

## Scientific Foundations Committee

October 9, 2015

7:30 – 9:00 am

Mayo B-620

### Minutes

2015-2016 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	
David Baldes	INMD 6815 Human Behavior	
H. Brent Clark	INMD 6819 HHD – N & P	x
Greg Filice	MS 2 ID Thread	
Glenn Giesler / Matthew Chafee	INMD 6813 Neuroscience	x / x
Bob Kempainen	INMD 6808 HHD – C & R	x
<b>TBD</b>	INMD 6809 HHD – R, D & O <sup>3</sup>	
Brian Muthyala	INMD 6803/6804/6805 ECM 1, ECM 2, ECM 3A	
Kaz Nelson	INMD 6819 HHD – N & P	x
Catherine Niewoehner	INMD 6810 HHD – R & E-R	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
Michael Ross	INMD 6816 Human Sexuality	
Michel Sanders	INMD 6802 Science of Medical Practice	
David Satin	INMD 6803/6804/6805/6806/6807 ECM 1, ECM 2, ECM 3	
Lisa Schimmenti	INMD 6802 Science of Medical Practice	
Peter Southern	INMD 6812 Microbiology	x
Heather Thompson Buom	INMD 6811 HHD – GI & Heme	
Tony Weinhaus	INMD 6801 Human Structure and Function	
Kevin Wickman	INMD 6818 Principles of Pharmacology	x
Mary Ramey	MS2 Lab Med/Path Coordinator	x
Nicole Cairns	MS2 Student Representative	x
<b>TBD</b>	MS1 Student Representative	
<i>Mark Rosenberg</i>	<i>Vice Dean for Medical Education</i>	x
<b>TBD</b>	<i>Associate Dean for UME</i>	
<i>Jeffrey Chipman</i>	<i>Assistant Dean for Curriculum</i>	
<i>Anne Pereira</i>	<i>Assistant Dean for Clinical Education</i>	
<i>Michael Kim</i>	<i>Assistant Dean for Student Affairs</i>	x
<i>Suzanne van den Hoogenhof</i>	<i>Interim Assistant Dean for Assessment &amp; Evaluation</i>	x
<i>Brad Clarke</i>	<i>Director of Curriculum</i>	x
<i>Jim Beattie</i>	<i>Director of MEDS / FCT Course Director</i>	
<i>Leslie Anderson</i>	<i>Chief of Staff, Medical Education</i>	x
<i>Scott Slattery</i>	<i>Director of Learner Development</i>	
<i>Heather Peterson</i>	<i>Medical School Registrar</i>	x
<i>Brian Woods</i>	<i>Lead Course Manager</i>	x

**Guests:** Sarah Williams, Pat Schommer, Chelsey Jernberg, Serena Sherrell

The meeting was called to order at 7:31am.

## **Minutes**

Draft minutes from the August 14 & September 11 meetings were approved as submitted.

## **Updates/Announcements**

Interprofessional education update – Dr Van den Hoogenhof

AHC 1Health has met with all AHC schools and has identified 43 agreed interprofessional educational outcomes. Now they want to know if and where any of these outcomes are being assessed in the AHC schools; this is so assessments don't have to be created if they already exist. She will send an email to Course & Clerkship Directors to ascertain if any of these outcomes are assessed; for years 1 & 2, the most likely outcomes that possibly be assessed are HealthCare 101 & Population Health. If an outcome is only mentioned, but not assessed, Course Directors do not have to report that.

## **Student Issues/Concerns/Questions**

n/a

## **Annual Course Review**

Neuroscience – Glenn Giesler

*See attached full ACR for details.*

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Dr Giesler outlined and expounded on points in the Summary of Medical Neuroscience 2015 (attached). In response to a question about the Core Rating Questions 9-11, Dr Van den Hoogenhof clarified that these questions on public health, quality improvement, and interprofessional education are included in the 2014-2015 Course Evaluations in order to get baseline data for 2015-2016 and beyond.

