GEISEL SCHOOL OF MEDICINE
AT DARTMOUTH

MEDICAL EDUCATION COMMITTEE (MEC) MEETING

TUESDAY, NOVEMBER 19, 2013
4:00 – 5:30 PM DHMC
AUDITORIUM D

MINUTES

Voting Members		Voting Members		Non-voting Members		Non-voting Members	
Abdelghany, Mazin T.	--	Johansen, Sarah G.	X	Comi, Richard	--	McAllister, Stephen B.	--
Ahmed, Yashi	X	Madden, Dean R.	X	Cousineau, Laura K.	--	Noble, Geoffrey P.	X
Barnes, Jonathan A.	--	Manning, Harold L.	X	Davis, Ann J.	X	Reid, Brian P.	X
Bay, Jessie	--	Nierenberg, David W.	X	Dick.III, John.F.	X	Shoop, Glenda H.	X
Black, Candice	X	Reed, Virginia A.	X	Eastman, Terri L.	--	Stewart, Cynthia L.	X
Boyce, William	--	Rees, Christiaan A.	X	Fall, Leslie H.	--	Todd, Frances M.	--
Tiffany, Brazile, M	X	Shah, Krina S.	--	Grollman, Diane W.	--	Trietley, Kalindi E.	X
Burchard, Kenneth W.	--	Simons, Richard J. (Chair)	X	Hahn, Cynthia K.	--	Eliassen, Scottie	X
Colby, Benjamin S.	--	Supattapone, Surachai	--	Jaeger, Michele W.	X	Hammond, Rachel (Admin. Support)	X
Freemantle, Sarah	X	Usherwood, Edward	X	Kidder, Tony	--		
Hyde, Robert	X	Weinstein, Adam	X	Lyons, Virginia T.	X		

Guest(s)
Thomas Kaneko
Cathy Morrow
Charlie Barlowe

Present = X Absent = --

1. **Call to Order -** *Richard Simons, MD*

   Dr. Richard Simons, Chair, called the meeting to order at 4:04 pm.

2. **Approval of October meeting minutes**

   Dr. Sarah Johansen made a motion to approve the October minutes. The motion was seconded by Christiaan Rees. The motion passed by a unanimous vote.

3. Announcements - *Richard Simons, MD*

- Introduction – Rachel Hammond, is the new Administrative Assistant to Dr. Simons. Rachel came from the Department of Psychiatry and is starting her second week with the Office of Medical Education. She will support the MEC chair by taking minutes, and will continue to support the new MEC chair as time goes on.
- *Reminder* - November 22, 2013 – Joseph C. Kolars, M.D., **Senior Associate Dean for Education and Global Initiatives** from the University of Michigan's School of Medicine will present at Medicine Grand Rounds. He will focus his presentation on how medical education relates to global health. Presentation begins at 12:15 pm in the Life Sciences Building. He has had a remarkable career in global health. He has lived in China for 8 years and has worked with the Gates Foundation spending a lot of time in China and Africa. Dr. Kolars is also a Gastroenterologist and the Residency Director.
- Geisel Medical School received a full 8-year accreditation from the Liaison Committee on Medical Education (LCME). A full report with all the findings will be presented at the December MEC meeting

  There were eleven areas of concern that will be discussed in detail at the next meeting on December 17, 2013.

  Three areas of concern for non-curricular related issues
  - Faculty diversity
  - Student diversity for pipeline programs
  - Faculty feedback from the chair

  Eight areas of concern for curriculum-related issues
  - Medical Student Treatment
  - Central control of the curriculum by the MEC
  - Duty hours for Clerkships
  - Clerkship comparability
  - Institutional objectives and how they form the process of course objectives
  - Active Learning (Criticizes predominate lecture approach)
  - Resident preparation as teachers
  - Inter-professional education

- Scheduled – Curriculum Review Retreat – February 28, 2014 from 1:30 – 5:00 pm. in Auditorium G at Dartmouth Hitchcock Medical Center (DHMC)

4. Election of MEC Chair – *Richard Simons, MD*

In June, 2012, Dr. Simons was named interim chair of the MEC. The intention, at that time, was that he would act in the position for a 6-12 month period. The election is being held to appoint a permanent chair for the MEC.

Two MEC members were nominated for the chair position.

Dr. Adam Weinstein made a motion to nominate Dr. Sarah Johansen. Dr. Dean Madden followed with a motion to nominate Dr. Adam Weinstein. Dr. Virginia Reed seconded the motions for the nominations. The motions passed unanimously.

Each nominee gave a brief description of their background and experiences. They were asked to leave the room during the subsequent discussion among the MEC voting members, and for the final closed-ballot vote.

Nominees

Sarah G. Johansen, M.D
Emergency Medicine
Assistant Professor of Medicine
Assistant Professor of Community and Family Medicine

Dr. Sarah Johansen has been with the MEC for approximately 5 years. She has taught at Geisel for 20 years. Chairman of the Community Preceptor Board. Serves on the Communications Committee for Curriculum Redesign. Passion is advising and mentoring.

Adam Richard Weinstein, M.D.
Pediatric Nephrology
Assistant Professor of Pediatrics
Director of Pediatric Student of Medical Education

Dr. Adam Weinstein is the clerkship director of Pediatrics. Dr. Weinstein has significant involvement in all four years of the medical school. He sits on many different committees, such as the Curriculum Redsign Committee, and has lead the Clinical Immersion Committee, he is also a member of the Resilience Committee.

There was a discussion regarding the term limits for the chair position because no term limits were specified in the by-laws. A motion was made to set the term limit at 3 years. This was seconded by Chistiaan Rees. The discussion continued. Dr. Dean Madden suggested a 2+2 structure for a maximum of four years to allow some overlap at the chair position. The general consensus was to keep the three-year term, and the motion was amended so that a chair-elect will be named to provide a one-year overlap at the end of the second year. After further discussion, Edward Usherwood withdrew the motion for term limits, and pass the decision on term limits to the Faculty Council.

Going forward, Dr. Richard Simons will assist the new chair with agenda items, and reach out to various directors and deans over years 1 – 4 to collate the clerkship and course reviews, to help decrease the workload of the chair, and assure a smooth transition of responsibilities.

Dr. Sarah Johansen was voted the new MEC Chair by a closed ballot vote.

5. **Review of Family Medicine Clerkship** (Attachment A) **–** *John Dick, MD*

Dr. John Dick reported the Family Medicine Clerkship review (page 5)
Dr. Kathleen Morrow reported the Family Medicine Clerkship responses to course review (page 9)
Dr. Kathleen Morrow reported the Family Medicine Clerkship objectives (page 10)

Dr. David Nierenberg made a motion to approve Family Medicine Clerkship review. The motion was seconded by Dr. Adam Weinstein. The motion was passed by a unanimous vote. Please note there was a proposal for new course objectives that where approved.

