TEXAS TECH UNIVERSITY
HEALTH SCIENCES CENTER™
EL PASO
Paul L. Foster School *of* Medicine

Syllabus

Pre-Clerkship Preparation Course (PICE)

PICE 7001

Academic Year 2017-2018

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Course Description

The Clerkship Preparation Course (PICE) is designed to ensure that students have acquired the skills necessary for lifelong learning and ensure readiness for the next stage of the curriculum. In order to achieve this goal, 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.

Competencies, Program Goals and Objectives, and Outcome Measures

The Paul L. Foster School of Medicine education program goals and objectives are outcome-based statements that guide instruction and assessment as you develop the knowledge and abilities expected of a physician. All elements of the PLFSOM curriculum are derived from and contribute to the fulfillment of one or more of the medical education program's goals and objectives, which can be found at PLFSOM PGOs. PICE is designed to meet the following PLFSOM Medical Education Program Goals and Objectives:

Patient Care		
Educational Program Objectives		Outcome Measures
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.	• Exam – Licensure, Clinical Performance (ACLS certification) • Exam – Institutionally Developed, Clinical Performance (End-of-Year OSCE)
1.2	Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment.	• Exam – Licensure, Clinical Performance (ACLS certification) • Exam – Institutionally Developed, Clinical Performance (End-of-Year OSCE)
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.	• Exam – Licensure, Clinical Performance (ACLS certification) • Exam – Nationally Normed/Standardized, Subject (NBME CBSE) • Exam – Institutionally Developed, Clinical Performance (End-of-Year OSCE)
1.4	Organize and prioritize responsibilities in order to provide care that is safe, efficient, and effective.	• Exam – Institutionally Developed, Clinical Performance (End-of-Year OSCE)
1.5	Recognize a patient requiring urgent or emergent care, and initiate evaluation and management.	• Exam – Licensure, Clinical Performance (ACLS certification)
1.6	Describe and propose treatments appropriate to the patient's condition and preferences.	• Exam – Licensure, Clinical Performance (ACLS certification)

		• Exam – Institutionally Developed, Clinical Performance (End-of-Year OSCE)
1.7	Accurately document history, physical examination, assessment, investigatory steps and treatment plans in the medical record.	• Exam – Institutionally Developed, Clinical Performance (End-of-Year OSCE)
1.8	Counsel and educate patients and their families to empower them to participate in their care and enable shared decision-making.	• Exam – Institutionally Developed, Clinical Performance (End-of-Year OSCE)
Knowledge for Practice		
Educational Program Objectives		Outcome Measures
2.1	Compare and contrast normal variation and pathological states in the structure and function of the human body across the life span.	• Exam – Licensure, Clinical Performance (ACLS certification) • Exam – Nationally Normed/Standardized, Subject (NBME CBSE) • Exam – Institutionally Developed, Clinical Performance (End-of-Year OSCE) • Narrative Assessment (Tankside Grand Rounds Rubric)
2.2	Apply established and emerging foundational/basic science principles to health care.	• Exam – Licensure, Clinical Performance (ACLS certification) • Exam – Nationally Normed/Standardized, Subject (NBME CBSE)
2.3	Apply evidenced-based principles of clinical sciences to diagnostic and therapeutic decision-making and clinical problem solving.	• Exam – Licensure, Clinical Performance (ACLS certification) • Exam – Nationally Normed/Standardized, Subject (NBME CBSE)
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.	• Exam – Nationally Normed/Standardized, Subject (NBME CBSE)

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.	• Exam – Nationally Normed/Standardized, Subject (NBME CBSE)
Practice-Based Learning and Improvement		
Educational Program Objectives		Outcome Measures
3.1	Identify and perform learning activities to address gaps in one's knowledge, skills and/or attitudes.	• Narrative Assessment (Self-Directed Learning Plan Rubric) • Self-Assessment (Self-Directed Learning Plan Rubric)
Interpersonal and Communication Skills		
Educational Program Objectives		Outcome Measures
4.1	Communicate effectively with patients and families across a broad range of socioeconomic and cultural backgrounds.	• Exam – Licensure, Clinical Performance (ACLS certification) • Exam – Institutionally Developed, Clinical Performance (End-of-Year OSCE)
4.2	Communicate effectively with colleagues and other health care professionals.	• Exam – Licensure, Clinical Performance (ACLS certification) • Exam – Institutionally Developed, Clinical Performance (End-of-Year OSCE) • Narrative Assessment (Tankside Grand Rounds Rubric)
4.3	Communicate with sensitivity, honesty, compassion and empathy.	• Exam – Institutionally Developed, Clinical Performance (End-of-Year OSCE) • Narrative Assessment (Tankside Grand Rounds Rubric)
4.4	Maintain comprehensive and timely medical records.	• Exam – Institutionally Developed, Clinical Performance (End-of-Year OSCE) • Narrative Assessment (Tankside Grand Rounds Rubric)