The overall mean scores for this course compare favorably to 2014 outcomes. All students passed, with a larger number of students achieved Honors than in the past due to the new criteria. Written comments were overall strong, and students recognized links between the basic science & relevance to clinical practice.

### *Areas of concern:*

One of the areas where comments were strongest concerned the lack of debriefs directly after exams. Dr Giesler explained that this was because of blatant issues of cheating by the Physical Therapy students who were taking the course. He needed to make sure that all students had taken the exam before releasing answers during a debrief. For the upcoming year, the PT students will be held to a code of conduct developed by their department, so the exam debriefs will be scheduled after exams.

40% of the lecturers are leaving; some are on phased retirement; the lab director is leaving. A new lab director is in place, but other lecturers will need to be identified.

Despite labs being required attendance, per Medical School policy, many students leave lab after the introductions are done.

### *Changes for coming year:*

- Scheduling of lab topics will be adjusted to better align with when the topic is presented in lecture.
- A single video lab introduction will be recorded for each lab session. This will eliminate the inconsistency of individual lab instructor introductions. Students will have to view before the lab session, but all will receive the same information.
- For practice tests, more recent “old” exams will be offered to better reflect the current question styles.
- For lectures: attempt to have more consistency to lecture styles; fewer lecturers; bring down the number of slides in presentation used by several lecturers.
- On exams: attempt to ask questions that relate better to the board exams, and not so many “trivia” questions. This is in response to student feedback.

### *Comments:*

- General agreement that pre-recorded intros for lab sessions are a good idea; for consistency of information to students, and so that class time is not taken.
- Microbiology has a mandatory sign-in for labs. This seems to encourage attendance.
- Students are using Anki-decks more for study and to solidify topics. It’s an excellent way to learn Neuroscience. Dr Kim commented that there is a West-coast school that encourages students to build their own Anki question decks during course time. Students curate their own questions.
- Dr Clark has been reviewing the Neuroscience lectures to help coordinate topics that are presented in his HHD – Neuro & Psyche course in Year 2.
- There is also a movement in the Neuro department beginning to coordinate the teaching of Neuroscience over the course of all four years.

## **Discussion**

### Narrative Feedback – Dr Katz

It is an LCME mandate (ED-32) that students receive narrative feedback in each course or clerkship. Ideally, the feedback should occur “midcourse” so that students have time to self-correct.

Large lecture class feedback is difficult. Feedback in small groups is relatively easy. FCT groups provide feedback, and HHD1 piloted narrative feedback in its small groups when the facilitator met with their students 3 or more times. Dr Katz distributed a sample letter that he sends to students who are not doing well in his course. Course Directors are welcome to modify this letter for use in their courses. He recommends that students who are doing poorly are specifically asked to contact the Course Director to make an appointment.

Dr Powell noted that even when students are contacted, many do not respond, or do not see their performance as a problem. The larger question is: Is this [narrative feedback] meaningful for the students? It fulfills a requirement, but is it the best method and is it helpful? Students don’t necessarily realize the pace of a course, and the midterm serves the purpose of a “check-in”. In EPAC, students are helping to design evaluation questions so that they’re involved in the process so that they know what is expected of them. This really began as a clerkship problem that trickled down into the first 2 years of Medical School. It’s more important in Years 3 & 4, and in Year 1 & 2 we should concentrate more on identifying students who are having problems and helping them. It’s also important to work more on longitudinal integrations.

In HHD1, Dr Kempainen said that most students who fail his midterm are really ok for the remainder of the course. But a larger issue is which students have the history of struggling through their first year. Dr Kim is working with AHC-IS to establish a “tracking system” to help identify at-risk students. It would include statements referring students to resources available to them, including the Office of Learner Development.

*Question:* What do schools do who are *not* sited for ED-32? Are we going too far?