6. **Review of FEK SBM Course** (Attachment B) **–** *David Nierenberg, MD*

Dr. David Nierenberg reported the Fluid, Electrolyte, and Kidneys (FEK) SBM Course review (page 13)
Dr. Thomas Kaneko reported the FEK SBM Course review action plan responses to course review (page 25)
Dr. Thomas Kaneko reported the FEK SBM Course review objectives (page 29)

Dr. Dean Madden made a motion to approve FEK SBM Course review. The motion was seconded by Christiaan Rees. The motion was passed by a unanimous vote. Please note there was a proposal for new course objectives that where approved.

7. **Review of Biochemistry Metabolism** (Attachment C) **–** *Charlie Barlowe, MD*

Dr. Virginia Lyons reported the Biochemistry Metabolism review (page 30)
Dr. Charlie Barlowe reported the Biochemistry – BIOC112 (page 46)

Dr. Hal Manning made a motion to approve Biochemistry Metabolism Course review. The motion was seconded by Dr. Dean Madden. The motion was passed by a unanimous vote.

8. Student Representative Comments

Students would like a list of all course and session objectives at the beginning of the course. This will allow the student to better guide/self-access through the courses. Brian Reid can build something within blackboard, but will take some time.

9. Other Business

Going forward the members ask that all documentation be distributed in a timely manner and not reviewed step-by-step during the meeting. The member's request that key items be addressed only, and allow time to address questions.

10. Adjournment – *Richard Simons, MD*

Dr. Simons adjourned the meeting at 6:00 pm.

To Do

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Future Meeting Dates (Third Tuesday of each month, 4:00-5:30 pm)

- January 21, 2014
- February 18, 2014
- March 18, 2014
- April 15, 2014

Appendix A

Slide 1

Family Medicine Clerkship Review

Medical Education Committee

November 2013

Slide 2

General Description of Clerkship

- 6 week required 3rd year clerkship based in Family Medicine focused predominantly on ambulatory medicine.
  - 5 weeks clinical
  - 2 days orientation / 2 days wrap up/testing
- Uses 35 different sites including those in AK, AZ, California, ME/VT/NH

Slide 3

Objectives Review

- 35 different objectives that match to Geisel competencies
  - Felt to be excessive and to have room for consolidation
  - Recommendations made to consolidate while maintaining focus on guidance by Geisel competencies
  - Recommendation to align with objectives shown to students (both course and session objectives)

Slide 4

Essential Conditions/Skills Review

- 15 Conditions
  - Consider pulling out specific conditions for those that are grouped (HEENT conditions) or require more than 1
  - Change level of student responsibility from “Manage” to “Manage with Assistance”
- 10 Skills

Slide 5

Learner Assessment Review

- Variety of methods used
  - Write ups with peer and faculty feedback
  - Clinical Performance Evaluations linked to Geisel Competencies
  - Formalized mid-clerkship feedback
  - NBME Subject Exam
  - Case Presentations, Seminars
  - DMEDS
  - Addressing Barriers to Care Review
  - SP encounter with video recording and peer review – Shared Decision Making

Slide 6

Course Outcomes

- NBME: Geisel: 77.8 / National Aver: 75.9
- Student Feedback:
  - Overall Quality, Attending Teaching, Volume and Variety of patients all Very Good to Excellent
  - 2013 AAMC Questionnaire
    - Just below National Average for most items
  - Strengths:
    - Diversity of experience
    - Student autonomy
    - Quality of preceptors
  - Areas for Improvement:
    - Improve efficiency of pre- and post-clerkship sessions
    - Reconsider role of videoconferences
    - Assignments: More realistic write-ups with transparent grading criteria; less "busy work"
    - Clearly identify a main preceptor at each site who is responsible for evaluation and has adequate contact with the student

Site Comparability

- Essential Skills/Conditions:
  - Excellent parity
- Grades: Difficult b/c of low numbers
  - Newport (7 students)– no honors, Randolph (9 students)– all honors
- Student Feedback
  - Shiprock (only two students) and Tuba City with lower scores

FAMILY MEDICINE CLERKSHIP

Action Plan in Response to Sept 2013 Course Review

COURSE REVIEW RECOMMENDATIONS	FMC RESPONSE
Assure the course learning objectives as indicated in Ilios are clear to students	Course objectives, as listed in Ilios, posted on Blackboard and highlighted during orientation beginning Block 4
Rework language of learning objectives – consider consolidation	Course objectives re-written and submitted to MEC for approval
Assure that session learning objectives as indicated in Ilios are clear to students	Session objectives are stated (or shown on a slide) at the beginning of every classroom session; are on all written assignments; are emailed to students prior to videoconference. In progress; to be completed by Block 5.
Consider more specific Essential Conditions for systems which currently aggregate individual items in DMEDS (derm, HEENT, GI, Kidney-Urinary Tract)	Considering issues in selecting one item within an organ system: seasonality; scope of practice; simplicity. Also considering raising the threshold from documenting ONE patient visit to documenting FIVE for these aggregated areas.
Consider changing Addressing Barriers to Care assignment to de-couple from Write-Up #1	Done beginning Block 4
Remove DDx assignment	Assignment was removed after AY 2012/13
Clarify Write-Up grading policy	Write-Ups will be graded on a rubric beginning Block 4. Rubric is presented with assignment.
Consider using SOAP note format for one of the two write-ups	Write-Up #2 is SOAP note format beginning Block 4.
Be clear with students about when they can find time to work on ABC assignment	Discussed during orientation, stated in assignment description, re-iterated in weekly email communication.
Consider ways to shorten orientation and wrap-up sessions	All three days significantly shortened in AY 2013/14 (by at least two hours each of the three days).
Consider revision of videoconferences to provide summary 'Expert' answers at end so students feel comfortable with main learning points	Done beginning Block 3.

