

## Scientific Foundations Committee

June 5, 2015  
7:30 – 9:00 am  
Mayo B-620

### 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	x
Bob Kempainen	INMD 6808 HHD – C & R	
Anne Minenko	INMD 6809 HHD – R, D & O <sup>3</sup>	x
Kaz Nelson	INMD 6819 HHD – N & P	
Catherine Niewoehner	INMD 6810 HHD – R & E-R	x
James Nixon	INMD 6803/6805/6806/6807 ECM 1, ECM 3A/B/C	x
Jan Norrander	INMD 6801 Human Structure and Function	x
Deborah Powell	INMD 6817 Principles of Pathology, MS2 Pathology Thread	
Michel Sanders	INMD 6802 Science of Medical Practice	x
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	
Doug Wangenstein	INMD 6814 Physiology	
Tony Weinhaus	INMD 6801 Human Structure and Function	x
Kevin Wickman	INMD 6818 Principles of Pharmacology	x
Mary Ramey	MS2 Lab Med/Path Coordinator	x
Kevin Kay	MS2 Student Representative	
Nicole Cairns	MS1 Student Representative	x
<i>Mark Rosenberg</i>	<i>Vice Dean for Medical Education</i>	x
<i>Kathy Watson</i>	<i>Senior Associate Dean for UME</i>	x
<i>Jeffrey Chipman</i>	<i>Assistant Dean for Scientific Foundations</i>	x
<i>Majka Woods</i>	<i>Assistant Dean for ACE</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>Brad Clarke</i>	<i>ACE Curriculum Specialist</i>	x
<i>Leslie Anderson</i>	<i>Chief of Staff, Medical Education</i>	
<i>Scott Slattery</i>	<i>Director of Learner Development</i>	x
<i>Heather Peterson</i>	<i>Medical School Registrar</i>	
<i>Brian Woods</i>	<i>Lead Course Manager</i>	x

Guests: Theresa Hudachek, Matthew Chafee, Dimple Patel, Chelsey Jernberg, Serena Sherrell

The meeting was called to order at 7:30am.

## **Minutes**

Draft minutes from the May 1 meeting were approved as submitted.

## **Updates/Announcements**

### Summer MEDS Schedule

Theresa Hudachek reviewed the many offerings from MEDS that are happening this summer. She asked for presenters for Journal Club, as the August schedule is currently open. An announcement for the 2015-2016 MEDS schedule will be released soon. Beginning with the June 24 meeting, the Medical Education Research and Scholarship Conference will move from a weekly to a monthly schedule. This is an opportunity to present research in progress for consultation; it's not a forum for final presentations. There will be an inaugural back-to-school Faculty Summer Kickoff on Tuesday, August 4. The kickoff is from 4:30-5:30 followed by a chance to mingle with the new incoming med students. SFC members are encouraged to reserve this time on their calendars now; more information will follow.

### 2015-2016 meeting schedule

Reminder of the new SFC meeting schedule starting August 14. Meetings will move to the 2<sup>nd</sup> Friday of the month at 7:30am (with the exception of a quarterly joint meeting with CEC and CUMED), in room Mayo B646.

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

### Update Secure Exam Policy to align MS1 & MS2 debrief policy

The MS2 procedure is spelled out in the Secure Exam Policy, but there is not laid out for MS1 courses. Nikki has proposed some changes to the MS1 debriefs in order to standardize them, including specifics for lab exams, written/short answer exams, and online exams.

Non-medical students in Neuroscience 2015 cheated extensively on midterm & final exams, which is why Neuro didn't release answers until all students took the exams. This is an example of why debrief uniformity is not always possible. Dr Giesler noted that students are welcome to submit question challenges to the Course Director as soon as the exam is finished. The cheating by physical therapy students spread to the Physiology course in 2015, as well. Dr Kim is willing to reach out to the physical therapy department to address cheating by their students.

Students with accommodations have the opportunity in some courses to debrief with the Course Director, or to come to the Course Manager to review their test & write their challenges for submission to the Course Director.

Nikki forwarded her proposal to Dr Katz, which was then distributed by email to the SFC. Whatever changes may be made to debrief procedure, the Secure Exam Policy must be followed.

### Can course schedules appear earlier on BlackBag?

Students want to know their schedules earlier, particularly POCC and lab schedules, in order to plan non-school events. It was noted that the public BlackBag calendar is available at all times through the MedEd website. It reflects in real-time what has been entered into BlackBag. The difficulty with early posting of POCC schedules is that they are often not set with clinics until right before the semester starts, due to capacity determinations.

Also on the MedEd website is the "Level 0" (high-level by week) calendar. All small groups, including labs are required per Med School policy. Student council is addressing this issue of schedules as well.

## Annual Course Review

Human Health & Disease – Rheum, Derm, Opth, Otol, Ortho (HHD5)  
*See attached presentation slides and full ACR for detail.*

Dr Anne Minenko shared a condensed version of her full ACR. She also shared issues & ideas that may apply to other HHD courses. HHD5 was offered in 2015 for the first time in this form, without neurology and psychiatry, which are now in their own course (HHD3).

Positive feedback for the HHD resequencing and restructuring was received from students.

### *Working well:*

Four highlights were shared

- All-star instructors
- Clinical skills workshops
- Course 'front loading' so that there was time for study and Step 1 prep during the last week
- Top-notch Course Management support by Serena and student employee Gabe

### *Areas of concern:*

Two areas were highlighted under the heading of 'better communication'.

Take-Aways: Three items were gleaned by Dr Minenko from her course for other Course Directors to consider.

Details were covered of how Public Health/Interprofessional topics were covered during the Trauma sessions of HHD5.

3

Dr Minenko emphasized the teaching the "3 R's" in Medical Education: Responsibility, Resilience, and Resolve. These "3 R's" are advocated in an article by Dianne Eley and Helen Stallman. Dr Eley will be presenting at a MEDS session on June 22.

### *Comments:*

Dr Katz suggests that all Course Directors work with their Course Manager to prepare & publish a histogram of all exam scores. This will give students a realistic picture of where their performance aligns with the rest of the class.

Dr Kim reported that there is a plan in process to roll out reflections throughout all MS1 & MS2 courses.

## Discussion

### Proposed B.S to M.D. Program

*See attached Joint Admissions Scholars Program Proposal for details.*

Dimple Patel, Associate Dean for Admissions, presented a proposed B.S. to M.D. program. She is currently working with undergraduate admissions and the CBS & CLA colleges to create and implement this program. It would allow 10 in-state students from broadly diverse backgrounds to complete the B.S. & M.D. degrees in seven years. The B.S. would be earned after the student's 1<sup>st</sup> year of medical school. Intrusive counseling would be necessary to keep students on track & focused.

The Admissions office is researching other national programs like this, and consulting with other University departments to address the details of the program, and challenges that have been raised.

Ms Patel is looking for feedback from SFC and other Medical School committees. Currently, there are 52 programs nationwide, and benchmarking with these programs is happening.

*Comments:*

- There may be many promising students in high school who don't know what being a doctor means. Will there be an effort to reach out to those students.
- Mentoring would be very important, as medicine may also appeal to non-science students.
- Admissions is aware of The Ladder at Broadway Family Medicine as a way to identify students.
- Tuition: The 1<sup>st</sup> three years would be undergraduate tuition. Med School tuition would begin in year 4 of the track. However, there is an opt-out plan if students decide to drop the program.
- There would not be room for flexibility (study abroad, etc). The University wants undergrads to finish the baccalaureate degree in 4 years-no exception.
- The required MCAT score is not set at this time. Student GPA would be 3.7 average, which is the same as the current Med School average for incoming classes.
- There have not been conversations with SNMA students yet. But this will happen.
- There used to be a program that recognized promising sophomores/juniors for possible med students, but that has been discontinued. This track would replace that.

Ed Council has given preliminary approval for this program.

Narrative Feedback Assessments

As chair of the Ed Steering Committee, James Nixon reported that as a result of the last LCME site visit, which noted a dearth of narrative assessment given to students, the Medical Education office has been devising a way to get more feedback to students. Also, by giving more & better feedback to students, they have the opportunity to improve non-academic skills (communication, participation, etc).

The Physicians Competency Reference Set were adopted by the Med School (and presented to the SFC at an earlier meeting). Drs Nixon, Johns, and Pereira have identified areas that could be easily commented on in small groups by a facilitator, and communicated to students.

A facilitator should have a minimum number of interactions with a student in order to give meaningful feedback: 4 contact sessions at a minimum. While no specific format has been developed yet, ideally the narrative feedback would be entered in an electronic form, with the student picture for easy identification; include space for written comments; as well as giving "scores" for competencies.

