

Scientific Foundations Committee

August 1, 2014

7:30 – 9:00 am

Mayo B-646

Minutes

2014-2015 Scientific Foundations Committee Members		
MEMBER	COURSE/ROLE	ATTENDANCE
Steve Katz	Chair (INMD 6814 Physiology)	x
Sharon Allen	INMD 6803/6804/6805 ECM 1, ECM 2, ECM 3A	
Richard Amado	INMD 6815 Human Behavior	
H. Brent Clark	INMD 6819 HHD – N & P	x
Eli Coleman	INMD 6816 Human Sexuality	
Greg Filice	MS 2 ID Thread	x
Glenn Giesler	INMD 6813 Neuroscience	
Bob Kempainen	INMD 6808 HHD – C & R	x
Anne Minenko	INMD 6809 HHD – R, D & O3	
Kaz Nelson	INMD 6819 HHD – N & P	
Catherine Niewoehner	INMD 6810 HHD – R & E-R3	x
James Nixon	INMD 6803/6805/6806/6807 ECM 1, ECM 3A/B/C	
Jan Norrander	INMD 6801 Human Structure and Function	
Deborah Powell	INMD 6817 Principles of Pathology, MS2 Pathology Thread	x
Michel Sanders	INMD 6802 Science of Medical Practice	x
David Satin	INMD 6803/6804/6805/6806/6807 ECM 1, ECM 2, ECM 3	x
Lisa Schimmenti	INMD 6802 Science of Medical Practice	x
Peter Southern	INMD 6812 Microbiology	x
Heather Thompson Buom	INMD 6811 HHD – GI & Heme	x
Doug Wangensteen	INMD 6814 Physiology	x
Tony Weinhaus	INMD 6801 Human Structure and Function	
Kevin Wickman	INMD 6818 Principles of Pharmacology	
Mary Ramey	MS2 Lab Med/Path Coordinator	
Kevin Kay	MS2 Student Representative	x
TBA	MS1 Student Representative	
<i>Mark Rosenberg</i>	<i>Vice Dean for Medical Education</i>	x
<i>Kathy Watson</i>	<i>Senior Associate Dean for UME</i>	
<i>Jeffrey Chipman</i>	<i>Assistant Dean for Scientific Foundations</i>	
<i>Majka Woods</i>	<i>Assistant Dean for ACE</i>	
<i>Anne Pereira</i>	<i>Assistant Dean for Clinical Education</i>	
<i>Marshall Hertz</i>	<i>Faculty Advisor</i>	x
<i>Brad Clarke</i>	<i>ACE Curriculum Specialist</i>	
<i>Leslie Anderson</i>	<i>Chief of Staff, Medical Education</i>	
<i>Scott Slattery</i>	<i>Director of Learner Development</i>	
<i>TBA</i>	<i>Medical School Registrar</i>	
<i>Brian Woods</i>	<i>Lead Course Manager</i>	x

Guests: Mark Hilliard, Keyur Desai, Jasvinder Singh, Joe Bryant-Huppert, Jenny Nguyen

The meeting was called to order at 7:32 am by Steve Katz.

Minutes

Draft minutes from the June 6 meeting were reviewed. It was moved and seconded to approve the June minutes as submitted. The motion passed unanimously.

Announcements

Kevin Kay was introduced. Kevin is the new MS2 Student Council rep, recently elected. Also in attendance were the four OME Summer Interns: Keyur Desai (GME), Jasvinder Singh (Admissions), Joe Bryant-Huppert (CPD), Jenny Nguyen (UME).

Annual Course Reports

HD4 – Heather Thompson Buum

See attached ACR document for details.

Course objectives are available on the ACR.

Evidence of outcomes being achieved:

Student comments were overwhelmingly positive. They liked the integration of material with a clinical perspective.

Working well:

Small groups were well received. And students liked the combined Heme/Hematopathology lectures.

Areas of Concern:

Students want more “test questions” throughout the course. Also pancreatitis & bile acid lectures did not go over very well

Areas for Improvement:

Investigate ways to include more practice questions, and revamp the pancreatitis & bile acid lectures. Also look for points of integration on other course topics.