In HHD4, Dr Niewoehner has seen improvements in small groups and in general with student interactions and working together over the past several years. As a small group facilitator in HHD4, Dr Rosenberg enjoys having an opportunity to provide feedback on the students he gets to know throughout the course, and suspects other facilitators may feel the same.

An important aspect of giving narrative feedback to students is to identify the quiet students in preparation for their Years 3 & 4 rotations. Dr Van den Hoogenhof shared the 3 questions that were used in the HHD1 small groups this year. One of them addresses a student's ability to work in a group. If these questions get rolled out over multiple courses, a longitudinal look for students will then be available.

#### Preparation of histograms – Dr Katz

Dr Katz recommends that Course Directors provide histogram for each assessment and final course points so that students see their relative performance in the course and in relation to their classmates. Course Managers can help create one if one is not supplied by OMS or Course Directors are not comfortable creating one. It should be used for summative points only and will give realistic look to student placements without the need to show full grading spreadsheet.

Nikki commented that students consider histograms really great feedback, and provide real-life, “real-time” standing.

#### Review of SFC MedEd web pages & Course Director BlackBag site

Tabled until a later meeting.

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### **Future Agenda Items**

Suggestions from Course Directors for future SFC meeting topics:

- Professionalism: definition, enforcement, longitudinal integration
- ExamSoft & BlackBag assessments
- ILT feedback
- Copyrights & resources (focused on what we *can* do)
- Course administrator co-directors (not the dyad)
- More Blackbag search examples, Gradebook, downloading, calendar, checking feedback cards
- Survey students about type of practice questions/formative
- Human Behavior course
- The Four Habits Model (Michael Kim)
- Complete of student Incomplete (I) grades

The meeting was adjourned at 8:37am.

The next meeting is November 13, 2015, from 7:30-9:00am in room Mayo B-646.

Respectfully submitted,  
Brian Woods

**Annual Course Review (ACR)**  
**University of Minnesota Medical School**

*(This page to be filled in by ACE)*

Course: Neuroscience  
Course Director(s): Glenn Giesler, PhD  
Course Manager: Aliyu Ojarigi

Date of course: 1/5/2015 – 4/24/2015

Overall evaluation of the course: 4.2/5.0

Course grading rubric:

**Quiz 1**, 23 points

**Midterm**, 47 points

**Quiz 2**, 23 points

**Lab Final**, 50 points

**Written Final**, 89 points

**TOTAL POINTS = 232, passing = 162**

Number of failures for academic year: **0**

**1. Briefly describe the learning outcomes for your course**

The objective of this course is to provide a contemporary understanding of the organization and function of the human nervous system. This knowledge is intended to serve as a basis for understanding the effects of damage to the nervous system as seen in clinical medicine and to prepare you for other courses and clerkships dealing with the nervous systems and its diseases. Another important goal of this course is to cover topics that are most likely to appear on USMLE Board exams.

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

Medical students did very well on exams in the course. More than 40 scored 95% or higher of all points possible in the course and received Honors. I have reviewed Boards question on neuroscience. Each of the areas covered by the questions were covered in our course. Each of the questions could have been answered correctly based on the material in our course alone.

**3. Describe what is working well in your course.**

The lectures have improved steadily over the last few years. Dr. Chafee now gives the five lectures on motor systems, cognitive processes and learning and memory. He is an excellent lecturer. He received many favorable comments from the students. Over the years, the clinical content in almost every lecture has increased. Many lectures begin with brief clinical vignettes. More than 50 neurologic diseases and conditions are discussed and information about their causes and treatments is provided.

**4. Describe any areas of concern.**

We were unable to provide de-briefing sessions immediately after the second quiz and after the final. This was in response to egregious cheating on the midterm by at least two PT students in the class. PT students are not on the honor system. In response to the cheating, I did not release answers on quiz 2 and the final until all students had taken them. This elicited many complaints by the medical students in the evaluations. I feel my hands were tied in this circumstance.