Dr Kempainen is willing to pilot this in his HHD1 course. The results would then roll-out to other HHD courses. Since students don't like surprises, they would most likely have the competency categories before the course starts. Facilitators would also have the competencies in order to look for them as the semester progresses.

*Comments:*

- Would this satisfy the LCME? It would be a step in the right direction, and even limited comments would move us forward on satisfying the standards.
- FCT does narrative feedback in a different format (Qualtrics survey). A rubric is given to facilitators before the request for feedback is sent to them.
- This format for feedback would show a developmental path for students, and it's linked to competencies before years 3 & 4.

## Future Agenda Items

Suggestions from Course Directors for future SFC meeting topics:

- Professionalism: definition, enforcement, longitudinal integration
- Student disability services and accommodations
- ExamSoft & BlackBag assessments
- ILT feedback
- Copyrights & resources (focused on what we *can* do)
- Course administrator co-directors (not the dyad)
- Future joint meeting of CEC and SFC on longitudinal integration of basic science and clinical medicine
- More Blackbag search examples
- SFC web site for action item storage
- Survey students about type of practice questions/formative
- Human Behavior course
- Preparation of histograms for total course points and final exams

The meeting was adjourned at 8:48am.

The next meeting is **August 14, 2015**, from 7:30-9:00am in room **Mayo B-646**.

Respectfully submitted,  
Brian Woods

**HHD5 - RDO3**  
**2014 – 2015 Annual Course Review to**  
**SFCommittee on June 5, 2015**

2015 Course dates

March 9 – April 10  
Exams: April 15, 16

RDO3

Rheum		Pharm
Derm	<i>and</i>	Path
Otol	<i>related...</i>	ID
Ophtho		
Ortho		

Director/ Manager

CD: Anne Minenko, MD  
CM: Serena Sherrell



**Primary change from last year: Spring situated, 5-instructional week HHD5 is part of the ‘right sizing and re-sequencing’ of the old 10- week, 10 subject HD2.**

*Student comment:*

*A word of appreciation and encouragement to Dr. Minenko.... (She) was very generous in her understanding of the "conviction" with which students expressed their concerns and feedback.*

*What many of (my classmates) don't appreciate is how much course renovation took place between last year and this year. I trust that all the course directors take our feedback to heart when designing the courses year to year, but this is one class where I very clearly saw a course director put last year's feedback into action.*

*Thank you Dr. Minenko, for your flexibility and generous spirit and your very clear commitment to making your course an engaging learning experience.*

*Mission accomplished for this student.'*



## For dual purpose of readying student for 3<sup>rd</sup> year and USMLE Step 1, (paraphrased) HHD5 goals

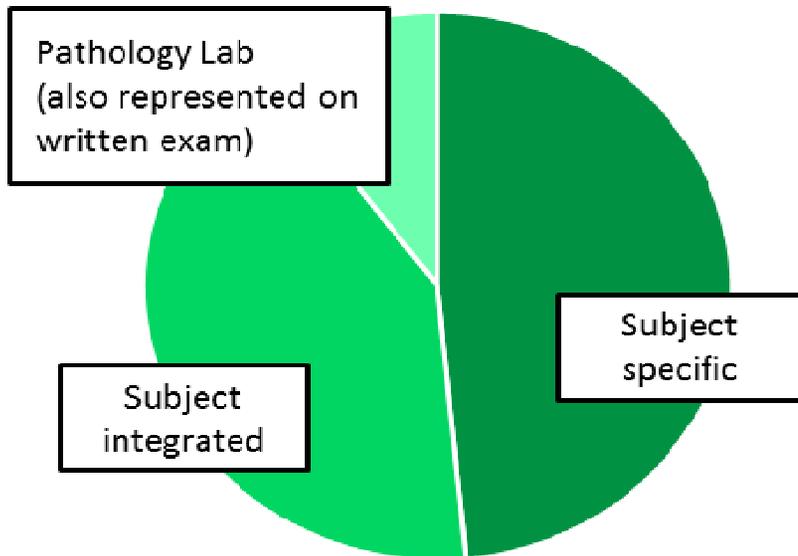
- Knowledge - centric: 'gain, seek and integrate knowledge', slanted towards Dx
- *Continue* to develop skills:
  - ...of the mind (reasoning, interpretation, problem solving skills)
  - ... of the muscle (selected organ specific physical exam skills)
  - ... of the mouth (communication skills)
  - ...of management / navigation skills
- Elevate *awareness* of clinical settings of care
- *Cultivate* shared leadership/ professionalism characteristics

mapped onto....