Questions/Comments:

Dr Thompson Buum asked the other Course Directors about how they handled the issue of practice questions. Comments were that students always want more questions, even when there are hundreds available. Dr Filice sometimes gives a couple of sample questions at the end of his lecture slides, since he does not have lots of lectures in each course.

There are students who learn from test questions, but there is no formal Med School policy about what type or how many the courses should offer. Course Directors would like a conversation about this at a future meeting. There is scholarship about student learning through practice questions which should be looked at.

From the student perspective, Kevin commented that much of the student interest in practice questions is knowing the level of detail that will be tested on; what’s emphasized or de-emphasized? They would also like to know whether the practice questions correlate in structure with the actual exam questions.

When the course moves to the Fall in 2014, student requests for questions and information may change, as it's earlier in the course year, and MS2s are still getting used to year 2 course structures.

Relative to the bile acids lecture—students did not receive this well as it was about cutting-edge research. Discussion among Course Directors centered around the fact that this Medical School does not generally present current research in lectures, and that when it is, it's not popular with students. Also, the idea of the “flipped classroom”, where students are asked to read an article or watch a lecture video before the session so that there can be high-level discussion in class, has not been successful. It must be made explicitly clear that the pre-class preparations will be tested and/or necessary for the discussion. Dr Powell believes that the Med School must teach the new directions that medicine is going in, and also that Course Directors should not be afraid to teach to the top of the very smart group of students that we have here.

Dr Katz thanked Dr Thompson Buum for taking on the HD4/HHD-GI & H course with a relatively short notice last Spring, then turning around and having to do it again in less than a year because of the Year 2 resequencing.

Student Issues/Concerns/Questions

No Agenda Items

Discussion

Finalize revisions to Years 1 & 2 Missed or Rescheduled Exam Procedure and Exam Form

Dr Katz reviewed the history behind the revision of the Missed or Rescheduled Exam Procedure. Today's revision is another based on questions and clarifications discussed at the June SFC meeting.

Course Directors are encouraged to emphasize on the first day of the class the importance of taking exams on the scheduled day. The previous student council rep was favorable to the changes, so that all students have the same information and the same expectations. There is no way to address every possible situation that may arise, but consistency and clarity are the aims of this procedural revision.

Several questions from the students in attendance were entertained. As a result of their questions, one further clarification will be made on the Form regarding the extenuating circumstance wording.

Dr Katz called for a motion to approve the new procedure and form with the new clarification noted above. It was moved and seconded, and passed unanimously with no opposition.

Dyad Review

This is one effort to integrate basic science and clinical experience in a course. Usually it involves collaboration between a clinician and a scientist to present topics together. Dr Katz stressed that the format will vary from course-to-course and this option needs to be left open so that experimentation is encouraged, and material can be tailored to the topics at hand.

*SMP – INMD 6802, Michel Sanders

See attached document for details. “SMP's Experience with Dyad Symmetry”

Biochemistry and Human Genetics were combined from the beginning in SMP. This resulted in a net increase in the number of sessions that were taught. Most 4-hour session blocks are structured to cover the basic science/clinical applications of a selected topic. Some are workshops; some are coordinated content throughout.

This shows the application of the basic science to “real-world” clinical experiences. Guests are brought in when appropriate, including patients, med students and surgeons, to make it more engaging.

Comments from the students present pointed out that the workshop sequences were not always apparent to them. The connection from the science to the clinical was not always clear.

*Microbiology – INMD 6812, Peter Southern

See attached document for details. “MS1 INMD 6812, Microbiology & Immunology, Dyad Teaching Spring 2014”

Dr Southern made it clear to students that Dr Green’s (ID physician) comments during class were context only, and not testable material. Dr Green came 7-8 times, and deliberately picked up on clinical issues that were being discussed either in the lecture of the day or from previous lectures, and would repeat or expand upon material presented by the Microbiology lecturers.

Students seemed engaged and submitted positive comments. Instead of memorizing lists of microorganisms, they were able to relate them to clinical experiences.

For next year, there will be a more careful planning process, with a closer review of Dr Green’s material. Often she would show something that many MS1 students would not know, including abbreviations, terminology, etc. Dr Southern would ask questions during class to clarify for students. He will also look closely at the MS2 ID material so that there is little or no redundancy in topics or material. Dr Filice and Dr Southern collaborate already and will continue this for next year.