Some students complained that some of the exam questions didn't cover clinically relevant material. I agree that a few didn't and could have stressed more important concepts. I will watch for these types of questions more carefully and replace them next year.

The students also complained that some of the questions in the old exams that were posted on our website were from previous lecturers and didn't adequately prepare them for material covered this year. This can easily be corrected. Next year I will post exams and answers from 2012-2014.

**5. Describe the progress of the changes being made as the result of your previous ACR (*your intended changes will be pre-filled by ACE*)**

See response number 4.

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

After 20 years as course director, I will be stepping down. In 2016, I will co-direct the course with Dr. Chafee. In 2017, he will be the sole director of the course

## Summary of Medical Neuroscience 2015

### Summary of course:

This course consists of 47 lectures and 14 laboratories covering cellular and molecular neuroscience, and principles of systems neuroscience, including sensory, limbic, motor, autonomic and neuroendocrine systems.

### Objective:

The objective of this course is to provide a contemporary understanding of the organization and function of the human nervous system. This knowledge is intended to serve as a basis for understanding the effects of damage to the nervous system as seen in clinical medicine and to prepare you for other courses and clerkships dealing with the nervous systems and its diseases. Another important goal of this course is to cover topics that are most likely to appear on USMLE Board exams.

Mean of student evaluations 2015 = 3.6

Mean of student evaluations 2015 without Q9-11 = 3.9

Evaluations of Medical Neuroscience 2014. Mean of the nine categories was 3.97.

<b>2014-2015 Neuroscience Survey Spring (2015)</b>	<b>University of Minnesota School of Medicine - Twin Cities</b>
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<b>Course:</b>	INMD 6813 - 2014-2015 Neuroscience	<b>Department:</b>	INMD
<b>Director(s):</b>	Glenn Giesler	<b>Responses / Expected:</b>	117 / 172

<b>Basic Science Core Rating Items</b>		<b>INMD 6813</b>						
		<b>Responses</b>					<b>Course</b>	
		SD	D	N	A	SA	N	Mean
<b>Q1</b>	The course objectives were made clear to me.	2	7	11	61	36	<b>117</b>	<b>4.0</b>
<b>Q2</b>	The assignments planned for independent learning time facilitated my learning of the course material.	4	13	29	54	17	<b>117</b>	<b>3.6</b>
<b>Q3</b>	The resources provided for the class were useful in learning the material: (i.e. recommended readings, course packet, BlackBag site)	2	15	19	54	27	<b>117</b>	<b>3.8</b>
<b>Q4</b>	There were adequate opportunities for non-graded self-assessments (i.e. quizzes, discussion questions, practice or review questions).	9	15	18	48	27	<b>117</b>	<b>3.6</b>
<b>Q5</b>	There was close agreement between the stated course and session objectives and the information taught.	1	7	17	58	34	<b>117</b>	<b>4.0</b>
<b>Q6</b>	The graded assessment(s) appropriately tested the course objectives.	9	14	19	46	29	<b>117</b>	<b>3.6</b>
<b>Q7</b>	Overall, I have acquired an understanding of the stated course objectives.	1	4	13	58	41	<b>117</b>	<b>4.1</b>
<b>Q8</b>	The course content was successful in integrating basic science knowledge and clinical practice.	1	4	5	63	44	<b>117</b>	<b>4.2</b>
<b>Q9</b>	Public Health topics were integrated within the course.	6	32	37	35	7	<b>117</b>	<b>3.0</b>
<b>Q10</b>	Quality Improvement topics were integrated within the course.	4	32	52	23	6	<b>117</b>	<b>3.0</b>
<b>Q11</b>	Interprofessional Education topics were integrated within the course.	8	29	46	28	6	<b>117</b>	<b>3.0</b>
<b>Q12</b>	Overall, I have found this course to be valuable.	3	2	14	52	46	<b>117</b>	<b>4.2</b>