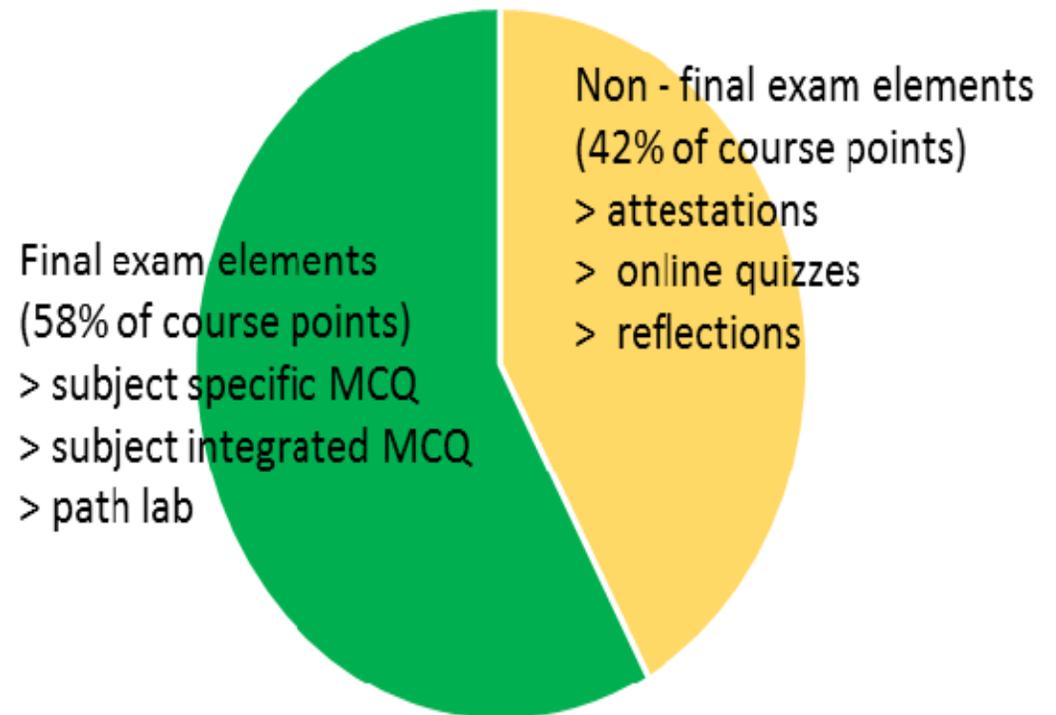


# Overview of student assessments

## HHD5 Final exam elements

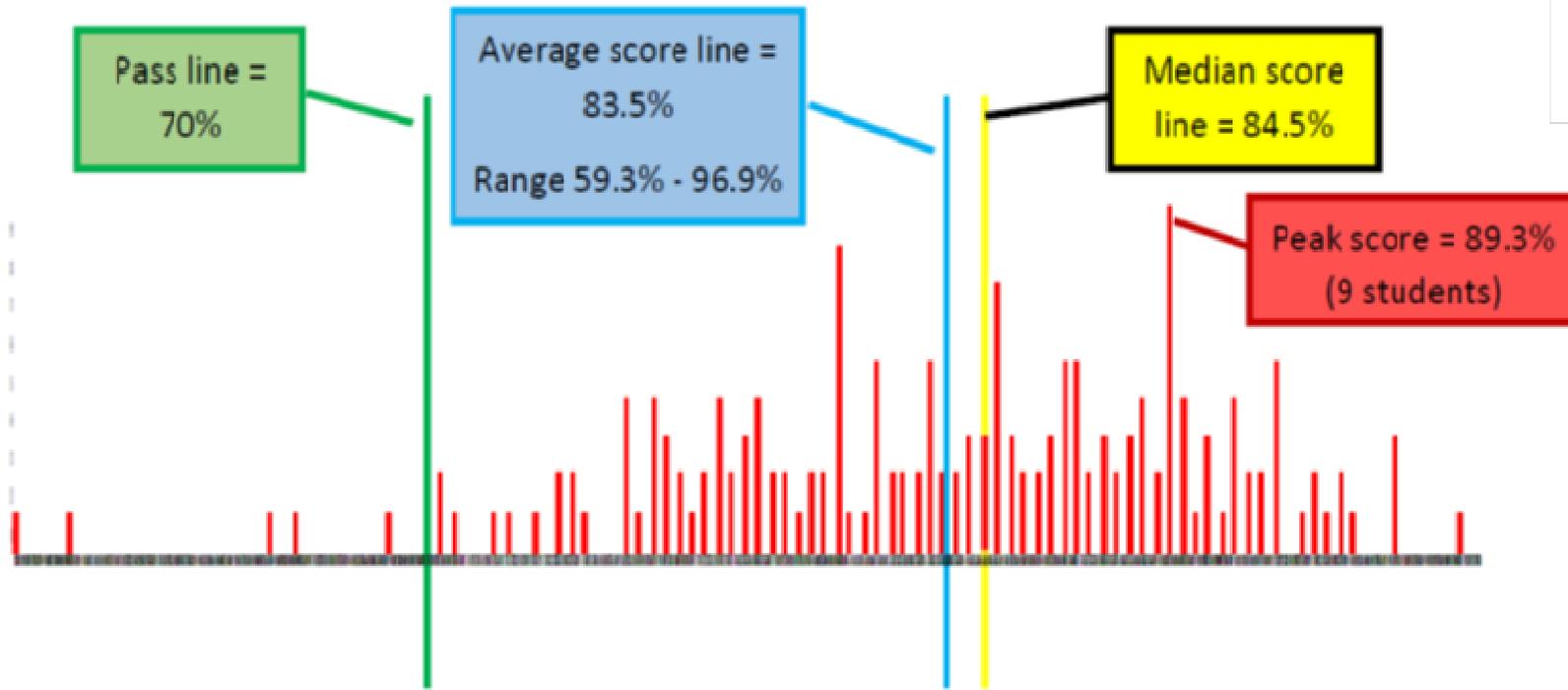


## HHD5 Assessments

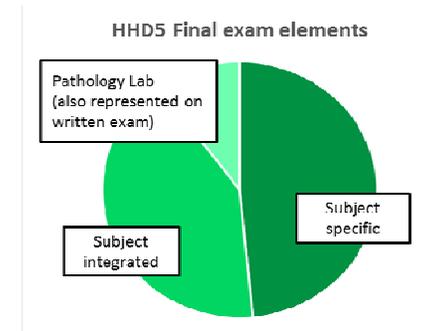


# Student outcomes

5 / 176 – no pass final exam; 13 / 176 – course Honors

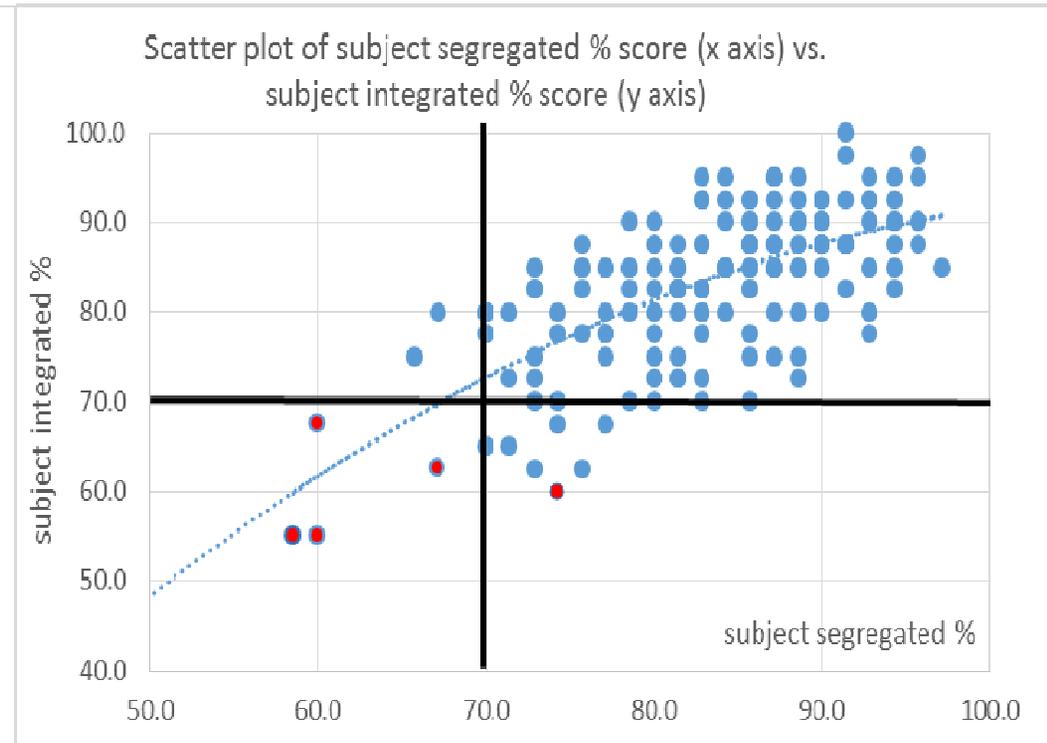
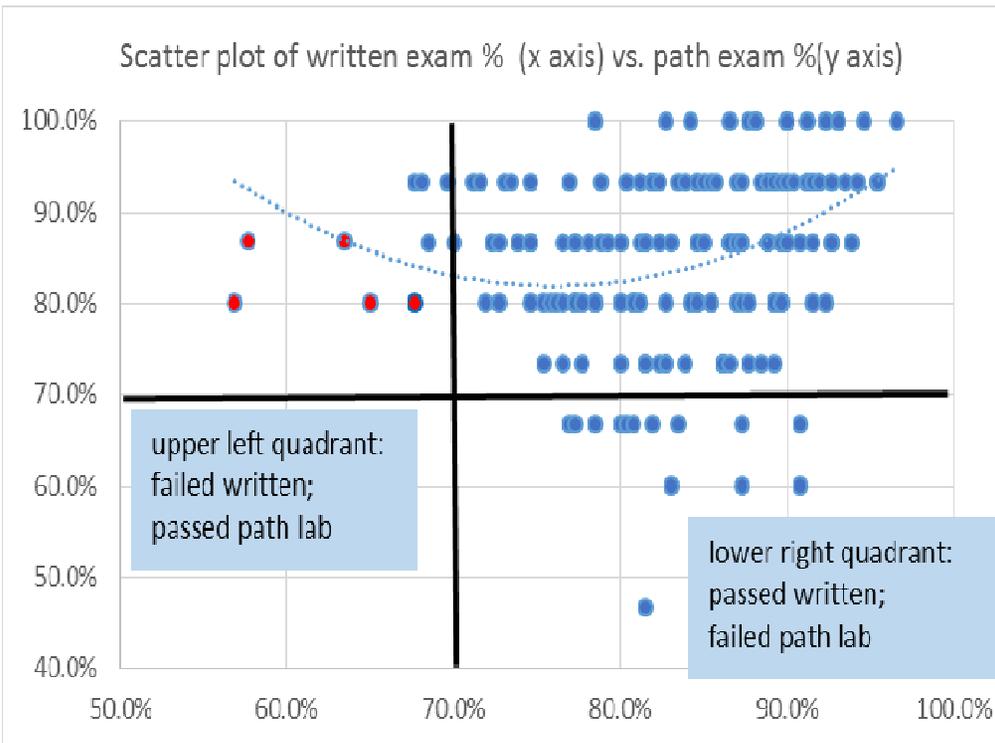
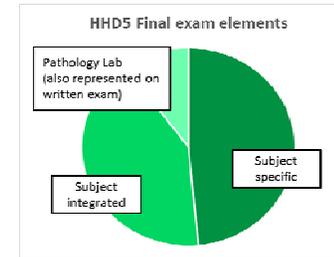
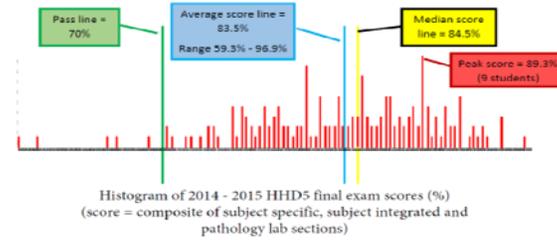


Histogram of 2014 - 2015 HHD5 final exam scores (%)  
(score = composite of subject specific, subject integrated and pathology lab sections)



# Student outcomes

## Final exam element (non-linear) trendlines - FYI



22 of 176 students scored < full marks on the reflection assignment.



## Course evaluation ratings and student comments (127/176)

- Overall 3.6 / 5.0 (3.1 – 3.9; isolated 2.4 and 2.7)

Q12 Overall, I have found this course to be valuable.