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Dr Green is eager to continue this collaboration next year. Dr Southern did not have to drop content, but he did have to “contract” a bit. It’s a continuous re-evaluation of the most beneficial allocation of time to discuss the most important topics. Kevin commented that the clinical context gives more understanding of the science for students.

Dr Chipman commented that this is an ongoing, developing process, to show the clinical relevance of the basic science material. Each Course Director has the opportunity to tailor this Dyad approach to their own course.

*Physiology – INMD 6814, Steve Katz

See attached document for details. “DYAD TEACHING From Physiology course survey:”

Dyad was used only in Dr Katz’s renal lectures in Physiology. He brought in Jeff Chipman (about 8 of the 15 renal lectures), who interjected comments or questions when there was clinical relevance to what Dr Katz was lecturing about. This was more of an improvised approach. However, they would have a brief conversation, a “preview”, of the lecture topic before the session began. At one point, Dr Chipman texted info from the OR in the middle of the night that was relevant to the next morning’s lecture, knowing that he wouldn’t be able to attend the session; Dr Katz then incorporated that info during the lecture.

Students were very pleased with the clinical correlates in this section, as evidenced by comments on the course evaluation.

Dr Chipman is willing to work with Course Directors to identify possible clinicians to work with them on specific topics. No matter which format a Course Director chooses, they and the clinician have to have a comfortable “tag-team” relationship, in order to clearly communicate to students, and not present a personal agenda.

Dr Katz reminded the committee that the Search function in BlackBag is an excellent way for Course Directors to see where topics are presented from course to course and across the two years of courses.

FUTURE DIRECTIONS

Suggestions from Course Directors for future SFC meeting topics:

- Testing & exams: what should the Medical School be testing, and how? What is the best way to assess student understanding & knowledge? What is the place of practice questions and test banks?
- Data correlation regarding students who fail, or perform at the cusp of failure: Sometimes Course Directors end up teaching to the bottom 30% of the class in order to save those students. Is this because of admissions policies or some other factor? Dr Rosenberg agrees with a data-driven approach. There is an active and ongoing project in OME to collect, compile & integrate all the data. It is difficult because the data is housed in various sources and databases. Also, there are social factors as well as hard-data factors involved in student performance that are not easily measured.

If committee members want to see a topic on a future meeting, email Steve Katz. There is a planning meeting before each SFC meeting in order to fix the agenda.

Jenny announced that she will be sending a survey asking about the integration of public policy/public health. She requested that all Course Directors complete the survey within the two-week window.

The next SFC meeting is September 5, 2014.
The meeting was adjourned at 9:01 am.

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Respectfully submitted,
Brian Woods

Annual Course Review (ACR)

University of Minnesota Medical School

Course: Human Disease 4 – Blood and GI

Course Director(s): Dr. Heather Thompson Buom

Instructional Review Timeframe (End of Course): May 6, 2014

1. Briefly describe the learning outcomes for your course

Understand the pathophysiology, diagnosis, and treatment of GI and Hematologic disorders. Describe the pathologic findings on peripheral blood smears, bone marrow biopsies, and tissue biopsies that help inform the diagnosis. Describe infectious disease syndromes of the blood and gut. List common pharmaceutical agents employed in the treatment of hematologic and GI disorders, including antineoplastics, antivirals, and antiretroviral drugs.

2. Describe what evidence you have that the outcomes are being achieved. Include student review information.

100% of students passed the course

From Evals: Overall, I acquired understanding of stated course objectives = 4.3 / 5
Objectives were well integrated = 4.2 / 5
Clinical relevance of stated objectives was clear = 4.3 / 5

3. Describe what is working well in your course.

“fantastic course, very well taught” “well integrated and organized”

“Small groups very helpful” “Small group facilitators were great, small group sessions informative and useful”

--Multiple positive comments about the combined Heme/Hematopathology lectures

4. Describe any areas of concern.

--Students generally want more “test questions” prior to the final exam; either a midterm, or practice questions, or more quiz questions, this was mentioned several times in the evaluations particularly practice ?s

--2 large group lectures-- topics of pancreatitis and bile acids—did not go as well as planned. Students felt they were too focused on basic science and they needed more general medical knowledge about gallstone disease, as a very common clinical entity.