Family Medicine Clerkship objectives

previous		action	proposed Oct 2013
1	Acquire and apply core basic and clinical science knowledge about the essential FM conditions.	essential → common	1. Acquire and apply core basic and clinical science knowledge about common FM conditions.
2	Perform focused and comprehensive physical exams appropriate to essential FM complaints and the FM clinical setting.	essential → common	2. Perform focused and comprehensive physical exams appropriate to common FM complaints and the FM clinical setting.
3	Formulate a well-reasoned problem list, differential diagnoses, assessment and plan for essential FM conditions.	none	3. Formulate a well-reasoned problem list, differential diagnoses, assessment, and plan for patients in the office setting.
4	Practice basic office testing skills, including urine dipstick, microscopy, venipuncture, rapid strep testing, EKG testing, and suturing, as opportunities are available.	none	4. Practice basic office testing skills, including urine dipstick, microscopy, venipuncture, rapid strep testing, EKG testing, and suturing, as opportunities are available.
5	Describe and incorporate into clinical practice the evidence base for essential FM conditions.	merge with old #6	5. Describe and incorporate into clinical practice the evidence base for FM conditions and discuss the limitations and benefits of applying EBM to clinical practice.
6	Discuss the limitations and benefits of applying evidence-based medicine to clinical practice.	merged with old #5	
7	State the major guidelines of preventive, acute and chronic primary care.	merge with old #8	6. State the major guidelines of and describe the approach to preventive, acute, and chronic primary care.
8	Describe the approach to common acute problems.	merged with old #7	
9	Apply population-based guidelines to individual patients, considering culture, preferences, risk factors and resources.	merge with old #10 & #34	7. Apply population-based guidelines to individual patients, considering culture, preferences, risk factors, and resources, and discuss how the values, preferences, and risk factors of a culture or community may influence the medical decision making process.
10	Discuss how the values, preferences and risk factors of a culture or community may influence the medical decision making process.	merged with old #11 & #34	
34	Describe principles of public health as they apply to the clerkship's practice communities.	merged with old #9	
11	Develop time management skills for patient interviews and physical exams.	none	8. Develop time management skills for patient interviews and physical exams.
12	Perform succinct yet complete oral patient case presentations.	none	9. Perform succinct yet complete oral patient case presentations.
13	Access resources efficiently, including patient education materials, point of care resources, clinical support staff, and interprofessional colleagues.	merge with old #14	10. Access resources efficiently, including patient education materials, point of care resources, evidence based guidelines, clinical support staff, and interprofessional colleagues.
14	Locate evidence based guidelines and answers to clinical questions in a clinically relevant timeframe.	merged with old #13	
15	Identify the role of primary care in the healthcare system.	add population health; identify → describe	11. Describe the role of primary care and population health within the healthcare system.
16	Communicate with interprofessional	merge with old #23	12. Communicate skillfully and respectfully

previous		action	proposed Oct 2013
	and specialty colleagues to facilitate patient care.		with all members of the health care team, including interprofessional and specialty colleagues, to facilite patient care.
23	Communicate respectfully and skillfully with all members of the health care team.	merged with old #16	
17	Coordinate care for patients, promoting effective, efficient care.	remove	
18	Advocate for individual patients, including identifying and connecting with needed services, helping to minimize care barriers (education, transportation, cost, etc), and avoiding redundancy and waste of time and resources.	none	13. Advocate for individual patients, including identifying and connecting with needed services, helping to minimize care barriers (education, transportation, cost, etc), and avoiding redundancy and waste of time and resources.
19	Communicate skillfully with patients and their families, developing rapport, listening well, and obtaining historical facts, perspectives on illness, and values and preferences.	re-word	14. Communicate skillfully with patients and their families with attention to relationship and engaged listening and emphasis on accurate history taking, patient illness perspectives, values, and preferences.
20	Develop strategies to connect with patients and families who may have barriers to communication, including those with medical, social, economic, educational or cultural differences from the interviewer.	remove	
21	List the principles of shared decision making, including eliciting information about knowledge, values, preferences, and resources.	merge with old #22	15. Recognize opportunities for and practice shared decision making, including eliciting information about knowledge, values, preferences, and resources.
22	Recognize opportunities for and practice shared decision making.	merged with old #21	
24	Document medical practice accurately, thoroughly, and concisely.	merge with old #25	16. Document histories, physicals, assessments, rationales, and plans thoroughly, concisely, and accurately to facilitate coordination and continuity of care.
25	Facilitate coordination and continuity of care through clear documentation of histories, physicals, assessments rationales, and plans.	merged with old #24	
26	Respect and support peers and faculty by being present, attentive and active in discussions and assignments.	none	17. Respect and support peers and faculty by being present, attentive, and active in discussions and assignments.
27	Exhibit professional behavior.	remove	
28	Reflect on personal experiences, background and bias and how they influence clinical decisions and reactions.	none	18. Reflect on personal experiences, background, and bias and how they influence clinical decisions and reactions.
29	Elicit and apply constructive feedback from peers and faculty.	merge with old #30	19. Elicit and apply constructive feedback from, and provide effective, appropriate feedback to, peers and faculty.
30	Provide effective, appropriate feedback to peers and faculty.	merged with old #29	
31	Describe learning goals and write iterative learning plans to attain them.	none	20. Describe learning goals and write iterative learning plans to attain them.
32	Refine ability to self-evaluate and self-	none	21. Refine ability to self-evaluate and self-

previous		action	proposed Oct 2013
	reflect.		reflect.
33	Practice specific skills needed for success on future standardized professional assessments.	remove	
35	Discuss strategies to maximize an individual's or community's health, including optimizing cultural, socioeconomic, language, education and financial challenges.	remove	
36	Reflect on the role of physicians, particularly those in primary care, around public health promotion and advocacy.	add population health	22. Be exposed to the role of physicians, particularly those in primary care, around public health promotion and population health.

Appendix B

Slide 1

Review of Y2 SBM/FEK Course PreClinical Subcommittee

September, 2013

Chris Rees (Geisel 2), Rich Comi MD, Dave Nierenberg MD

1. Course **learning objectives**
2. Course **learning opportunities**
3. **Learning assessments** for students
4. Measures of **overall quality** for the course
5. Specific **suggestions for improving** course

Slide 2

FEK ILIOS learning objectives, as of Sept 2013

Course Objective Number	Course Objective Description	# of Sessions Assigned
1	define terms used with patients	6
2	normal structure/function renal system	10
3	signs, sympt, processes of disorders	**46**
4	disorders early and late in life	3
5	appropriate testing	**31**
6	population health aspects	7
7	public health aspects	1
8	pathology/pathophysiology	**70**
9	pharmacology	**32**
10	integration of medical disciplines	2
11	evaluate effectiveness	2
12	healthcare processes	4
13	problem solving skills	1
14	ethical issues	3
15	communicate with health professionals	7
16	methods of communication with patients	2
17	team skills	3
18	take responsibility for self education	6
19	be punctual	6
20	read critically	1
21	search literature effectively	1

Slide 3

FEK ILIOS learning objectives, as of Sept 2013

1) A large number of sessions map to only a few course learning objectives, so that the course learning objectives really don't capture the course well. It would be better to group some of the objectives that are only covered 1-5 x in sessions and spread objectives that are the bulk of the course into several objectives.

2) Objectives 13 through 21 seem more generic and less a direct concern of this course.

