compare and contrast normal variation and pathological states in the structure and function of the human body across the life span. 2.2 Apply established and emerging foundational/basic science principles to health care. 2.3 Apply evidenced-based principles of clinical sciences to diagnostic and therapeutic decision-making and clinical problem solving. 4.1 Communicate effectively with patients and families across a broad range of socio-economic and cultural backgrounds. 4.2 Communicate effectively with colleagues and other health care professionals. 7.1 Describe the roles of health care professionals. 7.2 Use knowledge of one's own role and the roles of other health care professionals to work together in providing safe and effective care. 7.3 Function effectively both as a team leader and team member. 7.4 Recognize and respond appropriately to circumstances involving conflict with other health care professionals and team members. 8.1 Recognize when to take responsibility and when to seek

Learning Objectives by Educational Activity	
Activity	Associated PGO
	assistance.
Comprehensive Basic Science Exam (CBSE)	1.3 For a given clinical presentation, use data derived from the history, physical examination, imaging and/or laboratory investigation to categorize the disease process and generate and prioritize a focused list of diagnostic 2.1 Compare and contrast normal variation and pathological states in the structure and function of the human body across the life span. 2.2 Apply established and emerging foundational/basic science principles to health care. 2.3 Apply evidenced-based principles of clinical sciences to diagnostic and therapeutic decision-making and clinical problem solving. 2.4 Apply principles of epidemiological sciences to the identification of health problems, risk factors, treatment strategies, resources, and disease prevention/health promotion efforts for patients and populations. 2.5 Apply principles of social-behavioral sciences to patient care including assessment of the impact of psychosocial, cultural, and societal influences on health, disease, care seeking, adherence and barriers to care.
End of Year OSCEs	1.1 Gather essential information about patients and their conditions through history taking, physical examination, and the use of laboratory data, imaging studies, and other tests. 1.2 Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment. 1.3 For a given clinical presentation, use data derived from the history, physical examination, imaging and/or laboratory investigation to categorize the disease process and generate and prioritize a focused list of diagnostic considerations. 1.4 Organize and prioritize responsibilities in order to provide care that is safe, efficient, and effective. 1.6 Describe and propose treatments appropriate to the patient's condition and preferences. 1.7 Accurately document history, physical examination, assessment, investigatory steps and treatment plans in the medical record. 1.8 Counsel and educate patients and their families to

Learning Objectives by Educational Activity	
Activity	Associated PGO
	empower them to participate in their care and enable shared decision-making. 2.1 Compare and contrast normal variation and pathological states in the structure and function of the human body across the life span. 4.1 Communicate effectively with patients and families across a broad range of socio-economic and cultural backgrounds. 4.2 Communicate effectively with colleagues and other health care professionals. 4.3 Communicate with sensitivity, honesty, compassion and empathy. 4.4 Maintain comprehensive and timely medical record. 5.1 Demonstrate sensitivity, compassion, integrity and respect for all people. 5.6 Demonstrate honesty in all professional and academic interactions.
Self-Directed Learning	3.1 Identify and perform learning activities to address gaps in one's knowledge, skills and/or attitudes. 8.5 Demonstrate the ability to employ self-initiated learning strategies (problem definition, identification of learning resources and critical appraisal of information) when approaching new challenges, problems or unfamiliar situations.
Tankside Grand Rounds	2.1 Compare and contrast normal variation and pathological states in the structure and function of the human body across the life span. 4.2 Communicate effectively with colleagues and other health care professionals. 4.3 Communicate with sensitivity, honesty, compassion and empathy. 4.4 Maintain comprehensive and timely medical records. 5.1 Demonstrate sensitivity, compassion, integrity and respect for all people. 5.3 Demonstrate accountability to patients and fellow members of the health care team. 5.7 Meet professional and academic commitments and obligations. 7.2 Use knowledge of one's own role and the roles of other health care professionals to work together in providing safe and effective care. 7.3 Function effectively both as a team leader and team

Learning Objectives by Educational Activity	
Activity	Associated PGO
	member. 8.5 Demonstrate the ability to employ self-initiated learning strategies (problem definition, identification of learning resources and critical appraisal of information) when approaching new challenges, problems or unfamiliar situations.

III. Course Policies and Procedures

You are expected to be present, to be prepared, and to be on time for all required PICE activities. Unless otherwise specified, activities begin on the hour.