3.6

*“I have to admit that taking another CBSSA test my "Musculoskeletal, Skin, and Connective Tissue" score **went from my worst topic the week before the class to my best topic one week after the final.** To me this indicates I **clearly got what I needed from the class for the purposes of Step 1.**”*

*“ I really **enjoyed** the course, and really appreciated Dr. Minenko's flexibility in scheduling (and passion for educating).”*



# Course evaluation ratings and student comments (127/176)

## • Highlights (**Some** examples):

- A. All star instructors – either by numeric rating or mention under comments; except for Rheum (3.4 / 5.0), all subject areas represented!  
*‘A solid group of lecturers probably the best of the year.’*
- B. Clinical skills workshops (MSK, Otol, Ophtho),  
*‘CAN WE PLEASE HAVE THESE IN THE OTHER BLOCKS! Especially before the Milestones’ ‘should be mirrored in all the other blocks immediately’*  
ID small groups (4.2 – 5.0) and Path labs (3.3 – 4.7)
- C. Course ‘front loading’  
*‘...allowed for more study time later’ ‘we had a lot of open time during this block, which I appreciated with Step 1 coming up’ ‘shorten the course!!!!’*
- D. Course Manager Extraordinaire – Serena Sherell; & thanks to student Gabe!  
*Carries forward solutions from other HHDs; ‘extended’ arm of the CDirector*



## Course evaluation ratings and student comments (127/176)

- Many opportunities for refinement (*see handout*)

**Key at *course and session levels*: Better communication.**

*a) Steer students towards utilizing systems (BlackBag) and designated people (LEADs and CManager)*

*b) Remove reason for students to seek out CD by...*

- *Providing annotated answers to MCQs*
- *Having materials posted by start of course*
  - *Students value choice/ independent pacing and need opportunity to plan in advance*
  - *Hurdles i) entrenched 'just in time' GME / clinic habits of faculty; ii) last minute scheduling changes due to non-CD life events*
- *Leveraging BlackBag as 'request for excused absence depot'; reduce attestation confusion by reducing, rewording and reformatting to match across years 1 and 2*



# Annual Course Review tips and take-aways for SFCommittee

## 1. Look beneath the surface mean numeric rating

- Important, to informing decisions to change and how to change
- Important, to fair representation on State of MedEd Report.

## 2. If issue exists,

- a) Ask if an educational or operational issue?
- b) Ask if target of change a session, the Course, the Curriculum?
- c) Consider the effect of context.

## 3. When refining courses, don't lose sight of

- |     |                                                                                                  |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|-----|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 120 | LCME standards                                                                                   |  |  |  |  |  |  |  |
| 7   | UMN Med School Domains of Competency                                                             |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 10  | UMN Med School Education Principles                                                              |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| All | stakeholders (State investors, patients, Faculty, School leadership, School alumni, students...) |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |



## Course evaluation ratings and student comments (127/176)

### • Overall 3.6 / 5.0 (3.1 – 3.9; isolated 2.4 and 2.7)

Q8 The course content was successful in integrating basic science knowledge and clinical practice. **3.9**

Q20 Overall, it was clear to me how Ortho, Otol, Ophtho Clinical Skills Workshops, Pathology Lab and ID Small Groups were related to same topic large class sessions **3.8**

Q4 There were adequate opportunities for ...quizzes, discussion questions practice or review questions; ample 'think out loud' case based role modeling **3.7**

Q12 Overall, I have found this course to be valuable. **3.6**

Q2 The assignments planned for independent learning time facilitated my learning of the course material **3.1**

Q11 Inter-professional education topics were integrated within the course. **3.1**

Q17 The individual 'reflection assignments' helped me to develop non-cognitive competencies. **2.4**



# Course evaluation ratings and student comments (127/176)

Q9 Public Health topics were integrated within the course.

3.3

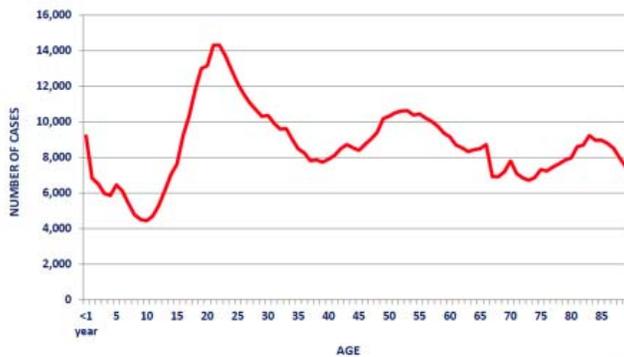
Q11 Inter-professional Education topics were integrated within the course.

3.1

## Public Health examples from Trauma sessions



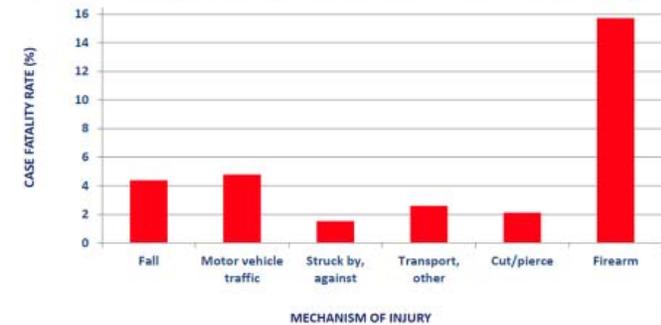
Incidents by Age



Case Fatality Rate by Age



Case Fatality Rate by Selected Mechanism of Injury



# Course evaluation ratings and student comments (127/176)

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**Trauma Team**

Image : [www.trauma.org](http://www.trauma.org)

## Trauma Team

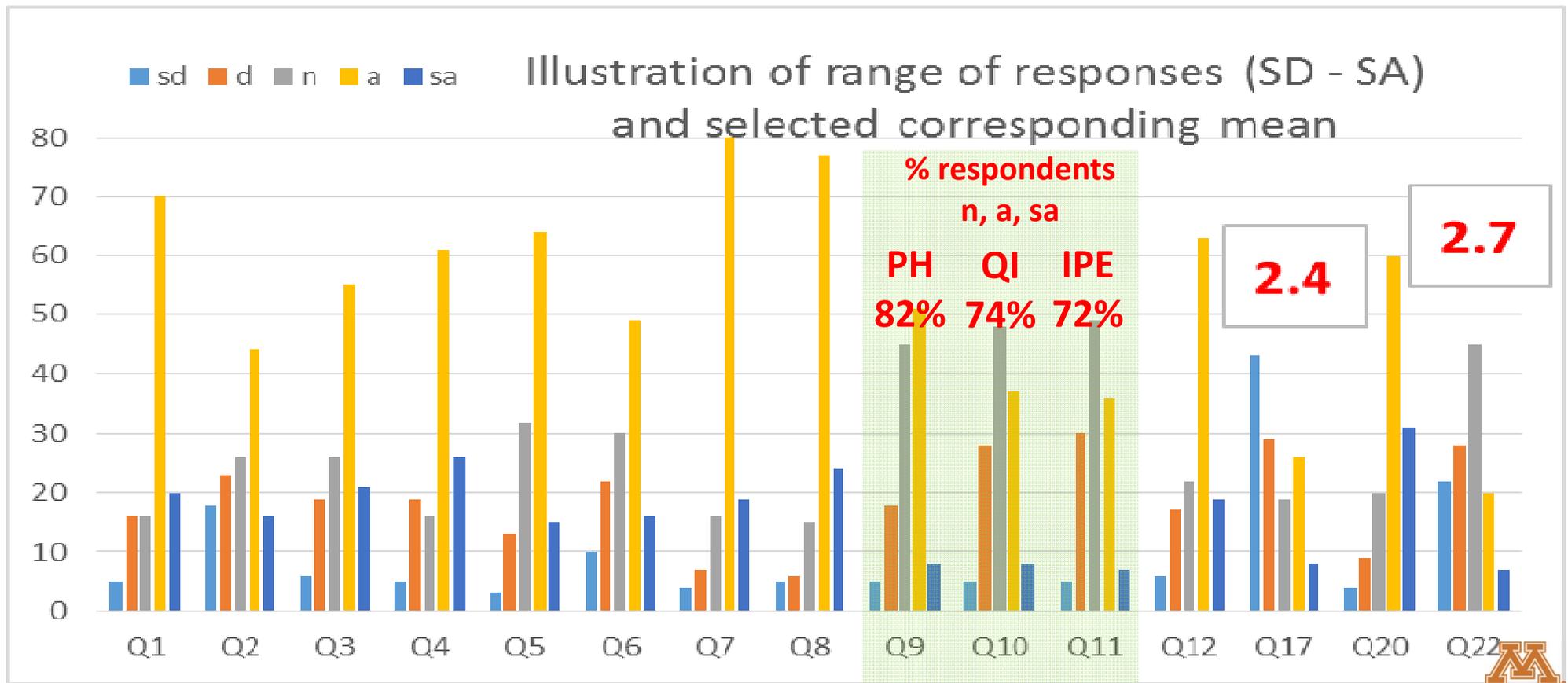
– The Core Trauma Team is that group of professionals that receives and treats the patient. This includes :