3) It would be important to identify the major topic areas of the exisiting course by disease, e.g.: 1)salt and water balance; 2)clinical assessment of renal function; 3)pathology of the kidney; 4)tubulointerstitital and glomerular diseases; 5)acid-base disorders; 6)abnormalities of potassium balance; 7)acute kidney injury; 8)chronic kidney disease 9) replacement therapy and transplantation; 10)tumors of the urinary tract; 11)inherited renal disease; 12)nephrolithiasis (i.e. explode course objective #3)

4) Sort course objectives by Geisel domains (1-6) (see later slides for example)

Slide 4

1a. Learning Objectives (Dave)

- In the course syllabus, the course objectives are listed as follows:
  - Learn the pathophysiology of renal and electrolyte disorders
  - Introduce the histopathology of renal diseases and its relationship to clinical findings
  - Provide a systematic approach to the patient with renal disease
- Students are not provided with the Ilios course objectives
- Important to have one shared set of core learning objectives, presented right at the beginning of the course
- From the lecture topics, we can see the core learning objectives as being:
  - Salt and water balance (and potassium balance)
  - Clinical assessment of renal function
  - Glomerular and tubulo-interstitial disease
  - Acid-base balance
  - Acute kidney injury
  - Chronic kidney disease, dialysis and transplantation
  - Miscellaneous: refractory hypertension stones, diabetes, pregnancy, pediatric, hearts and minds,

Slide 5

1e. Learning objectives from a national organization

NBME 2013 Brochure	FEK Objectives Course	Session
Normal processes	**2**	
embryology,	2	27
organ structure and function	2	1
glomerular function	2	1-6
tubular function	2	1-6
acid base	5,8	7,14,15
fluid homeostasis	2	1-6
micturition	?	
metabolism and oxygen consumption	?	
stage of life functions	4	1-6,26,27
Abnormal processes	**8,5,3**	
infection, inflammation, immunology	8	10-13
mechanical	3	24
neoplastic	8	20-21
AKI, CKD	3,8	18,19,28,29,31,33(PBL)
vascular	3,8	22, 23
systemic disorders	8	10-13,22-25
drug induced adverse effects	8	11,12,18,19
congenital and genetic	3,8	27,34(PBL)

Slide 6

1e. Learning objectives form national organization

NBME 2013 Brochure	FEK Objectives Course	Session
Principles of therapeutics	**9**	
mechanisms of drug actions	9	1-8,14,15,18,19,22
diuretics/antidiuretics	9	18,22,23,28
drugs for volume and acid base disorders	9	1-8, 14,15
drugs for renal perfusion	9	18,19,25
antiinflammatory , antimicrobial, antineoplastics	9	10,20,21
drugs for lower tract problems	9	?
Gender, ethnic , behavioral	**7,14**	
emotional factors	1,16	30,31
influence on person and society	1,16, 14	30,31
occupational and enviornmental factors	7	18,19,30,31
gender and ethnic	?	?

Slide 7

1e. Learning objectives form national organization (Rich)

Missing:

I did not see urological considerations such as bladder function and prostate issues in the sessions (some of these are covered later in SBM/Reproduction)

I did not see specific reference to ethnic or gender issues

Otherwise the course seems comprehensive when compared to a national organization's objectives

Slide 8

1f. Learning objectives addressing additional specific LCME topics (Dave)

- **Health of populations:**
  - CRF, Session on socioeconomic history of dialysis
- **Basic and ethical principles of clinical and translational research:**
  - Not present in course objectives as written now
- **Gender and cultural biases in students themselves:**
  - Not present in course objectives at this time
- **Instruction in medical ethics and human values**
  - Session on socioeconomic history of dialysis
  - Transplantation-related ethical issues

Slide 9

1. Course Learning Objectives: Recommendations

- **Switch to one set of new course learning objectives, in the LCME (ILIOS) format, with action verbs and observable outcome(s) for each one**
- **Be sure to mention the key (important) diseases as separate objectives (there would be 7-10 new objectives here, replacing #3 #8)**
- **Example: Discuss the pathophysiology, presentation, diagnosis, and treatment for major acid-base disorders**
- **Place course learning objectives in order (1-6) of Geisel objectives (see later example)**
- **Place these course learning objectives at the beginning of the syllabus and course**
- **Use these course learning objectives to structure each learning exercise (e.g. lab, lecture, etc)**
- **Use these course learning objectives to help determine most important points to be tested on exams and quizzes**
- **List session learning objectives at the beginning of each session, and relate these to the new overall course learning objectives**

Slide 10

2. Course Learning Opportunities 2012-13 (Dave)

- Total hours: 51 h
  - Traditional lectures = 29 h (57% of total hours)
  - Large group discussion/review = 1.5 h
  - Lab (classical) = 4
  - Small groups/conferences = 7
  - PBL groups = 6
  - Direct patient contact or interview (dialysis) = 2.0
  - Panel discussion (Hearts and Minds) = 1.5
  - Other formats = 0

Slide 11

3. Learning Assessment
Content of final exam
(Note: red = not covered on exam)

Geisel Domain	Course objective	Description	# exam items
1.Knowledge	1	Define terms used with patients	0
	2	Normal structure, function of renal system	0
	3	Symptoms and signs of key diseases	63
	4	Disorders early and late in life	7
	8	Pathology and pathophysiology	47
	9	Pharmacology	6
	10	Integration of medical disciplines	0
2. Clin skills	5	Appropriate testing	28
	6	Population health aspects	1
	7	Public health aspects	2
	13	Problem solving skills	6

Slide 12

3. Learning Assessment
Content of final exam

Geisel Domain	Course objective	Description	# exam items
3. Communi-cation, interpersonal	15	Communicate with health professionals	0
	16	Methods of communicating with patients	0
	17	Team skills	0
4. Professional	19	Be punctual	0
	14	Ethical issues	0
5. Lifelong learning	20	Read critically	0
	21	Search literature effectively	0
	18	Take responsibility for self education	0
6. System-based practice	11	Evaluate effectiveness	0
	12	Healthcare processes	2

Slide 13

Learning assessment:

The exam is comprehensive for knowledge objectives (Domain #1), especially for symptoms and signs of diseases, and pathophysiology

These topics should be broken out based on the 9-10 major content areas of the course (e.g. acid-base problems, chronic renal failure, etc.)

PBL evaluates a number of objectives but not specifically for this course - PBL provides a global evaluation for all courses for the half of a year in these areas

The conferences could provide assessment in the areas indicated that are not assessed on the final exam – it is unclear if this is done so the sessions are in italics

Make sure that every new course objectives is assessed in some appropriate manner (e.g. in conferences, written paper, final exam, etc.)

Conference groups may need to get smaller (e.g. 10 students maximum) if tutor is to assess each student in some areas, and possibly 10 hours rather than 7 hours of conference contact time

Slide 14

Exam content

Question style		**#**
Factual only , simple memorization		**29/93**
Clinical vignette		**25/93**
Application of knowledge	**29/93**	
Negative stem	**10/93**	
Pharm		**6**

Number of questions with low rpb (0.1-0.2) 20/93
very low rpb (<0.1) 10/93

Impression: There are many items in formats that should no longer be used, and these need to be rewritten, dropped, or changed. The large majority of items test "simple memorization", rather than the ability to apply knowledge learned to new situations. These items should be converted to items that use clinical or scientific vignette, to better test application of that knowledge.

Slide 15

Exam content comment

There are a relatively large number of low performing questions (low rpb) and negative stem style questions. Those with negative stems should be rewritten.

A little more than half of the exam is in the preferred application of knowledge or vignette style. This should be increased.