Required Sessions

Sessions with required attendance will be highlighted by a star on the curriculum calendar view. In regard to required sessions, non-compliance with the PICE punctuality and attendance policy will have consequences that are reflected in your academic record. These consequences may include: required remediation; documentation in the student's academic record and e-Portfolio; and reporting to the Associate Dean of Student Affairs, the Associate Dean of Medical Education, and the PLFSOM Grading and Promotion Committee.

Absences

An unexcused absence will be considered a fail on any required activity or exam. Excused absences are granted through the Office of Student Affairs and include the following: documented illness; approved personal or family emergency; approved religious observance; approved professional commitment (see 'Attendance Policies' in the PLFSOM Student Handbook). If you wish to obtain an excused absence you must contact the Office of Student Affairs by submitting a request to plfabsence@ttuhsc.edu within 7 days of the occurrence. No credit will be given to any graded exercise missed without approval by the Office of Student Affairs.

Assessments

Tardiness for an assessment is disruptive, unprofessional, discourteous, and strongly discouraged. If you arrive up to 10 minutes late for a graded activity, you will be permitted entry to the assessment area entirely at the discretion of the chief proctor and with regard to the effect that such entry may have on the students already present in the assessment environment. Students who are permitted late entry to the assessment must finish at the scheduled end time. Students who arrive

more than 10 minutes late for an assessment will be denied entry and recorded as a fail for the exam. An unexcused absence from a summative assessment will result in an initial grade of 'Fail' for the course. Excused absences are granted through the Office of Student Affairs (see 'Course Policies and Procedures').

Be aware that assessments are provided under secure testing conditions and students are not permitted to copy, reproduce, transmit or distribute these items outside of the testing environment. This includes discussing the contents with other students. Any breach of this security, including failure to report a known offence, is a direct violation of the Code of Professional and Academic Conduct as described in the PLFSOM Student Handbook.

IV. Required Materials

There are no required texts, however, you will have access to the U-World test bank. This will provide you with the opportunity for formative assessment of your progress toward both your self-directed learning goals and your STEP preparation. You are strongly encouraged to take advantage of this resource.

V. Professionalism, Plagiarism and Copyright Policies

In PICE, as with all other courses in the Paul L. Foster School of Medicine, we expect students to behave in a professional manner, adhere to the Student Honor Code and adhere to published policies related to plagiarism and copyright protection. These policies are described in detail in the TTUHSC PLFSOM Medical Student Handbook. Students who do not behave in a professionally acceptable way and in accordance with these policies are subject to disciplinary action. Consequences may include failing the course and dismissal from PLFSOM (see TTUHSC PLFSOM Medical Student Handbook).

Appendix

ACLS Provider Training – Goals and Objectives

Goals	
1	Apply the principles of ACLS based on evidence-based principles from the 2010 AHA guidelines
2	Recognize and initiate early management of periarrest conditions that may result in arrest.
3	Demonstrate proficiency in providing BLS care.
4	Recognize and manage respiratory arrest.
5	Recognize and manage cardiac arrest.
6	Recognize and initiate early management of ACS, including appropriate disposition.
7	Recognize and initiate early management of stroke, including appropriated disposition.
8	Demonstrate effective communication as a team member or team leader.
9	Recognize the impact of team dynamics on overall team performance.

Performance Measures (Objectives)				
Cognitive Domain	Clinical Competency	Learning Environment *	PLFSOM Medical Education Program Goals and Objectives	
S, K	MK, PC	SSS, T	1.1	Gather essential information about patient and their conditions through history taking, physical examination and clinical data (EKG)
K, AB	MK, PC, PL	D, SSS, T	1.2	Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgement
K, AB	MK, PC	SSS, T	1.3	For a given clinical presentation, use data derived from the history, physical examination, imaging and/or laboratory investigation to categorize the disease process and generate and prioritize a focused list of diagnostic considerations
S, K	MK, PC	D, SSS, T	1.5	Recognize a patient requiring urgent or emergent care, and initiate evaluation and

				management
S, K	MK, PC	SSS, T	1.6	Describe and propose treatments appropriate to the patient's condition and preferences
K	MK	D, SSS, T	2.2	Apply established and emerging foundation/ basic science principles to health care
K, AB	MK, PC, PL	D, SSS, T	2.3	Apply evidence-based principles of clinical sciences to diagnostic and therapeutic decision-making and clinical problem solving
AB	PC, ICS, PR	SSS	4.1	Communicate effectively with patients across a broad range of socio-economic and cultural backgrounds
AB	PC, PR, ICS	SSS, T	4.2	Communicate effectively with colleagues and other healthcare professionals
K	PC, PR	SSS	7.1	Describe the role of health care professionals
S, K, AB	PC, ICS, PR, SL	SSS, T	7.2	Use knowledge of one's own role and the role of others health care professionals to work together in providing safe and effective care
K, AB	PC, ICS, PR	SSS, T	7.3	Function effectively both as a team leader and team member
K, AB	PC, ICS, PR, SL	SSS, T	8.1	Recognize when to take responsibilities and when to seek assistance