Professionalism		
Educational Program Objectives		Outcome Measures
5.1	Demonstrate sensitivity, compassion, integrity and respect for all people.	• Exam – Institutionally Developed, Clinical Performance (End-of-Year OSCE) • Narrative Assessment (Tankside Grand Rounds Rubric)
5.3	Demonstrate accountability to patients and fellow members of the health care team.	• Narrative Assessment (Tankside Grand Rounds Rubric)
5.6	Demonstrate honesty in all professional and academic interactions.	• Exam – Institutionally Developed, Clinical Performance (End-of-Year OSCE)
5.7	Meet professional and academic commitments and obligations.	• Narrative Assessment (Tankside Grand Rounds Rubric)
Interprofessional Collaboration		
Educational Program Objectives		Outcome Measures
7.1	Describe the roles of health care professionals.	• Exam – Licensure, Clinical Performance (ACLS certification)
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.	• Exam – Licensure, Clinical Performance (ACLS certification) • Narrative Assessment (Tankside Grand Rounds Rubric)
7.3	Function effectively both as a team leader and team member.	• Exam – Licensure, Clinical Performance (ACLS certification) • Narrative Assessment (Tankside Grand Rounds Rubric)
7.4	Recognize and respond appropriately to circumstances involving conflict with other health care professionals and team members.	• Exam – Licensure, Clinical Performance (ACLS certification)
Personal and Professional Development		
Educational Program Objectives		Outcome Measures
8.1	Recognize when to take responsibility and when to seek assistance.	• Exam – Licensure, Clinical Performance (ACLS certification)

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.	• Narrative Assessment (Self-Directed Learning Plan Rubric) • Self-Assessment (Self-Directed Learning Plan Rubric) • Narrative Assessment (Tankside Grand Rounds Rubric)

Grading System

Passing this course requires a passing grade in each of the following components:

- ACLS Training & Certification Exam
    - Qualifying pretest (with passing score) submitted in Canvas by 4PM
    - Participation
    - Certification Exam
- End of Year OSCE
- Self-Directed Learning (SDL) Plan
- Tankside Grand Rounds
- Comprehensive Basic Science Exam (CBSE)
- Professionalism

A failure in any component will result in a failing grade for the course and referral 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.

Important Dates

Date:	Activity/Deadline:	Location:*
19 February 2018	Orientation	MEB 1100
19 February 2018	Formative Comprehensive Basic Science Exam (CBSE)	MEB 1100/1200
21 February 2018	ACLS Qualifying pretest score ≥ 80% (due by 4 PM)	CANVAS upload
22 February 2018	ACLS Video/Lecture	MEB 1100
26-28 February & 01 March 2018	ACLS Practical and Mega Code (by College)	Regional Simulation and Training Center
02 March 2018	ACLS Review and Certification Exam	MEB 1100
05-07 March 2018	End-of-Year OSCE (2 hours per student)	ATACS Center
08 March 2018	Self-Directed Learning Plan Approval By College Master (due by 11:59 PM)	CANVAS upload
14 March 2018	Tankside Grand Rounds	MEB room TBD
23 March 2018	Summative CBSE	MEB 1100/1200

*room locations subject to change

Summative CBSE Remediation Dates:

12 April 2018

26 April 2018

Course Policies and Procedures

Attendance/Participation Policies

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.

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 'Absences' below).

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.

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.

Required Materials

ACLS Provider Manual (provided prior to the course start date)

ACLS (Advanced Cardiovascular Life Support)

Welcome to the ACLS Provider Course offered by the Texas Tech University Health Sciences Center El Paso: Regional Simulation and Training Center. This program is designed to review, organize and prioritize the skills and cognitive knowledge needed to handle a variety of cardiopulmonary emergencies. A primary focus of this course is on the resuscitation aspects of the patient in cardiac arrest and post arrest situations. 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). The specific goals/objectives for the ACLS course include the following:

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

There is a prequalifying exam for ACLS training (administered asynchronously) which students will be required to pass and submit in Canvas by 4:00 PM Wednesday 21 February. On page ii of the Manual you will find the ACLS student website which contains the self-assessment and pass code which will allow you to log on into the site. From there click on the Pre- course assessment and follow the instructions. You need to obtain a score of at least 80% to be eligible to participate in our ACLS Class. To facilitate entry, please make sure to print out your exam results and bring it with you to class.