Slide 16

4. Feedback about course from March 2012 AAMC GQ

- How well did each of the following sciences basic to medicine prepare you for clinical clerkships and electives?
- All Year 1 disciplines (n=9): mean = 3.1
- All Year 2 disciplines (n=4): mean = 3.4 (3.3)
- Renal course was not broken out

Slide 17

4. Feedback about course from Step 1:

	2009	2010	2011		Means (last 3 years) 09-11
Pass rate/DMS	98.5%	100.0%	98.8%		99.1%
Pass rate/National	92.6%	91.3%	93.7%		92.5%
Mean score/DMS	238	231	236		235.0
Mean score/National	221	222	224		222.3
TRADITIONAL CORE DISCIPLINES					
Biochemistry	0.50	0.30	0.40		0.40
Biostatistics/Epidemiology	0.65	0.90	0.73		0.76
Genetics	0.40	0.30	0.48		0.39
Gross anatomy/Embryology	0.50	0.35	0.53		0.46
Histology/Cell biology	0.53	0.30	0.40		0.41
Microbiology/Immunology	0.63	0.42	0.41		0.49
Pathology	0.55	0.35	0.42		0.44
Pharmacology	0.63	0.15	0.39		0.39
Physiology	0.67	0.32	0.47		0.49

Slide 18

4. Feedback about course from Step 1, by organ system (Dave):

	2010	2011	2012		Mean
Pass rate/DMS	100.0%	98.8%	100.0%		99.6%
Pass rate/National	91.3%	93.7%	95.3%		93.4%
Pharmacology	0.15	0.39	0.39		0.31
SYSTEM-BASED TOPICS**					
Behavioral sciences	0.25	0.53	0.52		0.43
Cardiovascular system	0.30	0.45	0.45		0.40
Gastrointestinal system	0.20	0.59	0.57		0.45
Hematopoietic/lymph systems	0.32	0.57	0.55		0.48
Immune system		0.3	0.3		0.30
Musculoskeletal, skin, CT systems	0.70	0.62	0.6		0.64
Nervous system	0.25	0.3	0.3		0.28
Nutrition	0.30	0.48	0.47		0.42
Renal/urinary system	0.37	0.45	0.45		0.42
Reproductive/endocrine systems	0.37	0.51	0.5		0.46
Respiratory system	0.25	0.57	0.53		0.45

Slide 19

4. Feedback about course: Student survey scores (Dave)

Courses 13	How well this course provided me with a useful and appropriate introduction to this field or discipline.	Overall quality of this entire course (organization, lectures, conferences, labs, PBL cases, etc.).	Overall clarity of the learning objectives for the entire course and for each individual learning session.	Overall usefulness of attending lecturers live.	Overall usefulness of watching Echo 360 recordings after the actual lecture has occurred.	Overall usefulness of the PBL cases from this course.	Overall usefulness of attending small group sessions (if applicable).	Overall usefulness of attending laboratory sessions, or simulated laboratory sessions (if applicable).	Overall usefulness of the printed or electronic course material provided in the course (e.g. powerpoint slides, notes).	Overall usefulness of reading suggested Text(s) (if applicable).	Congruence of questions on the final exam with the most important content and emphasis of the course.	Overall, roughly how often did the faculty try to engage students in the LARGE GROUP sessions (e.g. Interactive lectures, case discussions, CPC's, using audience response system	Thi 201 Me
ematology	4.60	4.59	4.48	4.00	4.11	3.93	3.75	4.00	4.34	3.83	3.72	3.90	
i	4.39	4.19	4.17	3.49	3.86	3.63	3.99	3.78	3.86	3.85	3.99	4.38	
espiration	4.35	4.25	4.11	3.73	3.94	3.91	4.06	3.81	4.31	3.41	3.58	3.62	
ardiology	4.36	4.07	4.05	3.58	3.72	4.11	4.55	2.77	4.23	4.27	3.88	3.38	
ermatology	4.07	3.99	3.85	3.70	3.83	3.50	3.29	4.51	3.89	4.06	3.56	3.56	
T&Bone	4.05	4.00	3.84	3.48	3.71	3.79	3.51	4.22	3.72	3.81	3.95	3.44	
EK	4.00	3.84	3.68	3.31	3.75	3.52	3.63	3.31	3.43	3.72	3.53	3.46	
ndocrine	4.05	3.93	3.84	3.28	3.62	3.29	4.12	3.00	3.71	3.15	3.47	3.64	
)	3.93	3.74	3.51	3.23	3.41	3.51	3.41	3.42	3.55	3.61	3.45	4.26	
eproduction	3.85	3.50	3.81	n/a	3.75	3.22	3.21	3.12	3.41	3.95	3.33	4.19	
sychiatry	3.81	3.69	3.51	2.94	3.44	3.43	4.41	3.94	3.44	3.46	3.46	3.18	
harmacology	3.87	3.43	3.49	2.95	3.41	n/a	3.30	2.85	3.30	3.14	3.80	3.32	
eurology	3.61	2.99	2.89	3.05	3.41	3.43	3.66	2.35	3.35	3.16	2.96	3.48	
MEAN	4.07	3.86	3.79	3.40	3.69	3.61	3.76	3.47	3.73	3.65	3.59	3.68	

Slide 20

Results from recent student course reviews (Chris)

Data from 2012-2013 evaluations

- Overall quality of the course: **3.84**/5.00
- Highest and lowest ratings within FEK:
  - How well the course provided a useful and appropriate introduction to the field: **4.00**
  - Usefulness of attending lectures: **3.31**

Slide 21

Results from recent student course reviews (Chris)

Representative comments (strengths):

- "Interactive learning in small groups was very effective."
- "The [acid-base cases] were very good thought exercises."
- Many students commented on the high quality of the course faculty.

Slide 22

Results from recent student course reviews (Chris)

Representative comments (weaknesses):

- "Please add actual written notes to supplement lectures in the future." (powerpoints are available) (Note: a good short paperback text would also be fine to accompany the detailed ppt files)
- Some students commented that the large group student-led presentations (related to inherited renal diseases) were not helpful; too many presentations squeezed in together
- Too many questions on final exam that were not in NBME format
- Please replace one of the conference leaders who was usually late, or missed sessions entirely. If this is a DHMC calendar issue for faculty, please fix that as well.

Slide 23

5. Recommendations for Next Year

- Learning objectives:
  - Need to be totally rewritten per suggestions
  - Make course objectives available on first day
  - Make session objectives available for each session
- Learning opportunities:
  - Continue movement to lower % as standard lectures, and increase more active learning opportunities, such as increasing conference hours from 7 hours to 10 hours.
- Learning assessment:
  - All major course objectives need to be assessed in some planned way, such as final exam, written paper, performance in conference groups, etc.
- Faculty issues:
  - Appears to be committed, high quality faculty for course director, lectures, and conference leaders
  - Replace conference leader who was often late or absent
- Other issues:

Slide 1

Slide 2

Areas for Improvement

- Learning objectives
  - Course Objectives need to better reflect what is being taught (and students are learning) across all six competency domains, when appropriate
- Course Learning Opportunities
  - 51 total hours
  - 57% lecture time (goal is <40%)
- Learning Assessment (final exam)
  - 10/93 negative stem questions on final exam
  - ~50% application of knowledge/vignette style
  - Each course learning objective needs to be assessed in an appropriate manner

Slide 3

Areas for Improvement

- Faculty Issues
  - Several faculty missed one or more of their conference sessions
  - Calendar system seems defective in that it tracks clinical appointments, but not academic (teaching) appointments

Slide 4

Learning Objectives

- For this year, we have rewritten all of our course learning objectives in more detail, across the six competency domains
- We have included ways that we are assessing student competency for each of these objectives
- These revised course learning objectives will be explicitly included as a handout on the first day of the course
- We are in the process of rewriting our course objectives to reflect higher order processes in Bloom's taxonomy. This is being done in parallel with the curriculum redesign.
- I will ask faculty to clearly state session objectives at the beginning of each session.