Legend:

Cognitive Domain	Clinical Competency	Learning Environment*
K = Knowledge	MK = Medical Knowledge	D = Didactics
S = Skills	PC = Patient Care	SSS = Simulation Skills Session
AB = Attitude, Behavior	ICS = Interpersonal and Communication Skills	T = Testing (pre- , post- , megacode)
	PR = Professionalism	
	PL = Practice-based and Lifelong Learning	
	SL = Systems-based Learning	

* Students are required to attend all didactic sessions. Students are divided into teams for the simulation sessions, where they are assessed at each skills simulation session for their individual performance and their ability to participate in a team. Testing includes the pre-test and post-test offered by AHA and individual passage of a megacode.

Tankside Grand Rounds Rubric

CATEGORY	4	3	2	1
Presentation skills	Professional level presentation	Satisfactory presentation	Adequate presentation, but lacks detail	Poor quality presentation which lacks detail
Picture utilization	Pictures labeled as to site, supportive of findings, with good understanding of their significance	Pictures labeled as to site, supportive of findings, and explanations show some lack of understanding	Pictures labeled as to site, not supportive of findings, and lack of understanding of their significance.	Pictures not labeled as to site, not supportive of findings and no understanding of their significance
Comprehension	Students are able to accurately answer almost all questions about the case	Students are able to accurately answer most questions about the case	Students are able to accurately answer a few questions about the case	Students are unable to accurately answer questions about the case
Preparedness	Students are completely prepared and have obviously rehearsed	Students seem pretty prepared but might have needed a couple more rehearsals	The students are somewhat prepared, but it is clear that rehearsal was lacking	Students don't seem at all prepared to present.
Content	Shows a full understanding of the case	Shows a good understanding of the case	Shows a good understanding of parts of the case	Does not seem to understand the case very well
Basic science content	Able to clearly explain basic science content relevant to their case	Explains some of the basic science content relevant to their case	Not much basic science material is explained, but can answer basic science questions	Not much basic science in presentation and /or can't answer basic science questions correctly
Collaboration with peers	Evidence that the group has worked together to complete the presentation	Group has worked together to prepare the presentation, but only a few can answer questions about the case	A few of the group worked together to prepare and present the case; others did not participate	Group did not work together to prepare or present the case.

Learning Plan Required Elements

Name:
College:
Faculty Review Signature Block

Background

CBSE Performance Summary: (attach most recent formative CBSE Performance Profile)
Unit Summary:
SPM Discipline Performance Information (from e-Portfolio):

Discipline	Your Average %	Class Average %	Number of Items
Anatomy			
Behavior			
Biochemistry			
Cell and Molecular Biology			
Embryology			
Histology			
Immunology			
Medical Genetics			
Microbiology			
Neuro-anatomy			
Neuroscience / Special senses			
Nutrition			
Pathology			
Pharmacology			
Physiology			
Scheme			

Self-Assessment

Please identify

- the areas that will yield the greatest improvement in your STEP 1 scores.
- The clinical presentation(s) that you most need to improve your understanding of before you reach the clinic.
- The assessment item topic and faculty reviewer for your area of interest.

Learning Strategies

Identify study tasks/techniques (besides reading) that you will be utilizing.

Resources that you plan to use:

Outcomes:

How will you know you are successful in meeting your learning objectives?

Self-Directed Learning (SDL) Assessment Rubric

Student Name:
College:
Faculty Reviewer: _____ _____
Printed name Signature

Date review: _____

Please note that all items must reach an acceptable level in order to be considered approved.