- Team Leader
- Anesthetist
- Anesthetic Assistant
- General Surgeon
- Orthopedic Surgeon
- Emergency Room Physician
- Two Nurses. (Three if no anesthetic assistant)
- Radiographer
- Scribe (Nurse or doctor)

**IPE examples from  
Trauma sessions**

# Course evaluation ratings and student comments (127/176)

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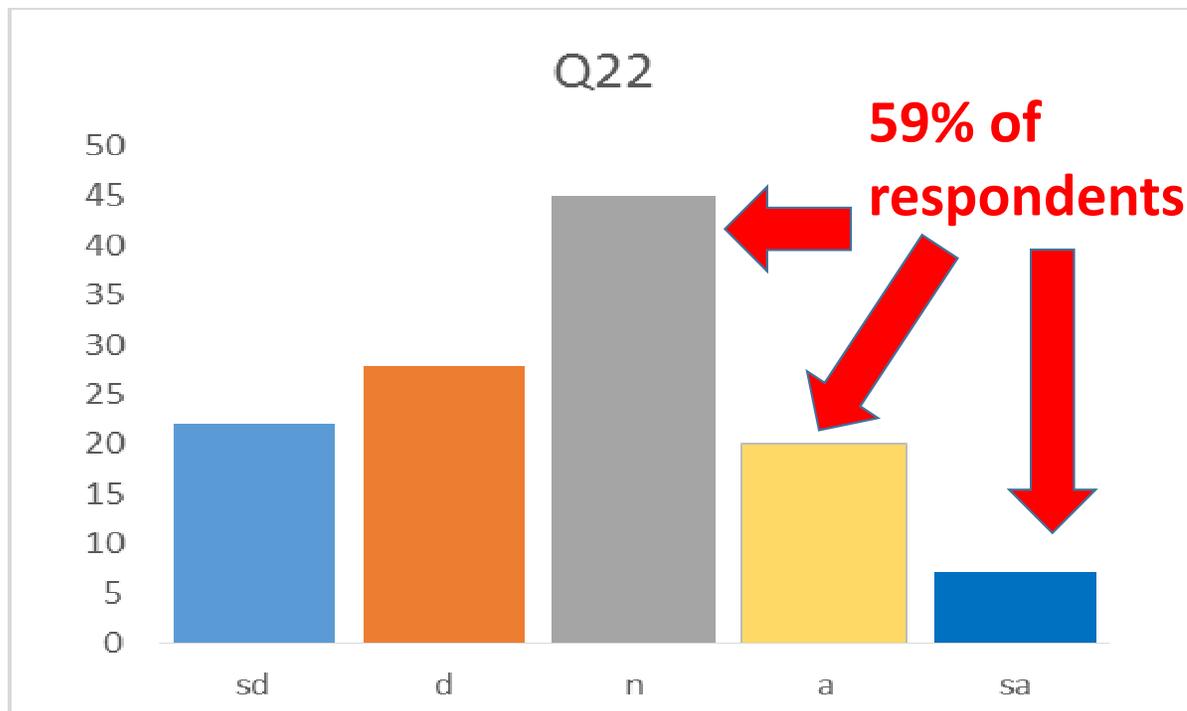
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# Course evaluation ratings and student comments (127/176)

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2.7

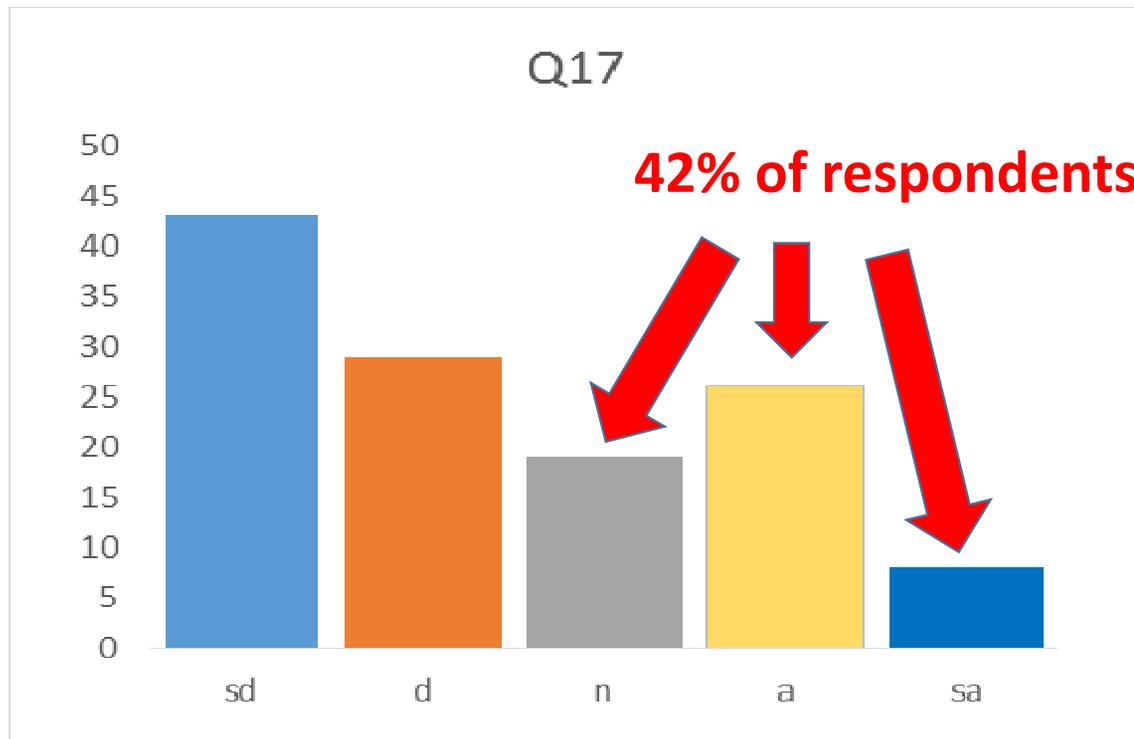


*'I strongly agree with the comment below "I would benefit from formal session offerings on problem solving strategies, such as the Survival Guide, in all the 2nd year HHD courses."'*



# Course evaluation ratings and student comments (127/176)

Q17 The individual 'reflection assignments' helped me to develop non-cognitive competencies. **2.4**



*'...despite the concerns of many students, I really appreciate your reflection assignments. In these first two years of medical school, we have rarely been encouraged to stop and really think about our experiences, which I believe is a huge part of both personal and professional growth. ...Thank you so much for encouraging us to grow into well-rounded, reflective physicians.'*

*'the reflections should be spread out more....throughout the second year'*



**Eley, Diann S** and Stallman, Helen. *Where does medical education stand in nurturing the 3 Rs in medical students: responsibility, resilience and resolve?* Medical Teacher (2014) 36: 10, pp 835 – 837. [doi:10.3109/0142159X.2014.917159](https://doi.org/10.3109/0142159X.2014.917159)