Slide 5

Course Learning Opportunities

- The student-led presentations have been expanded to a 2 hour session to provide more time for each group.
- Some traditional lectures have been converted into labs and interactive large group sessions, reducing the "conventional lecture" hours from 29 to 21

Slide 6

Learning Assessment

- 7 hours of lecture have been redistributed to new instructors. They will be given parameters for writing new exam questions.

Slide 7

Faculty Issues

- Missed small groups last year were due to a medical emergency in one of our faculty. This is not likely to recur.
- The section schedule for January and February is being proactively designed with the SBM course in mind and time is being cleared for this.

Appendix C

Objective number	Course Learning Objective	Maps to:	Method of Asssesment
Overall course objective:	**Each student should demonstrate an appropriate level of understanding of the pathophysiology of the renal/urinary system, such that the student is prepared to recognize, diagnose, and describe treatment options for the most common and severe diseases and disorders of this organ/system that may be encountered during the clinical clerkships or in clinical practice.**		
MEDICAL KNOWLEDGE			
1	Describe the normal structure and physiology of the renal/urinary system	1a	Final exam
2	Describe the pathophysiology of disorders of salt and water balance, and how these disorders are diagnosed and treated	1a,b,c,d	Final exam, conference groups
3	Describe the pathophysiology of disorders of common tubular and interstitial diseases, and how these disorders are diagnosed and treated	1a,b,c,d	Final exam, netpath
4	Describe the pathophysiology of major glomerular diseases, and how these disorders are diagnosed and treated	1a,b,c,d	Final exam, netpath
5	Describe the pathophysiology of disorders of sodium balance, and how these disorders are diagnosed and treated	1a,b,c,d	Final exam, conference groups
6	Describe the pathophysiology of disorders acid-base balance, and how these disorders are diagnosed and treated	1a,b,c,d	Final exam, conference groups
7	Describe the pathophysiology of common disorders of potassium balance, and how these disorders are diagnosed and treated	1a,b,c,d	Final exam, conference groups
8	Describe the pathophysiology of common causes of acute renal injury, and how these disorders are diagnosed and treated	1a,b,c,d	Final exam, conference groups
9	Describe the pathophysiology of major causes of chronic renal insufficiency and ESRD, and how these disorders are diagnosed and treated, including hemodialysis and renal transplantation	1a,d,e,f	Final exam, conference groups
10	Describe the most common tumors of the urinary system, and how they are diagnosed and treated	1a,b,c,d	Final exam, netpath
11	Describe the most common inherited renal diseases,their clinical genetics, how they present, and how they are treated	1a,d,e,f	final exam, student peer assessment
12	Describe that pathophysiology of urinary stone disease, and how stones can be treated and prevented	1a,b,c,d	final exam
13	Describe the pathologic findings of common renal and urinary diseases	1a,c	Performance on pathology coded questions on the final exam
14	Describe the basic pharmacology, indications, and side effects of drugs commonly used to treat renal diseases	1a,b,c,d	Performance on pharmacology coded questions on the final exam
CLINICAL SKILLS			
15	Describe the ways that physicians can clinically assess renal function (e.g. perform a urinalysis, compute an estimate of creatinine clearance)	2d,h	Participation in a laboratry session about estimating and measuring renal function
16	Develop your ability to develop a good differential diagnosis for common presentations of renal disease	2d,e	Performance in renal conference groups and PBL groups
COMMUNICATION AND INTERPERSONAL SKILLS			
17	Communicate clearly with other healthcare professionals about renal disease	3e,f,g	Performance in renal conference groups and PBL groups
18	Model how you would explain to patients their therapeutic options for common kidney diseases	3a,b,c,d	Performance in renal conference groups and PBL groups
DEVELOPING YOUR PROFESSIONAL IDENTITY			
19	Demonstrate that you are a punctual, well prepared, and active participant in your team learning activities	4b,h,i	Performance in renal conference groups and PBL groups
20	Describe the medical ethics implications of several common renal diseases, such as decisions related to renal transplanation, and decisions related to going on (or ceasing) HD	4d,e	Participation and disucssion in conference groups
HABIT OF INQUIRY AND IMPROVEMENT			
21	Demonstrate your ability to find, read, and analyze scientific articles that describe evidence-based optimal therapy for common renal disorders	5a,b,e	Participation in conference and PBL groups
SYSTEMS-BASED PRACTICE			
22	Describe how a healthcare system like Medicare makes its decisions about paying for the care of all patients with end-state renal disease	6c,d,e,f	Participation in conference and PBL groups

Slide 1

Review of Year 1 Metabolism course

- Course occurs in the winter term of Year 1
- Course Director – Charles Barlowe, PhD
- Course has 63 curricular hours

Slide 2

Course Objectives – Content Review

There are 13 course objectives that fulfill Geisel competencies as follows:

- 13 address specific knowledge in the preclinical domain, and seem appropriate
- 2 address communication skills
- 1 addresses components of professionalism
- 1 addresses personal improvement

Currently no course objectives are mapped to Geisel competencies 2 (clinical skills) and 6 (health care systems).

Slide 3

Course Objectives – Content Review

1. Explain major catabolic and anabolic pathways in metabolism of carbohydrates, lipids, amino acids and nucleotides. 1a,1b
   # of session objectives mapping: 105
2. Recall the key regulatory points in metabolic pathways. 1a,1b 70
3. Explain how diet and hormonal signaling regulate metabolic pathways. 1a,1b 39
4. Recognize the role of vitamins and minerals 1a,1b 22
5. Describe vitamin deficiencies 1a,1b 10
6. Define biochemical functions and integrated metabolism of in brain, digestive system, liver, red cell, muscle and adipocyte. 1a,1b 74
7. Explain molecular mechanisms underlying major inherited diseases of metabolism. 1a,1b 34

Slide 4

Course Objectives – Content Review

8. Explain how certain medicines and drugs impinge upon metabolic pathways. 1a,1d,1e 28
9. Interpret the results of specific genetic tests and perinatal screening that indicate metabolic disorders. 1a,1d,1e,1f 9
10. Describe interaction of environmental and genetic factors that contribute to diseases of metabolism. 1a,1d,1e,1f 43
11. Practice and demonstrate systematic problem-solving skills. 1a 4
12. Connect specific symptoms in clinical case presentations to metabolic disorders. 1e,1f,3e,3g5
13. Evaluate and discuss primary literature 1b,3g,4b,4h,5b,5e 14

Slide 5

Course Objectives – Content Review

- Course objectives in Ilios are written in the correct format using verbs with measurable outcomes
- Currently the course objectives listed in Ilios are not provided in the syllabus (there is a short paragraph in the syllabus about goals of the course).