5. Describe any changes you intend to make for the next academic year.

--Provide additional/alternative practice questions in the form of board review type multiple choice questions, instead of posting old exams

--Continue to integrate the medicine and pathology wherever possible; creating a new lecture, “Overview of anemia” with co-teaching from Internal Medicine and Hematopathology

--Recommend revising bile acid and pancreatitis lectures to include more common presentations of gallstone disease, including cholelithiasis, choledocholithiasis, and gallstone pancreatitis, with a “nod” to basic science but not the focus of the entire lecture

--Consider other points of integration within the course (such as HIV and antiretroviral drugs)

Years 1 & 2 Missed or Rescheduled Exam Procedure

Medical students are expected to put their studies as a top priority. The Medical School recognizes, however, that students (and physicians) must balance their strong commitment to medicine with their commitments to families and communities, and that they must engage in the self-care practices that will allow them to be healthy and fully engaged with patients and with the profession of medicine. This procedure outlines when students may reschedule an exam in order to participate in another personal or professional activity.

Procedure

Complete the *Year 1 and 2 Exam Rescheduling Request Form* and submit it to Brad Clarke (clark772@umn.edu). Provide any relevant documentation, such as documentation from a health care provider for an illness.

1. Submit the petition as far in advance of the exam as possible.
2. You will be notified via email as to whether or not your request has been approved.
3. Decisions may be appealed to the Senior Associate Dean for Undergraduate Medical Education.

Criteria

For a request to be approved, it must meet one of the following criteria. With rare exceptions, students *must be in good academic standing* to reschedule an exam.

- A. Religious holidays and restrictions: Students will be allowed to change an exam date for significant religious holidays and other days with work restrictions.
- B. Illness, personal crisis or family emergency: Students are allowed to reschedule exams due to their own illness, the illness of a family member, or another family emergency. Documentation from a health care provider is required in the case of illness; documentation from appropriate sources will be required for crisis/emergency situations. In case of illness or emergency, notify Brad Clarke, clark772@umn.edu or 612-624-6996, as soon as possible, in addition to the Course Director.
- C. Other: Approval of this category is determined at the discretion of the Curriculum Coordinator and the Director of Learner Development.

Midterms, Finals, Laboratory Practicals

Course Directors in Years One and Two will not grant permission to reschedule midterm or final exams. For certain examinations, such as those that involve laboratory practicals, it may not be possible to take the regularly scheduled examination at an alternate time.

Course Directors are responsible for determining any excused absences for all small groups, quizzes, lab sessions and any other required sessions within their course that are not a midterm or final exam.

Decision and Rescheduling

The Curriculum Coordinator (Brad Clarke), in cooperation with the Director of Learner Development (Dr. Scott Slattery), will determine the final decision on each written request and will be involved with the rescheduled exam details when approved.

- A. Any rescheduled exam must be taken within 7 calendar days of the original exam date unless the student is hospitalized or has been deemed to have extenuating circumstances determined by the Office of Medical Education.
- B. If more than one exam has to be rescheduled (excluding lab practical exams) then they also must take place not more than 7 calendar days from the original date of the exam. (E.g. Exam was originally scheduled for a Wednesday so student must make up the exam by 4:30 PM on the following Wednesday.)
- C. If a lab practical exam does need to be rescheduled, then the date/time will be set up by the course manager in conjunction with the Course Director and coordinator of the lab, and the student will be notified of this non-negotiable date and time.
- D. All rescheduled exams should take place through the Assessment, Curriculum, and Evaluation (ACE) Office with the Course Manager in charge of finding an exam space during an ILT time. If multiple students need to retake the same exam, the test will be administered to all at the same time. If a student is to take the exam at the Disability Services office, the same time frame applies.

Year 1 and 2 Missed or Rescheduled Exam Request Form

Student Name: _____ Request Date: _____

Faculty Advisor: _____

Course Name: _____ Course Director: _____

Scheduled Exam Date and Time: _____
Midterm Final

Criteria for Exam Rescheduling

Religious holidays and restrictions

Illness, personal crisis or family emergency (*For illness, attach documentation from a health care provider; for personal crisis or family emergency, attach documentation from appropriate sources.*)

Other

Reason for requesting a rescheduled examination date/time

Please refer to the accompanying Years 1 & 2 Missed or Rescheduled Exam Procedure. Address all relevant issues and attach relevant documentation.