**Responses:** [SD] Strongly Disagree=1 [D] Disagree=2 [N] Neutral=3 [A] Agree=4 [SA] Strongly Agree=5

# Survey 2014

Neuroscience '13-'14 Survey  
Spring (2014)

University of Minnesota  
School of Medicine - Twin Cities

Course: INMD 6813 - Neuroscience

Department: NSci

Director(s): Glenn Giesler

Responses / Expected: 97 / 176

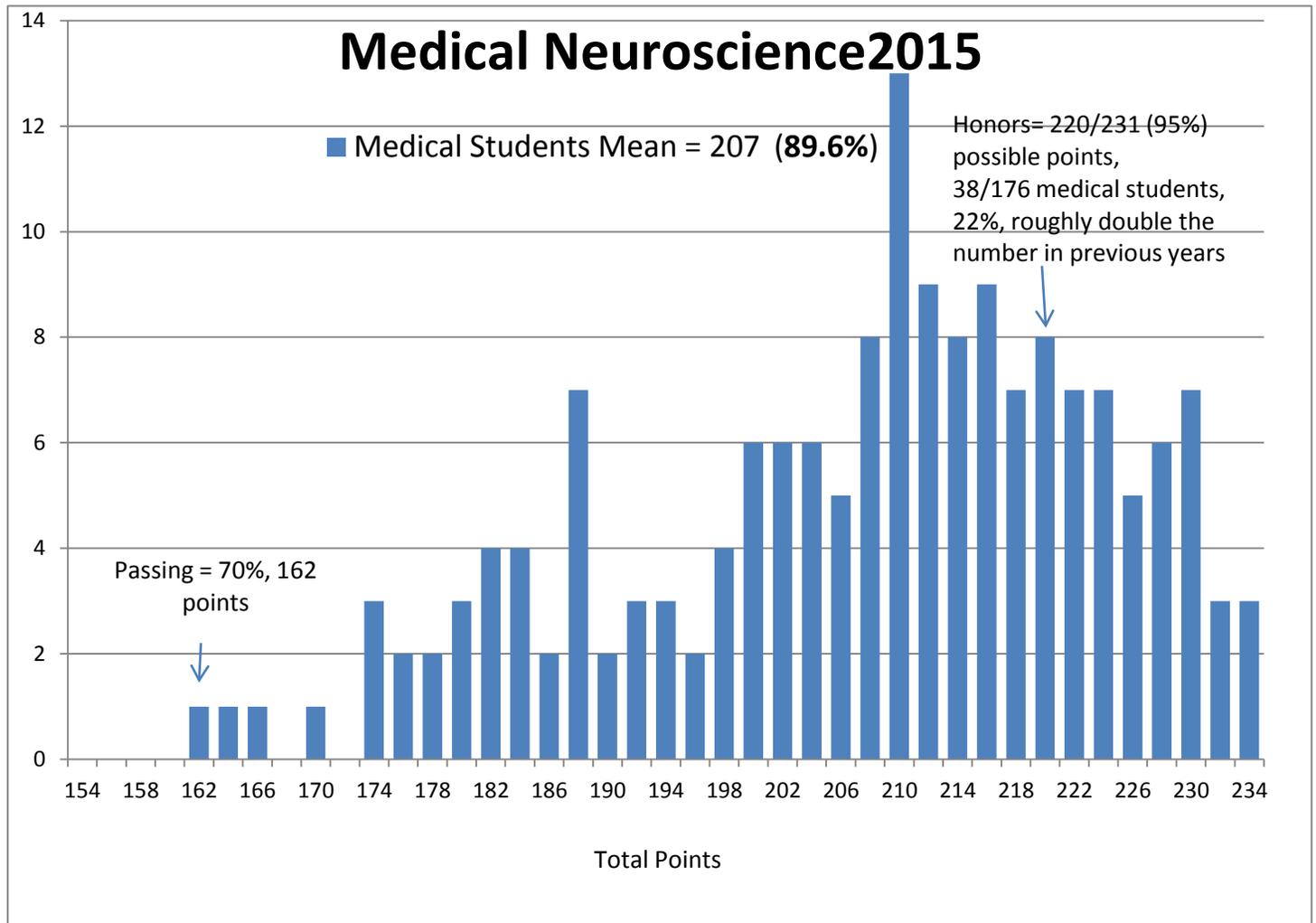
## Basic Science Core Rating Items - New