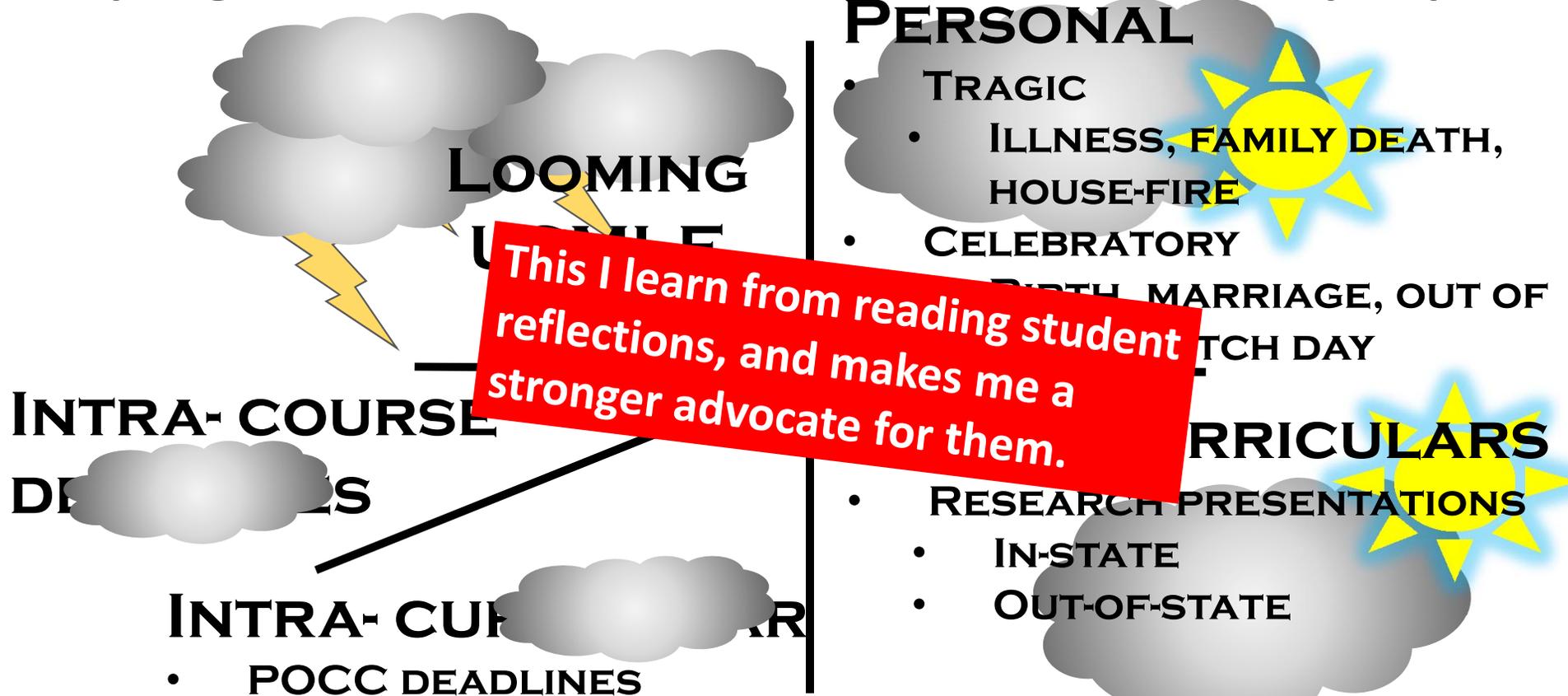
**Our speaker on June 22<sup>nd</sup>!**

...the medical education literature has recognized the need to develop a culture that nurtures wellbeing and resilience in students. However, the introduction of or increase in student fees ... has altered the expectations of students and promoted a sense of "entitlement", rather than "striving" for something where success is not guaranteed. This consumer model is ... removed from intrinsic goals that are associated with mental and physical wellbeing. This article challenges medical educators to *reconsider the current context of student learning* and realign it with the graduate attributes needed to be a competent and responsible medical practitioner by enabling students to develop the 3Rs of resilience, responsibility and resolve. We *propose that brave decisions and actions must be made by medical educators to provide students with opportunities to learn independence, self-management, and self-regulation* and guarantee their role in helping medical students become resilient and responsible doctors of tomorrow.

<http://blogs.cc.umanitoba.ca/postnotes/2015/02/12/balance-boundaries-and-burnout/>

# What is the student learning context?

'Springtime Minnesota Storms': ? a Medical Student perspective



*This I learn from reading student reflections, and makes me a stronger advocate for them.*



## Course evaluation ratings and student comments (127/176)

Consider refinements at **Curricular level:** (see handout)

- a) *Scale out clinical skills workshops into the other HHDs*
- b) *Explore formal offerings on problem solving and learning strategies elsewhere in the Curriculum, throughout the 2<sup>nd</sup> year*
- c) *Explore spreading reflection assignments throughout the 2<sup>nd</sup> year*
- d) *Where does this Medical School stand in nurturing the 3 Rs in medical students: responsibility, resilience and resolve and how to best do so?*

**Thank you for listening**



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

Course: HHD5 – Rheum, Derm, Opth, Ortho & Otol  
 Course Director(s): Anne Minenko, MD  
 Course Manager: Serena Sherrell

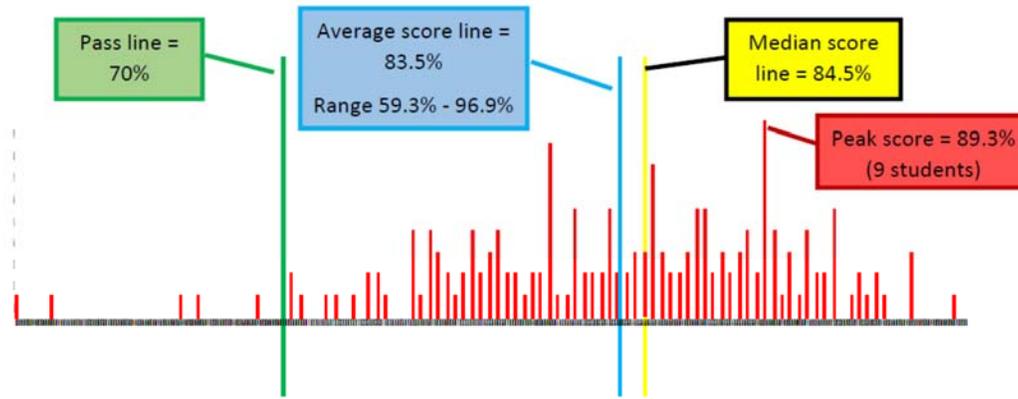
Date of course: March 9, 2015 – April 10, 2015  
 Final exams – April 15 and 16, 2015

Overall evaluation of the course: 3.6 / 5.0

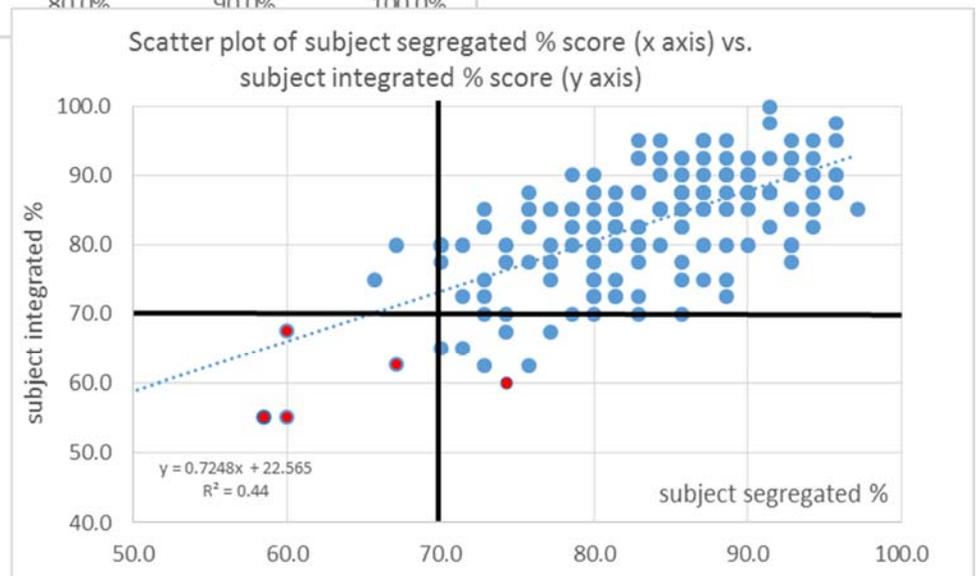
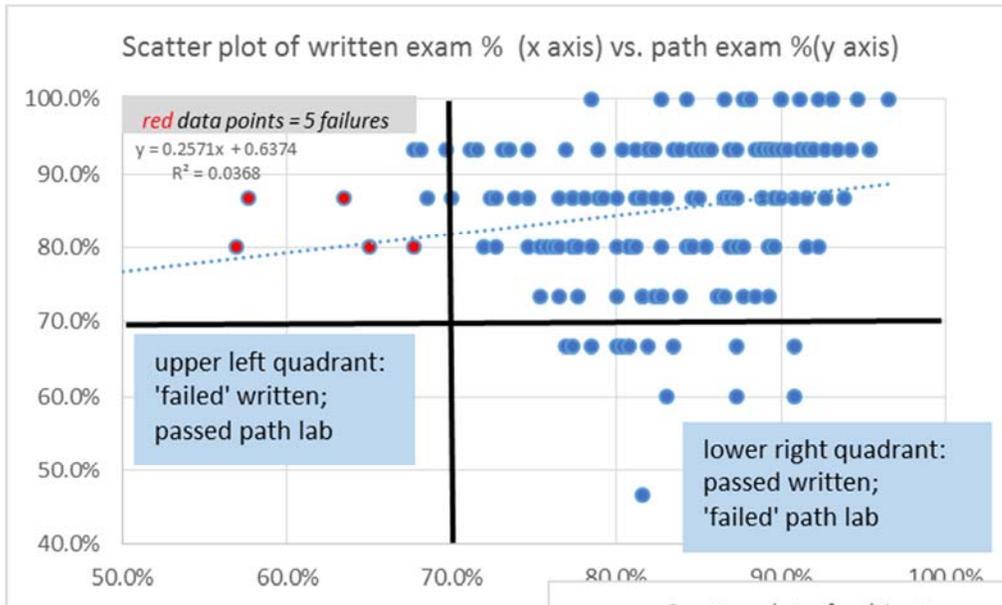
Course grading rubric:

Non-final exam elements	Max. point value	% of total course points
Online quizzes	90	18.0
Self attestation to HHD5 orientation & online integrated packages (OIPs)	20	4.0
Required 'attendance' attestations	40	8.0
Individual reflections	60	12
<b><i>Non-final exam element sub-total</i></b>	<b>210</b>	<b>42.0</b>
Final exam elements		
Written Final Exam: subject specific section      70 Q x 2 points each	140	28.0
Written Final Exam: subject integrated section      40 Q x 3 points each	120	24.0
Lab Practical Final Exam      15 Q x 2 points each	30	6.0
<b><i>Final exam element sub-total</i></b>	<b>290</b>	<b>58.0</b>
Total Course Points	500	100
<b>Requirements to pass Course (per Medical School policy) consist of BOTH of these criteria:</b>		
<ul style="list-style-type: none"> <li>• 70% or over of maximum possible points for entire course (70% of 500 = <b>350 points or over</b>)</li> <li>• 70% or over of maximum possible points for the entire 3 part final exam [subject specific, subject integrated, pathology lab](70% of 290 = <b>203 points or over</b>)</li> </ul>		
<b>Requirements to earn Honors consist of ALL 6 of these criteria:</b>		
<i>The total % course points required for Honors can be lowered but not raised at the discretion of the Course Director. (note from Course Director – no adjustment made for this academic year)</i>		
<ul style="list-style-type: none"> <li>• Achieve 95% or more of total possible course points (475)</li> <li>• Achieve &gt; or = 90% of total points on the combined written &amp; lab practical final exams (261)</li> <li>• Achieve &gt; or = 90% on the final written exam (182)</li> <li>• Achieve &gt; or = 70% on the final lab practical exam (21)</li> <li>• Complete post-course evaluation</li> <li>• Score &gt; or = to 10 points/ 15 on each of the four reflections (40) – <b>unique to HHD5</b></li> </ul>		

Number of failures for academic year: 5 (all due to < 70% score on final exam)  
 Number of course Honors: 13 of 176 students = 7.4% of class



Histogram of 2014 - 2015 HHD5 final exam scores (%)  
 (score = composite of subject specific, subject integrated and pathology lab sections)



1. Briefly describe the learning outcomes for your course

By the end of HHD5, the student will

- Gain knowledge
- Be able to seek knowledge and
- Be able to integrate knowledge



of **epidemiology, pathophysiology, clinical and laboratory features** of common conditions within Rheumatology, Dermatology, Orthopedics, Ophthalmology, Otolaryngology, Infectious Diseases and related Pathology and Pharmacology....

... in order to begin to **diagnose** common conditions within the core subject areas of HHD5. There is some but lesser emphasis on uncommon conditions.

...in order to begin to develop basic **management strategies** for the conditions learned in HHD5. While related drugs are presented by Pharmacology in detail, and they help reinforce learning of disease pathophysiology, knowledge of these drugs also help develop management strategies that are fit-to-treatment goal, fit-to-condition, fit-to-patient, fit-to-situation.

HHD5 will help the student continue to develop

- **Skills** of the mind
  - reasoning, critical thinking, problem solving, interpretation skills triggered by clinical vignettes and cases;
- **Skills** of the muscle
  - selected organ specific physical exam skills;
- **Skills** of the mouth
  - teamwork and communication skills;
- **Skills** to navigate through unbound, complex and ambiguous situations; become more comfortable offering 'the best answer' rather than 'one right answer';
- **Skills** to manage competing responsibilities;
- **Awareness** of clinical settings of care (ER, OR, community and hospital based clinics);
- Characteristics shared by **professionalism and leadership** (humility, commitment, reflection, even-temperedness, respectfulness, grace & poise & composure, trustworthiness...).

These map onto the UMN Medical School 7 domains of competencies:



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

Responses / Expected: 127 / 176

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

Q1 The course objectives were made clear to me.	3.7
Q2 The assignments planned for independent learning time facilitated my learning of the course material.	3.1
Q3 The resources provided for the class were useful in learning the material: (i.e. recommended readings, course packet, Black Bag site)	3.5
Q4 There were adequate opportunities for non-graded self-assessments (i.e. quizzes, discussion questions practice or review questions).	3.7
Q5 There was close agreement between the stated course and session objectives and the information taught.	3.6
Q6 The graded assessment(s) appropriately tested the course objectives.	3.3
Q7 Overall, I have acquired an understanding of the stated course objectives.	3.8
Q8 The course content was successful in integrating basic science knowledge and clinical practice.	3.9
Q12 Overall, I have found this course to be valuable.	3.6
Q9 Public Health topics were integrated within the course.	3.3
Q10 Quality Improvement topics were integrated within the course.	3.1
Q11 Inter-professional Education topics were integrated within the course.	3.1
Q14 Within HHD R,D&O3 there were ample 'Rheum Self-Study Module Companion Guides' or required supplemental readings to help deepen my understanding of material presented as slides.	3.7
Q15 There were ample 'think out loud' case based role modeling by instructors in the large classes.	3.7
Q16 Within HHD R,D&O3 the 'Rheum Self-Study Module Companion Guides' or required supplemental readings were 2nd year appropriate.	3.8
Q17 The individual 'reflection assignments' helped me to develop non-cognitive competencies.	2.4

22 of 176 students scored < full marks on the reflection assignment.

*"I have to admit that taking another CBSSA test my "Musculoskeletal, Skin, and Connective Tissue" score went from my worst topic the week before the class and my best topic one week after the final. To me this indicates I clearly got what I needed from the class for the purposes of Step 1."*

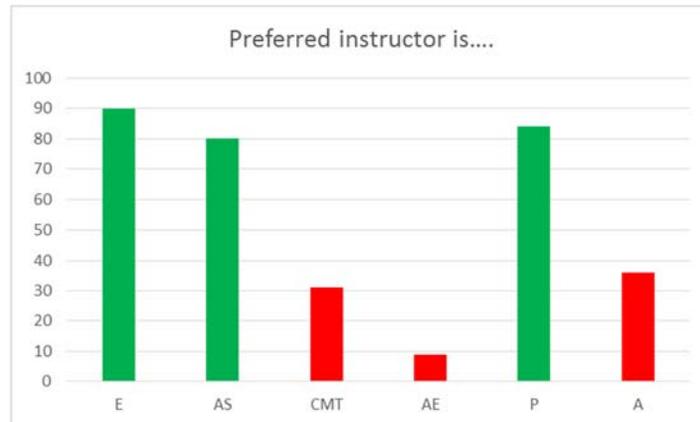
*"I really enjoyed the course, and really appreciated Dr. Minenko's flexibility in scheduling (and passion for educating)."*

3. Describe what is working well in your course.

- A. All star instructors – either by numeric rating or mention under comments**
- B. Clinical skills workshops (MSK, Otol, Ophtho), ID small groups and Path labs**
- C. Course ‘front loading’**
- D. Course Manager Extraordinaire – Serena Sherell**

Q18 The most effective instructor is (choose the three most important)

[E] Engaging; [AS] A sense-maker; [CMT] Challenges me to think; [AE] An expert; [P] Prepared; [A] Adaptive



Too many to mention!

- *A solid group of lecturers probably the best of the year.*

Here is a sampling....

- Mike Lee and Kevin Engel (Ophtho)
  - *Kevin Engel had a PERFECT lecture.*
- Bruce Bart (Derm)
  - *My favorite presenter for the semester was Bart, Bruce on Viral Derm Infections.*
- Chris Hilton (Otol)
  - *Dr. Hilton is a great teacher! He really breaks things down into helpful categories.*
- Robert Morgan (Ortho), Robert Morgan (Ortho), Robert Morgan (Ortho)
  - *Dr. Morgan's trauma lectures were some of the best lectures I have ever attended.*
- Steve Stovitz and David Jewison (Sports Med)
  - *The sports med rehab case studies lecturer were phenomenal. In my opinion, these should serve as the very first ortho lecture of the block. He went over anatomy and PEx very clearly, and I would have benefited from this earlier on.*
- Greg Connell (Pharm)
  - *Dr. Connell was particularly fantastic.*
- Andrew Nelson (Path)

At 3.4 / 5.0, Dr. Minenko Course Director (Rheum) is numerically at the bottom but qualitative comments more informative:

- *I liked Dr. Minenko's explanations of the Rheumatology questions and would have preferred to listen to her explain them rather than playing Jeopardy.*

One faculty (name withheld) at 2.6 / 5.0.