The primary didactic session begins at 8:00 a.m. in Room 1100 at the MEB on Thursday February 22, 2018. Please make sure to bring your ACLS Provider Manual with you to class as it is required for this course. Students not in attendance for the entire didactic session will not be allowed to take part in the psychomotor aspect of this course or be allowed to take the ACLS Written Exam. With such a large number of students it is imperative that you arrive no later than 7:45 a.m. as you will need to sign in and provide your ACLS Pre-Test. Those arriving after 8:15 will not be allowed entrance into the session.

The psychomotor components will be held at the Texas Tech University Health Sciences Center El Paso Regional Simulation and Training Center located on the 2nd floor of the Gayle Greve Hunt School of Nursing Building. We will begin each session in room 105 then divide into smaller groups for the skills practice and mega-code evaluations. Business casual required. No shorts, flip-flops or tank tops will be allowed. You will be given a "Group Designation" prior to Thursday February 22rd. Take note of when your group is scheduled to attend the psychomotor portion of this program. Please stay in your group. Do not switch with other students or attend on a different day. Any changes to the group assignments must be made with Dr. Lacy no later than Tuesday February 20th.

The final Review and Written Examination will be held on Friday March 2, 2018 back in the MEB Room 1100. Only those who attended both the Primary Didactic Session on Monday and passed their Mega-Code Testing segment will be allowed to sit for the Written Examination. A minimum score of 84% is required by the AHA for certification. A student may pass this element of PICE without passing the certification exam provided that the faculty note appropriate preparation, effort, and professionalism.

Remediation: Any student needing to remediate the course for missing a required submission of the pretest or session, 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). A failure resulting from inadequate preparation or effort will result in a fail for the course and a referral will be made to the Grading and Promotions Committee.

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 a 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 anatomy teams 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 judgment of pass or remediation required.

Data for TSGR comes from the cadavers in the anatomy labs and from pathology labs held three times during the M1 year. Students will be assigned to one of 24 "tank" teams. Two teams will be assigned to each cadaver. Teams sharing a cadaver may work together to create their presentations but each team will be expected to fully present, explain, and answer questions about their cadaver.

During anatomy labs, students will want to pay attention to any discussions specific to their cadaver and take extra notes to assist in their presentation development. Teams can find the additional needed data about their cadaver in the DEMR, which contains the dissection notes and images.

Biopsies will be taken during one of three pathology labs. These labs will occur on the last Thursday of the GIS, CVR and Renal units. In some cases, appropriate biopsies may be delayed to ensure the quality of teaching in later units is not diminished. Working with the pathology faculty, teams may take additional biopsies at the end of the renal unit. The number of biopsies will be at the discretion of the pathology faculty.

For excused absences, a student will be required to give the entire presentation to a faculty panel. As part of the presentation, the student should be prepared to discuss his/her contributions to the presentation and answer questions on all aspects of the case. If a grade of 'remediation required' is received, the faculty will create a remediation plan specific to the weaknesses observed. This may include presentation of another case or preparation of other elements for presentation.

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 have an opportunity 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) Plan

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, students are required to create and present a plan to their college master (or other faculty member as may be designated by the Assistant Dean for Basic Science Instruction) for review and approval.

The plan should analyze the available information on your performance and identify the major areas of learning that you will concentrate on in order to pass STEP 1 and to complete your preparation to be a clerk. 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 while we acknowledge that most students will want to include First Aid for Step 1 as one of

their resources, students are expected to identify a broad array of high-quality peer-reviewed resources. Other resources may include faculty consultations.

Plans will be reviewed with your college master or designated faculty member (See Appendix: 'Self-Directed Learning PLAN Rubric). In the event that a plan is not complete, you will need to revise and resubmit it. When your college master signs off on the plan, you will be required to submit (through CANVAS) a signed copy to the course director, who will also review it for completeness. Failure to complete the assignment will result in a failing grade until the plan review is completed and, at the discretion of the course directors, a remediation assignment is completed.

Plagiarism and late submissions requiring remediation will be considered professionalism issues (see 'Professionalism, Plagiarism and Copyright Policies' and the TTUHSC El Paso PLFSOM 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 the summative course administration of the CBSE, you will be permitted to remediate the exam on an individualized schedule agreed upon by the course directors and student, with input from the Associate Dean for Student Affairs. Remediation resulting a passing score must occur before May 14th, 2018 in order to avoid an F (Pass with Remediation) on the transcript.

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 El Paso PLFSOM 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 El Paso PLFSOM Student Handbook).

This course includes a narrative assessment of your professionalism. Any significant breach of professionalism or multiple smaller breaches of professionalism may result in a variety of outcomes. These include, but are not limited to, individualized remediation and/or a grade of "F" and referral to the Grading and Promotions Committee.

In addition to the behavioral expectations and professional standards found in PLFSOM student handbook, your professionalism grade will include attendance at required sessions and

communication with faculty. Sessions with required attendance will be highlighted by a star on the curriculum calendar view.