If your reschedule criteria above is Other and is a planned event please answer the next two questions.

- Date and time of conflicting event:

- Describe conflicting event:

If allowed to reschedule your exam due to an extenuating circumstance (see bullet A. under *Decision and Rescheduling* on Years 1 & 2 Missed or Rescheduled Exam Procedure), on what date do you feel you will be ready to take the exam?

FOR OME USE ONLY

_____APPROVED _____DENIED

DATE STUDENT & ADVISOR NOTIFIED OF DECISION: _____

Student Request # _____

Return this completed form to Brad Clarke at clark772@umn.edu.

SMP's Experience with Dyad Symmetry

History

When the first year curriculum underwent extensive revision, the Biochemistry, Molecular, and Cellular Biology course (BioC 6-001) was combined with the Human Genetics course (GCD 6-110) to generate a single course, INMD 6802 The Science of Medical Practice. From the outset, the two independent course directors, Michel Sanders, Ph.D. (BMBB) and Lisa Schimmenti, M.D. (Pediatrics), worked closely together to design a course that closely integrated basic and clinical science. This required extensive reorganization, the introduction of many new topics especially in genetics, the elimination of some topics (cell biology), and integration of every aspect of this course including testing. Topic selection was based on competencies established by the Association of Professors of Human and Medical Genetics and the Association of (Medical) Biochemistry Course Directors. After the first year, nutrition was also inserted, requiring additional coordination. The final composition of the course is below. Note the large increase in the genetics component.

Content	Number of Sessions Now	Change from Old Curriculum
Medical Biochemistry	56	+5
Medical Genetics	35	+25
Medical Nutrition	11	+1
Cell Biology	0	-5
Development/Sex	10	10

Format

- 4 hour lecture blocks are designed so that 1 – 2 hours is clinically-based on a genetics topic that relates to the basic biochemistry/nutrition/development presented in the other 2 – 3 hours. Some of these are in the form of workshops, but most are just coordinated content.
 - Example 1: Chromosomes Workshop
 - Hour 1: Chromosomes and Cell Cycle Dynamics (biochem)
 - Hour 2: Chromosomes and Meiosis (biochem)
 - Hour 3: Chromosomal Abnormalities (genetics)
 - Hour 4: 22q Deletion Syndrome and Chromosomal Copy Number Variation with a 22q Deletion Syndrome and Chromosomal Copy Number Variation with a **Patient** (genetics)
 - Example 2: Energy Balance Workshop
 - Hour 1: Obesity and Energy Homeostasis (nutrition)
 - Hour 2: Regulation of Energy Intake (nutrition)
 - Hour 3: Obesity and Genetics with **guest bariatric surgeon** (genetics)
 - Hour 4: Managing Obesity with **Patient** (genetics)
- A number of 3 – 4 hour 'workshops' are focused on a single topic from both the basic and clinical perspectives. **These usually include a patient, a guest physician or specialist, and/or a medical student presenter.** (see additional details of 2 examples above)
 - Chromosomes (see above, **patient**)
 - Epigenetics and Imprinting (**patient**)
 - Molecular Tools and Diagnostics (**guest genetic counselor**)
 - Iron, Hemoglobin, and Sickle Cell (**guest medical student lecturer**)
 - Metabolism, Errors of Metabolism, Newborn Screening
 - Energy Balance (see above, **patient, guest bariatric surgeon**)
 - Cell Cycle, Cancer Genetics, Genetics Counseling (**patient**)
 - Sex Determination and Differentiation (**guest surgeon**)
 - Development, Morphogenesis, and Human Malformations (**patient**)

MS1 INMD 6812, Microbiology & Immunology, Dyad Teaching Spring 2014

Dr Jaime Green, Assistant Professor in the Division of Infectious Diseases, Dept of Medicine visited the classroom throughout Spring Semester, building on a foundation established by Dr Greg Filice in 2012 and 2013 for intermittent physician-student discussions. In total, Dr Green presented 4 full 50minute sessions and 3 half sessions (deliberate division of 50 minute sessions into half basic science and half clinical content) with specific emphasis on diagnosis and treatment of clinical cases. Many of Dr Green's cases were drawn from her own clinical experiences or from ID colleagues. Although Dr Green was teaching Medical Students for the first time in the classroom, she enjoyed the experience and is eager to continue this teaching role into the future. Her material was well received by the students and triggered good questions, including email exchanges arising from discussions initiated in class.