	Acceptable	Unacceptable
CBSE performance summary	Student has included most recent CBSE performance profiles	CBSE performance profiles are not attached
SPM Discipline Performance Information	Student has included a table showing cumulative discipline-specific performance data for summative assessments.	Table is incomplete or missing.
Self-assessment summary	Student has completed a reflective summary identifying one or more areas for focused improvement that is substantiated by CBSE and summative assessment data.	Student has not submitted a self-assessment summary or the self-assessment is cursory/incomplete based on the data.
Learning Goals	Student has clearly articulated learning goals that are derived from their self-assessment	Learning goals are unclear or incongruent with self-assessment summary.
Learning Strategies	Student has identified appropriate learning tasks to achieve these goals.	Learning strategies are unclear or misaligned with goals.
Resources	Student has identified appropriate peer-reviewed resources to support learning goals.	Resources not identified or are of questionable quality.
SDL Assessment Item	Student has chosen a discipline and topic for their SDL assignment (MCQ question) that is in alignment with their learning goals.	Proposed discipline and topic for SDL assignment is unclear or inconsistent with learning goals.

Comments:

Bloom's Taxonomy

You may find it useful to think about your self-directed learning goals in terms of Bloom's Taxonomy. Bloom created a taxonomy of learning that arranges knowledge from the lowest level to the level of expert. This has been modified to show the actions that reflect levels of learning. The action verbs used in learning objectives

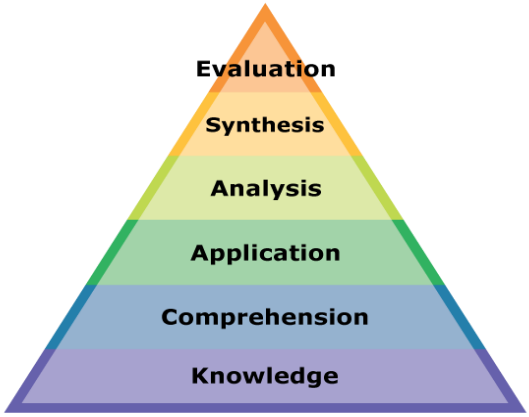

Figure 1: Original Bloom's Taxonomy

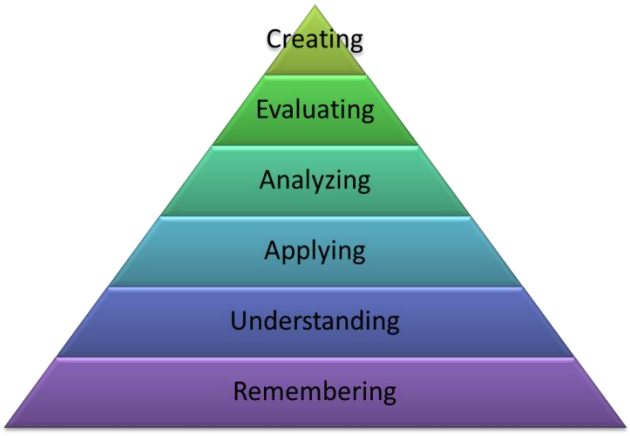

Figure 2: Bloom's Taxonomy as Actions

are useful ways of determining the level of learning. The NBME is moving its tests away from the lower levels and into the level of applying and analyzing.

Category	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating
Bloom's Definition	Exhibit memory of previously learned material by recalling facts, terms, basic concepts, and answers.	Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions, and stating main ideas.	Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way.	Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations.	Present and defend opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria.	Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions.
Verbs	Choose Define Find How Label List Match Name Omit Recall Relate Select Show Spell Tell	Classify Compare Contrast Demonstrate Explain Extend Illustrate Infer Interpret Outline Relate Rephrase Show Summarize Translate	Apply Build Choose Construct Develop Experiment with Identify Interview Make use of Model Organize Plan Select Solve Utilize	Analyze Assume Categorize Classify Compare Conclusion Contrast Discover Dissect Distinguish Divide Examine Function Inference Inspect	Agree Appraise Assess Award Choose Compare Conclude Criteria Criticize Decide Deduct Defend Determine Disprove Estimate	Adapt Build Change Choose Combine Compile Compose Construct Create Delete Design Develop Discuss Elaborate Estimate

Category	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating
	What When Where Which Who Why			List Motive Relationships Simplify Survey Take part in Test for Theme	Evaluate Explain Importance Influence Interpret Judge Justify Mark Measure Opinion Perceive Prioritize Prove Rate Recommend Rule on Select Support Value	Formulate Happen Imagine Improve Invent Make up Maximize Minimize Modify Original Originate Plan Predict Propose Solution Solve Suppose Test Theory Maximize Minimize

Anderson, L. W., & Krathwohl, D. R. (2001). A taxonomy for learning, teaching, and assessing, Abridged Edition. Boston, MA: Allyn and Bacon.