Slide 6

Course Objectives: Step I Brochure

- Objectives are in good correlation with topics listed under the "General Principles" section of the Step 1 Brochure, specifically in these categories:
  - Biochemistry & molecular biology
  - Biology of cells
  - Multisystem processes (nutrition)

Slide 7

Objectives: National organization

- Correlation between course objectives and those by a national discipline-oriented organization is EXCELLENT
- Biochemistry Learning Objectives & Competencies: Created & Approved at the 3rd International Conference of the Association of Biochemistry Course Directors (ABCD)

Slide 8

Session Objectives

- Most lecturers did not list session objectives in the notes or on the PowerPoint slides
- For the sessions where objectives were listed, the session objectives were generally not written in the correct format using verbs with measurable outcomes (sample session objective: “Learn the biochemical function of each vitamin”.)

Slide 9

Unplanned redundancy

- The curriculum database was used to assess redundancy in the curriculum regarding major topics in the course (e.g. carbohydrates, lipids, amino acids, diabetes, etc.)
- Redundancy regarding basic principles (e.g. lipids) seemed planned and appropriate (e.g. SBM GI has an objective “Recall/describe normal digestion and absorption of fats, carbohydrates, proteins and vitamins”)
- The was more redundancy in coverage of diseases, such as diabetes and obesity, that may or may not be planned (e.g. diabetes was discussed in 9 different courses)

Slide 10

Summary regarding Objectives

- Course and session objective as listed in ILIOS are carefully done, mapping to Geisel competencies
- Course and session objectives in Ilios are currently not provided to students
- There is excellent correlation with learning objectives & competencies created by the Association of Biochemistry Course Directors (ABCD)
- Some material presented in the course regarding diseases may be redundant with material in other courses, but this may be appropriate

Slide 11

Course Learning Opportunities

- Lecture 50 hrs. (79%)
- Large group conferences 8 hrs. (13%)
  include case presentations, review of materials, sample questions, etc. and provide opportunities for the students to discuss the material with the faculty
- Small group literature discussion 4 hrs. (6%)
  students are assigned papers to read and discuss/present them in small groups
- Review before final exam 1 hr. (2%)

Optional reviews before quizzes (8 hrs.)

Slide 12

Summary regarding Pedagogy

- The percentage of traditional lectures in the course is higher than is desired (goal 40-50% of course hours); the course director should consider ways to incorporate more active pedagogies into the course
- There are numerous opportunities (e.g. review sessions) for students to discuss unclear material with the faculty
- Literature discussions provide an opportunity for students to read, critically evaluate and synthesize primary literature

Slide 13

Assessment

- Written Quizzes (50% of course grade)
  - Each covers 4-6 sessions
  - Multiple choice 20 questions each
  - Excellent explanations with answers for review
- Final Exam (40% of course grade)
  - multiple choice 54 questions
  - 20 matching questions
- Literature discussions (10% of course grade)
  - credit awarded for completing the activity and attending the sessions

Slide 14

Assessment – Question Formats

- What formats do they use for questions?
  - Single best answer (all quizzes, 54/74 on exam)
  - 20/74 questions were matching on final
  - Questions well worded and clear
  - Some clinical scenarios when appropriate. Many questions were integrative (covered several session objectives)
  - Appear to cover important topics, critical points of biochemical pathways, distinctions

Slide 15

Assessment – Correlation with objectives

- Questions correlate well with session objectives
- Quiz 1 (4 sessions) 20 Questions
  - 23 session objectives, 19 covered on quiz
- Final 74 questions
  - 30 sessions, 6 are conference or review (not included)
  - 24 sessions with objectives reviewed
  - 2-9 objectives per session, median 6, 123 total
  - Total of 107/123 session objectives mapped to a question
    - 6 questions excluded
  - Several questions had more than 1 mapped objective, few objectives mapped to two questions

Slide 16

Assessment – Correlation with objectives

- The emphasis of the exam is balanced (i.e. not too many questions on any particular topic)
  - very few session objectives (16/123) were not included on exam
    - (6 questions I was clueless on and I could not map to an objective)
  - Each objective was tested once and only occasionally twice
  - Each question mapped to (1-2) objective(s)
  - Total of 107/123 session objectives mapped to a question

Slide 17

Summary regarding Assessment

- Quizzes were excellent with very clear explanations of answers (for further study)
- Exam was very fair, covered the material well
- No material seemed to be over or under emphasized
- Questions covered important concepts that were conceptually or clinically important

Slide 18

Measures of Quality – AAMC GQ

"Indicate how well you think that instruction in Biochemistry prepared you for clinical clerkships and electives." [1=poor; 2=fair; 3=good; 4=excellent]

BASIC SCIENCES	Geisel mean 2008	Geisel mean 2009	Geisel mean 2010	Geisel mean 2011	Geisel mean 2012	All schools means 2012
Behavioral Science	3.1	3.3	3.2	3.3	3.3	3.1
Biochemistry	2.7	2.8	2.7	2.5	2.6	2.6
Biostatistics/Epidemiology	2.7	2.8	2.9	3.2	3.2	2.8
Genetics	2.9	2.8	2.9	2.8	2.8	2.8
Gross anatomy/Embryology	3.4	3.5	3.6	3.5	3.6	3.4
Histology	2.8	3.0	2.8	2.9	3.1	2.9
Immunology	2.8	3.0	2.9	3.0	3.1	3.1
Microbiology	3.1	3.4	3.1	3.2	3.3	3.1
Neuroscience	3.2	3.2	3.2	3.0	3.0	3.2
On Doctoring	3.3	3.3	3.5	3.4	3.5	3.4
Pathology	3.1	3.1	3.2	3.1	3.4	3.3
Pathophysiology of Disease	3.6	3.7	3.5	3.5	3.5	3.5
Pharmacology	3.1	3.5	3.4	3.1	3.1	3.0
Physiology	3.5	3.5	3.6	3.6	3.5	3.4

Slide 19

Measures of Quality – Step I

	2009*	2010*	2011*	2012*	Means 09-12
TRADITIONAL CORE DISCIPLINES					
Biochemistry	0.50	0.30	0.40	0.30	0.38
Biostatistics/Epidemiology	0.65	0.90	0.73	0.43	0.68
Genetics	0.40	0.30	0.48	0.28	0.37
Gross anatomy/Embryology	0.50	0.35	0.53	0.33	0.43
Histology/Cell Biology	0.53	0.30	0.40	0.37	0.40
Microbiology/Immunology	0.63	0.42	0.41	0.31	0.44
Pathology	0.55	0.35	0.42	0.26	0.40
Pharmacology	0.63	0.15	0.39	0.22	0.35
Physiology	0.67	0.32	0.47	0.38	0.46