Appendix

Tankside Grand Rounds Grading 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	Group has worked together to prepare the presentation, but	A few of the group worked together to prepare and present	Group did not work together to prepare or present the case.

	complete the presentation	only a few can answer questions about the case	the case; others did not participate	
Scheme utilization	An appropriate scheme is utilized and incorporated logically into the presentation	An appropriate scheme is utilized and partially incorporated into the presentation	Scheme utilization is limited and incorporation into the presentation is minimal.	No evidence of utilization of a scheme and/or no incorporation into the presentation
Correlation of findings with cause of death	Cause of death is very well correlated with gross and microscopic findings	Some correlation of gross and microscopic findings with cause of death is attempted	Minimal correlation between cause of death and gross and microscopic findings is attempted	No correlation between cause of death and gross and microscopic findings is attempted
Recent reference materials	Major diagnos(es) are researched and the results are incorporated logically into the presentation	Major diagnos(es) are researched and somewhat logically incorporated into the presentation	Evidence of active use of research materials is limited and incorporation into the presentation is minimal	No evidence of research into the major diagnos(es) and/or no incorporation into the presentation
Slides easy to read and follow	Order of presentation is logical and slides are easy to read and not crowded	Order of presentation is logical, but slides are crowded or hard to read	Presentation is hard to follow and/or slides are crowded or hard to read	Presentation does not make sense and/or slides are crowded or hard to read

Learning Plan Required Elements

Name:

Background:

CBSE Performance Summary: (attach most recent formative CBSE Performance Profile)

Unit Test Performance:

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 discuss

- 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.

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) Plan 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
Unit Grades	Student provided unit grade performance data	Student did not provide unit grade information.
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 ☐ Identifies one or more areas for focused improvement ☐ Is substantiated by CBSE and summative assessment data.	☐ Student has not submitted a self-assessment summary ☐ The self-assessment is cursory/incomplete ☐ Link to data lacking/unclear.
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.

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 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.

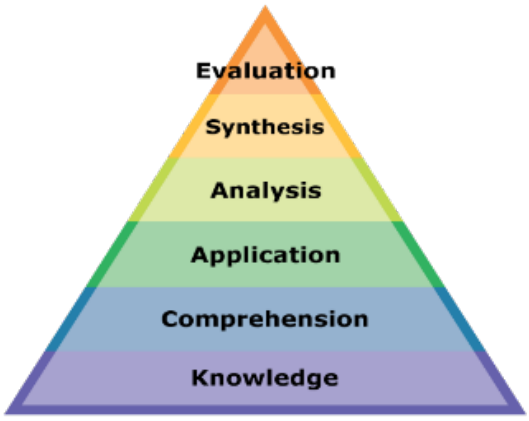

Figure 1: Original Bloom's Taxonomy

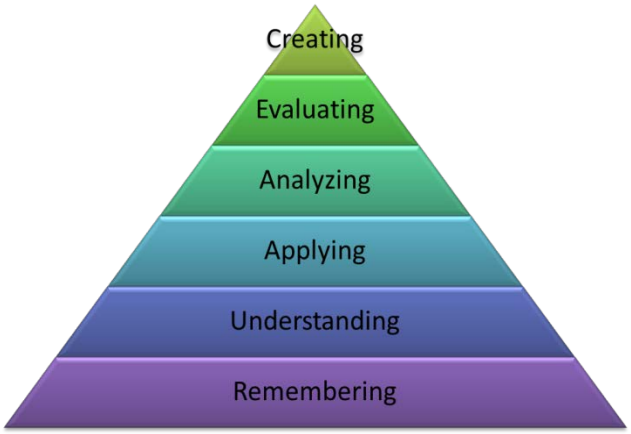

Figure 2: Bloom's Taxonomy as Actions

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	Classify Compare Contrast Demonstrate Explain Extend Illustrate Infer Interpret Outline Relate Rephrase Show	Apply Build Choose Construct Develop Experiment with Identify Interview Make use of Model Organize Plan	Analyze Assume Categorize Classify Compare Conclusion Contrast Discover Dissect Distinguish Divide Examine Function	Agree Appraise Assess Award Choose Compare Conclude Criteria Criticize Decide Deduct Defend Determine	Adapt Build Change Choose Combine Compile Compose Construct Create Delete Design Develop Discuss

Category	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating
	Spell Tell What When Where Which Who Why	Summarize Translate	Select Solve Utilize	Inference Inspect List Motive Relationships Simplify Survey Take part in Test for Theme	Disprove Estimate Evaluate Explain Importance Influence Interpret Judge Justify Mark Measure Opinion Perceive Prioritize Prove Rate Recommend Rule on Select Support Value	Elaborate Estimate 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.