- Q1 The course objectives were made clear to me.
- Q2 The assignments planned for independent learning time facilitated my learning of the course material.
- Q3 There were adequate opportunities for non-graded self-assessments (i.e. quizzes, discussion questions, practice or review questions).
- Q4 The resources provided for the class were useful in learning the material: (i.e. recommended readings, course packet, BlackBag site)
- Q5 There was close agreement between the stated course and session objectives and the information taught.
- Q6 The graded assessment(s) appropriately tested the course objectives.
- Q7 Overall, I have acquired an understanding of the stated course objectives.
- Q8 The objectives addressed within the course were well integrated.
- Q9 The clinical relevance of the objectives covered within the course was clear.

INMD 6813						
Responses						Course
SD	D	N	A	SA	N	Mean
0	4	5	61	27	97	4.1
0	4	27	52	14	97	3.8
1	3	11	49	30	94	4.1
0	11	18	48	19	96	3.8
0	4	9	57	26	96	4.1
1	10	21	51	14	97	3.7
1	5	7	59	23	95	4.0
2	7	13	53	22	97	3.9
0	4	7	49	37	97	4.2

Responses: [SD] Strongly Disagree=1 [D] Disagree=2 [N] Neutral=3 [A] Agree=4 [SA] Strongly Agree=5

Medical students did well in 2015. All passed. Honors was awarded to 38 medical students. In previous years, honors was based on top 155, about 27 students.



## WRITTEN COMMENTS/SUGGESTIONS IN STUDENT EVALUATIONS

A number of students made positive comments about the course overall (Q12 = 4.2). Several of the lecturers were complemented, as were several lab instructors. The efforts by faculty members to link the basic science information to clinical issues appears to be a strength of the course (score = 4.2). This was the first neuroscience course for many of the students and they seem to have found the topic interesting.

However, there were a large number of negative comments. The following is what we believe are the most frequent:

1. *Failure to provide answers to exam questions ("de-brief") in a timely manner.*

In 2015, 50 PT students in Medical Neuroscience were **not** on the honor system. This year, I received a complaint from a medical student that two PT students were egregiously cheating on the midterm. Apparently they were exchanging answer sheets. This has been a potential problem in the course for years. As a result, I have been reluctant to provide answers to an exam until all students have taken it. This was the policy in 2015. The Physical Therapy program has recently changed their policy and now all of their students are on the honor system. In 2016, we will offer de-briefing session on the same day that quizzes and exams are given.

2. *Labs follow lectures on the same topic after too long an interval, reducing integration of material:*

The days and times in which we can run laboratory sessions are not set by us. However, we have found an opportunity to move the Somatic Sensory System a week closer to lectures on the topic. Also, Visual and Auditory System lab will occur two weeks earlier in 2016, immediately after the lectures on the topics. In 2016, for the first time, both the lectures and labs on these systems will occur before the midterm.

3. *Examples of old exam questions differ greatly from those on current exams.*

Practice questions will be taken from exams given during the last three years only.

4. *The warm up presentations given to students in the four lab sections vary greatly.*

A single lab warm up lecture will be video recorded a week or more in advance of the lab and posted on Blackbag. Students will be instructed to study it before coming to the lab. As a result, all students will have access to the same presentation. Importantly they will be able to view it and study from it at any time and as often as they wish. Viewing the warm up in advance will serve as independent study, an aspect of the course deemed a weakness in the evaluations (received a score of 3.6). Also, this change will allow more time in laboratory sessions for faculty to work individually with students.