Specific comments on Dr Green's classroom presentations and discussion:

- Interesting, allowed us to apply what we learned in class somewhat. Her lectures didn't actually apply to exams for the most part. I feel like they would be very useful to hear again in year 2 or before going onto rotations.
- Dr. Green's clinical correlates help to illustrate the true complexity of infectious disease medicine and of how microbiology is used in a clinical setting. Her settings were helpful.
- Dr. Green's lectures were always interesting to listen to. It was nice having clinical correlates without having to be tested on the minute details later - it helped reinforce the material we were learning in lab.
- I enjoyed having Dr. Green come in to explain clinical cases on the more relevant organisms. It made it clear as to how we would be encountering what we are learning about in our future practices.
- Sometimes, I felt that these presentations were a little beyond where we were in training. I would try to walk us through the cases a little more and really connect with the earlier lecture.
- Dr. Green's presence in a dyad teaching method was great! It was very interesting hearing clinical perspectives on diseases we were discussing, and the sessions were very well done as a vignette-style exercise.
- Dr. Green was great! It was so helpful to have a practicing ID specialist explaining the complicated state of modern medicine and add relevance to the academic material.
- I enjoyed Dr. Green's lectures since they brought the clinical aspect of the material into focus. Unfortunately that also meant she had a tendency to talk over our heads making some things difficult to follow. But overall, I enjoyed the case discussions and found them interesting.

- It was beneficial to hear clinical examples of infections we were learning in class, but I am not sure how much it added to my learning. It was also somewhat confusing to hear about different antibiotics that we hadn't been introduced to.

- Good clinical correlation.

- I liked this doctor. She was clear, obviously interested and brought her work into the conversation, which is refreshing since we get taught by so many people who aren't clinicians.

- To be honest, I did not glean much information from Dr. Green's lectures. It is always nice to hear that the material will be relevant to clinical practice "straight from the horses mouth" so to speak, but the material was not stimulating, nor did I have enough time to learn the material just previously presented to appreciate the material Dr. Green lectured on.

- I really appreciated the clinical correlations. They really helped to make the material seem more applicable

- Dr. Green was a very engaging lecturer and I enjoyed hearing the application to clinical practice throughout the course

- Power Points need to be reworked to emphasize the information we should get from the clinical examples.

- Engaging!

Areas to look for improvement/increased impact in 2015

Improved advanced planning to take better advantage of Dr Green's available time.

Reappraisal of Dr Green's slides to clarify standard but potentially cryptic terminology that many of the MS1 students are not yet familiar with.

Better integration between Dr Green's material and the knowledge base required throughout the course.

DYAD TEACHING From Physiology course survey:

- Great integration, Dr. Chipman provided nice additions.....

- Great class, love the integration, excellent instructors, no complaints.

This course was fantastic. Overall, I think the lecture organization, inter-lecture integration, and quality of lecturers is the best of any courses during year one of medical school. I think having a.....

...relatively small number of lecturers is great, and other courses should adopt this. I like that important topics were reviewed and integrated over multiple lectures. The labs were interesting, and I

I'd really like to see more of Katz and Chipman's dyad teaching. That was incredibly helpful for students. When you get taught by a PhD, there are always clinical application questions popping up in.....

students' minds and the PhDs usually have to say, "I don't know." But in this style, the PhD hands the mic to the MD and those questions get answered. Very satisfying.

Dr. Chipman - enjoyed clinical correlations quite a bit, seeing that this stuff is actually used.

The dyad model was really nice. Drs. Osborn and Engeland teaching together made the class enjoyable and interesting. Dr. Chipman's contributions to Dr. Katz's lectures were really valuable.

The dyad approach with Katz/Chipman is fantastic and very interesting.

I like the clinical correlates. Have Dr. Chipman there more often.

Q28. The instructor presented topics in a clear and understandable manner.

Faculty Results

Responses Individual

	SD	D	N	A	SA	N	Mean
Chipman, Jeffrey	0	1	14	46	27	88	4.1