**values reported for core disciplines are SD above the US/Can mean for Geisel mean scores*

GEISEL SCHOOL OF MEDICINE AT DARTMOUTH

Slide 20

Measures of Quality – Course Reviews

Year 1 courses	Overall Satisfaction AY 2012-2013
Human Anatomy and Embryology II	4.54
Physiology-Renal	4.53
Metabolic Basis of Disease	4.19
CTO	4.18
Biostatistics and Epidemiology	4.12
Basic Science of Microbial Disease	4.04
Human Anatomy and Embryology I	4.02
Biochemical and Genetic Basis of Medicine	4.00
Physiology-Endocrine	3.78
Neuroscience	3.74
Virology	3.65
General Pathology	3.62
Immunology	3.19
Physiology-Respiration	2.79
Physiology-Cardiovascular	2.65

scale [1=poor; 2=fair; 3=good; 4=very good; 5=excellent]

Slide 21

Measures of Quality – Course Reviews

scale [1=poor; 2=fair; 3=good; 4=very good; 5=excellent]

	Metabolism 2010 (58%)*	Metabolism 2011 (20%)*	Metabolism 2012 (97%)*
Overall satisfaction of course	4.54	4.00	4.19
Overall usefulness of lectures	3.92	3.41	3.62
Overall usefulness of conferences/review session/literature discussion	3.86/3.30	3.19/2.89	2.72
Overall usefulness of course materials	4.41	4.42	4.24
Congruence of assessment questions to material emphasized in course	4.51	4.11	4.33

**student participation rate on course evaluation*

GEISEL SCHOOL OF MEDICINE AT DARTMOUTH

In 2010 and 2011, there was one question about conferences and a separate question about literature discussion; in 2012 this was asked together as one question.

Slide 22

Measures of Quality – Course Reviews

- Strengths: **The Faculty**

Comments:

- "The faculty is very passionate about the subject material and it shows."
- "The professors were all very enthusiastic about teaching, and were great at explaining difficult concepts. They're clearly very intellectual, yet totally approachable. I felt friendly with all of the professors I spoke with, and that made asking for help and engaging in class much more enjoyable and productive. Overall a wonderful group of people!"

Slide 23

Measures of Quality – Course Reviews

- Strengths: **Organization and Integration of Material**

Comments:

- "Good job integrating material and referring to past lectures. There was a linear progression, with important concepts reappearing multiple times in subsequent lectures, and this helped to reinforce those concepts."
- "Everything was really well integrated. The class had clear expectations and lectures were well organized (as were the notes). Other courses can learn a lot from Biochemistry in terms of making their notes consistent, organized, and connected with lectures given by other professors."

Slide 24

Measures of Quality – Course Reviews

- Strengths: **Clinical Correlations**

Comments:

- "Clinical cases, as well as guest speakers, remind us of how relevant what we are learning will be to taking care of our patients in the future."
- "I like that everything was presented in a clinical context - I think it was important to keep in mind why we are memorizing all the different enzymes and reactions."

Slide 25

Measures of Quality – Course Reviews

- Strengths: **Course Materials**

Comments:

- "The notes that were compiled for this course were fantastic and very thorough."
- "The notes were very organized, which was a big help. They were consistent in format across lecturers, and they were almost always quite clear, especially compared to other courses. Since those are the main study materials for most of us, that's a very important factor."

Slide 26

Measures of Quality – Course Reviews

- Suggestions for Improvement: **Practice Problems**

Comments:

- "For any practice quizzes, having them set up like Dr. Witter's practice exams, as a readiness blackboard quiz with detailed explanations of why something is right AND why it is wrong, would help tremendously in focusing in on thinking and rationalizing through questions correctly."
- "Give USMLE practice questions for each unit. It was only at the time of finals that we were given such questions and I had no idea until then what I had to focus on in the course in regards to the Step 1."

Slide 27

Measures of Quality – Course Reviews

- Suggestions for Improvement: **Small Group Sessions**

Comments:

- "The small group presentations were ill-timed and fruitless. While the papers assigned were interesting, I do not believe that there was a lot to be gleaned from the presentations."
- "The small groups didn't seem that helpful to me. I would rather solve problems/cases and discuss about the material we went through in class."

Slide 28

Summary regarding Measures of Quality

- Students benefit from the enthusiasm and approachability of the faculty as well as the clearly organized presentation of the material (lectures, slides, and notes).
- Students would like more practice problems that are case based or are similar to USMLE questions.
- Improvements should be made with respect to the timing or the activities associated with small group sessions

Slide 29

Summary of Recommendations

- Course and session objective listed in ILIOS are appropriate and correlate well with national standards, however these need to be provided to students in the course materials
- The issue of redundancy regarding common diseases should be explored by the course director to ensure that the redundancy is planned
- The course director should explore opportunities to increase the amount of active learning in the course

Summary of Recommendations

- Assessment methods are appropriate and questions correlate well with course material
- The organization and clinical emphasis of the course is excellent, as is the enthusiasm of the faculty. Some improvements could be made in the timing and/or activities in the small group sessions, and opportunities for students to apply the material they have learned

BIOC112 Metabolic Basis of Disease

Response to Summary Recommendations from preclinical subcommittee of the MEC

- Course and session objective listed in ILIOS are appropriate and correlate well with national standards, however these need to be provided to students in the course materials

The course objectives and session objectives listed in ILIOS will be provided with the introductory materials on the course Blackboard site. In previous years, lectures included a listing of "Key Points" at the beginning of most notes and slides. We will convert these to "Session Objectives" and use a more standardized format with measurable outcomes.

- The issue of redundancy regarding common diseases should be explored by the course director to ensure that the redundancy is planned

Most redundancy is intentional to integrate with physiology and endocrinology but from a biochemical/molecular perspective. However, we will examine year 1 Blackboard course sites and lectures to avoid direct or unintentional redundancies.

- The course director should explore opportunities to increase the amount of active learning in the course

We agree and have been steadily increasing interactive components within course lectures. For the coming 2013-14 course, we will increase (read experiment with) case-based presentations, flipped-lectures and team based learning. The first 12 lecture hrs of the course will be redesigned, in part due to faculty retirement.

- Assessment methods are appropriate and questions correlate well with course material

Students continue to request more practice questions and prefer the online assessment quizzes with explanations through Blackboard. We agree with these requests and will endeavor to increase practice questions with more USMLE type stems.

- The organization and clinical emphasis of the course is excellent, as is the enthusiasm of the faculty. Some improvements could be made in the timing and/or activities in the small group sessions, and opportunities for students to apply the material they have learned

While evaluation of the small group literature discussion sessions was mixed, we believe these represent a valuable

opportunity to develop lifelong learning and problem solving skills. To strengthen these sessions we plan to break presentation teams into smaller groups (3-4 per group compared to 6-7 last year) and to provide some classroom time for teams to plan presentations and ask questions. We will also develop an assessment method to provide students objective feedback on their presentations.