5. *Inconsistent styles by lecturers.*

The importance of consistency of style will be more greatly stressed to lecturers in 2016. Lecture outlines will be modified by course directors to produce more consistent style of presentation.

6. *Too many different lecturers.*

We do have more lecturers than the other courses given in the spring of the first year. The number cannot be easily reduced but we think that improving the consistency of the styles of the lecturers will reduce this concern. Also faculty members who give more 40% of all lectures will be leaving the course in 2017. This will provide the next course director, Matt Chafee, with an opportunity for reducing the numbers of lecturers.

7. *“Too many exam questions ask about trivia”*

Students pointed repeatedly, and with reason, to the same three examples. These will not be used again. We will increase our commitment to asking questions in the form of clinical cases, this to stress the clinical value of the material. It should be noted that what might appear as trivia isn't necessarily. We are considering inclusion of 3 study questions from Board review books at the beginning of each lecture. These should provide an indication of the level of detail and depth of understanding necessary to answer board questions.

8. *Several students noted that the last two lectures in the course had a great deal of valuable clinical content but they occurred only days before the final, leaving little time for study.*

In 2016, we will post on Blackbag videos of these two lectures from 2015 so that the students can view these and learn the content in advance of the lectures. This will increase the commitment to independent learning in the course and provide more time during the lectures to answer questions, stress the most important concepts, etc.

**II. COMPLIANCE, WITH A NEED FOR MONITORING (From LCME)**

G. *ED-32. A narrative description of medical student performance in a medical education program, including non-cognitive achievement, should be included as a component of the assessment in each required course and clerkship rotation whenever teacher-student interaction permits this form of assessment.*

**From LCME\_(What we now do annually and send to LCME)**

G. *ED-32 (narrative feedback)*

1. List the courses in the pre-clerkship years that provide narrative feedback to medical students. Compare the availability of narrative feedback in pre-clerkship courses in the 2012-2013 academic year to the 2014-2015 academic year.
2. If there are courses that could provide narrative feedback (e.g., because of the availability of small group instruction) but do not, describe the reasons that narrative feedback does not occur.
3. Provide information from an internal survey of students in all classes regarding satisfaction with the quality and usefulness of narrative feedback in the pre-clerkship curriculum. Provide the data by year.

For Small Groups:

Often mid-course assessment material will be provided by the 6<sup>th</sup> floor,  
Or you already have something (FCT,...).

For large courses: (EXAMPLE ONLY)

I am writing because your total score for the Physiology quiz 1 and midterm exam is 60 points out of 90, which is below the lowest passing score of 63 (70% of the total). Even if you factor in your scores for the first four Lab/Demo quizzes, you are still very close to the pass-fail line. We still have one more quiz and the final exam, as well as the Lab/Demo and GI quizzes on Black Bag, so there is time to improve your performance. I want to encourage you to contact any of us teaching in the course to discuss any questions you may have. We are all happy to meet with you and help you learn the material. It will be particularly important to talk with Drs. L. and K. because their material (GI and Renal) will make up most of the questions on the remaining quiz and final exam.

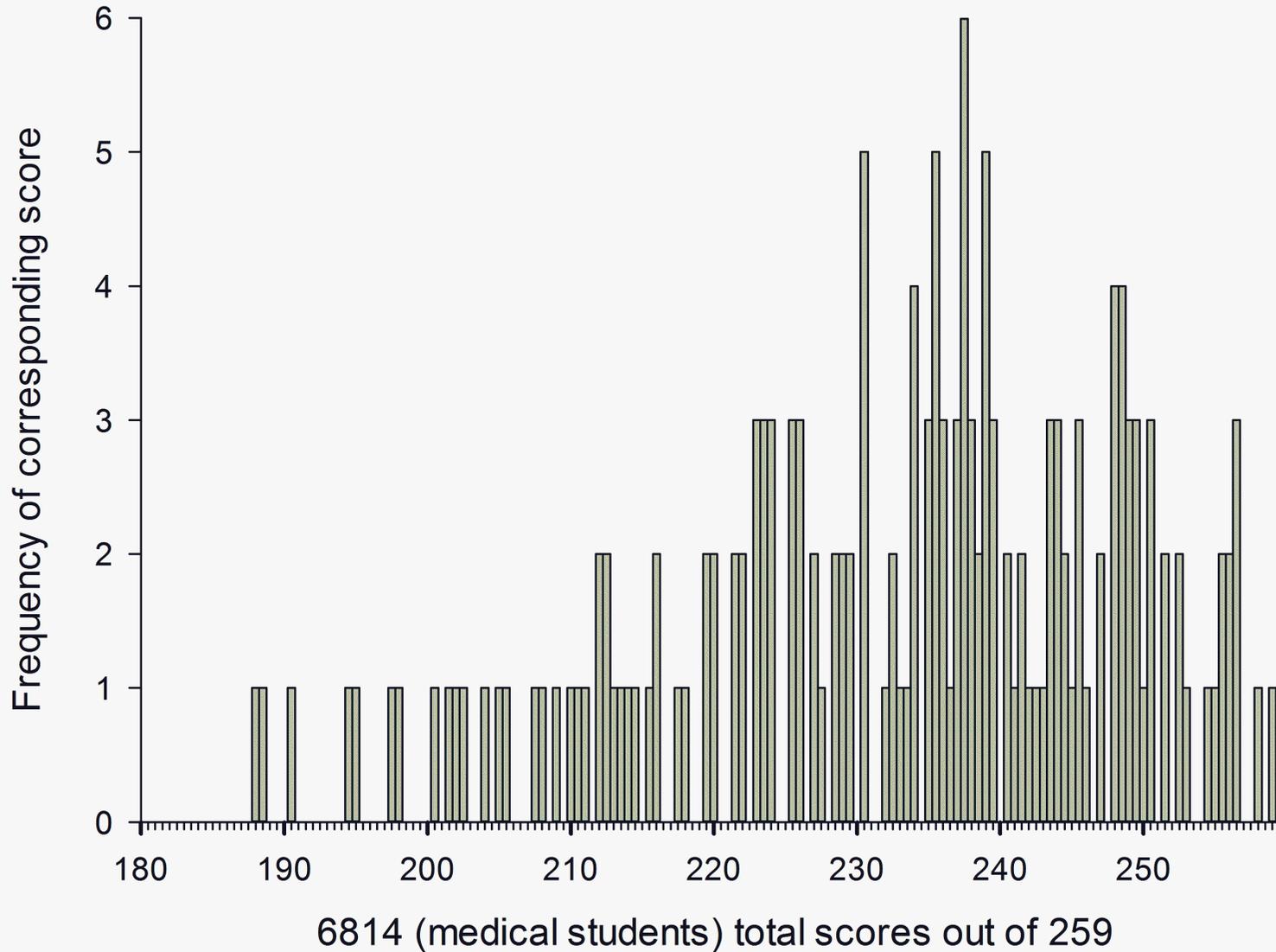
If you have any general questions about the course please don't hesitate to contact either me.

Signed,

Friendly Course Director.

## INMD 6814 Total Scores 2015

High score was 259. 70% of total points =181.3, all students pass this criteria, but 6 students obtained less than 70% on the final (not a 5101 criteria). Mean = 232.3



**Making a class histogram available for each exam (and total points) allows a student to assess their relative progress. For instance, a student and advisor might think that the student is doing great because they have 75% of the total course points, but that student would have a 194.5 and would not be doing well relative to their peers. OMS scantron reports can provide histograms if you request them!**