## **B. Clinical skills workshops (MSK, Otol, Ophtho), ID small groups and Path labs**

Q20 Overall, it was clear to me how Clinical Skills Workshops, Pathology Lab and Small Groups (e.g. Bellringers, ENT or Eye practicums...) were related to same topic large class sessions.

**3.8**

**Skills workshops ratings range from 4.1 – 4.4, with exception of 2.1 (Otol skills at VA).** Kudos from students and faculty alike for situating Ortho MSK stations in the IERC and Sim Center.

Representative comments:

- *CAN WE PLEASE HAVE THESE IN THE OTHER BLOCKS! Especially before the Milestones*
- *WHERE HAVE THESE BEEN ALL THIS TIME?*
- *THIS IS AMAZING! Cannot say it enough, this is a perfect flow and setting.*
- *I liked having a Resident as the instructor, because I think they are better able to understand what level we are at as second year medical students.*
- *He is so passionate about the field and has found so much joy in it that I started wondering if xxxxx is a field I should consider. I hope whatever I end up in, I can love my career as much and as long as he does.*
- *Every single HD should have these clinical workshops. These were very well done and very helpful in reviewing physical exam. I have been disappointed through all of 2nd year that we learned physical exam back in 1st semester of 1st year when we didn't understand any of the pathology that we were talking about, and now that we know the pathology, we ignore the physical exam.*
- *Workshops!! Should be mirrored in all the other blocks immediately.*

**ID small group facilitator ratings range from 4.2 – 5.0 with exception of 2 faculty (names withheld) rated as 3.5 and 3.9.**

**Pathology lab facilitator ratings range from 3.3 (Andrew Nelson ?! – lecture allstar) to 4.7 (Deborah Powell); 2 facilitators (names withheld) at 2.3.**

## **C. Course 'front loading'**

As carry over from HD2, continued to reduce redundancy and shift learning of appropriate content onto the student into independent learning periods. This, along with batching of newly vacated hours, resulted in almost ½ week of additional 'ILT'.

- *Frontloading of the course to allow for more study time later*
- *THANK YOU so much for putting the majority of lectures within the first two weeks. This was so incredibly helpful and we all really appreciate it. Also, Dr. Minenko put in a ton of effort into this course, and it shows.*
- *We had a lot of open time during this block, which I appreciated with Step 1 coming up.*

## **D. Course Manager Extraordinaire – Serena Sherell**

As she administratively lives through the whole 2<sup>nd</sup> year, she has collected tips, tricks and organizational tools from the other HHDs and pleasantly shares with the Course Director in order to improve consistency, streamlining and communication. E.g. when designating Honors, do the other HHDs round off to the whole % or first decimal? A wonderful sounding board before taking a challenge/ proposal up the ladder to Curriculum Leadership.

4. Describe any areas of concern. Aka 'challenges'.  
Describe any changes you intend to make for the next academic year.

This is a difficult question to answer for the reason that for every student criticism there is a statement of praise and support (either in the evaluation comments or sent as personal email to Dr. Minenko). It suggests that the class is diverse in its learning needs and expectations, whether it be

- how to organize and how to teach the course based on previous HHDs (yet not all subjects are 'small group amenable' e.g. Dermatology), or
- how to communicate (instant messaging speed and personalized response to emails rather than via BlackBag, Course Manager or LEADs), or
- quality of the required supplemental reading materials or
- individual student receptivity about study strategies for a course that is slanted towards skills ('what to do with the what') rather than content ('the what')

*'I strongly agree with the comment below "I would benefit from formal session offerings on problem solving strategies, such as the Survival Guide, in all the 2nd year HHD courses.'*

Yet....

Q22 Having completed HHD5, I would benefit from formal session offerings on problem solving strategies, such as the Survival Guide, in all the 2nd year HHD courses.

**2.7**

General impression by Course Director is that now that HHD5 serves as anchor for the 2<sup>nd</sup> year, pre – USMLE Step 1 and pre-3<sup>rd</sup> year, context is different compared to when HD2 was situated in the fall. Seems that USMLE black cloud looms over any course placed January – April.

*'The med student is a difficult egg to crack.'*

*'First off I am sure you guys will be receiving a lot of comments from students, please keep in mind with us having boards soon, burnout due to it being the end of the year, and the inherent complexity of having to learn multiple disciplines or areas, students are going to be unhappy or complain no matter how great the course was. You guys obviously cared about your material and put in a lot of effort, and we see and appreciate that.'*

### **Course level issues and proposals**

**A. Need more reliable, effective and visible communication between Course Director and class, utilizing systems (BlackBag) and people (LEADs and Course Manager)**

**B. Review role and effectiveness of (fading) subject leads**

**C. Complete posting of course materials to BlackBag by HHD5 start**

- Faculty accustomed to 'just in time' GME conference presentations where also may not be a website for advanced posting of repository of slides

**D. More annotated answers to MCQ (both quiz and self study)**

**E. To better fit end of year context, continue pruning of content, work on clarity and simplicity of faculty authored reading materials**

*The course should have been only 2 or 3 weeks long. There was so much empty space in it. Give us 3 extra weeks to spend studying for Step 1, instead of dragging this course on so long.*

**F. Review role of Course Director/ Course Manager pair, especially when CD doubles up as subject lead/ instructor in relative absence of subject leads and when students expect 1:1 email communication; consider a Co-director and/ or TA**

**G. Consolidate all of anesthesiology – pharm into HHD5**

- Inhalational, local, intravenous anesthetics - from fall
- Hands on anesthesiology (local) and simulation (IV and INH) – from fall
- Anesthesiology applied to varied trauma cases borrowed from other HHD5 lectures

**H. Consider final exam booklet of images (Derm)**

*Areas that I think could be improved: the dermatology section of the test!!!! The dermatologists all tell us that recognizing rashes is pure pattern recognition. We practice pattern recognition. Then on the exam, we don't get to look at the visual patterns. Like the idiom goes, a picture is worth a thousand words. I knew the dermatology stuff very well, and even then, I had to stop and think about the question instead of just knowing the answer if I could SEE the rash. In real life, the important part will be knowing what the rash is when we look at it. Onboards, we will see an image of the rash. Why the disconnect on the exam?*

**I. Reword, reformat, reduce attestations to match other courses**

### **Session level issues and proposals**

**A. Continue to create PRE- recorded audio narrated content to replace large class lectures (started by Ortho, Rheum, scale out to Derm)**

**B. Borrow good ideas from other courses that are suitable for HHD5**

- Like Renal CPC, consider Rheum, Derm, multiorgan large class CPC
- Like Dr. Kempanen's independent small group online image enhanced cases with guided questions and annotated answers, repurpose Rheum morning report

### **Issues for consideration at Curricular level (scale or reposition from HHD5)**

**A. Reflections**

Q17 The individual 'reflection assignments' helped me to develop non-cognitive competencies.

**2.4**

Yet....

*'I just want to say that, despite the concerns of many students, I really appreciate your reflection assignments. In these first two years of medical school, we have rarely been encouraged to stop and really think about our experiences, which I believe is a huge part of both personal and professional growth. I will be sure to reflect upon the two assignments that I won't be turning in, and I'm sure that I will benefit from that experience. Thank you so much for encouraging us to grow into well-rounded, reflective physicians.'*

*The reflections should be spread out more.... Throughout the second year.*

*I would be more comfortable sharing my reflections with my Faculty Advisor; question if these should be graded at all, even if grading based on rubric of quality of reflective process and not the substance of the reflection.*

### **B. Student cultivation of professionalism and development of resilience**

*I don't know if I have the authority to speak on behalf of my classmates, but I apologize for our behavior this block. I know students have sent or made disrespectful comments. It's a stressful time of year for us and I think it got to some of our class. I think that this course overall was well taught. I liked the integration of workshops and the rheum modules were actually very helpful. Thank you Dr. Minenko for dealing with our stress and maintaining a professional and calm attitude.*

*'you can't curricularize professionalism'*

.... Several students shared with me that they unsubscribed from class FaceBook

### **C. Re-sequencing of 2<sup>nd</sup> year (again)**

Representative comment

*I would suggest that next year ophthalmology be added to the neurology and psychiatry block, which should be expanded possibly by a week at the expense of this block. Secondly, I think that this block should be moved to the 2nd or 3rd block next year.*

5. Describe the progress of the changes being made as the result of your previous ACR

Primary change was to 'right size and re-sequence' the previous 10 subject 10 week HD2 course into HHD3 (fall) and HHD5 (spring). This first iteration of HHD5 is the foundation upon which further refinements will be developed in a more timely manner.

*'A word of appreciation and encouragement to Dr. Minenko. I think my classmates were nearing burnout with the end of the year and the increasing stress of boards, and I am a bit ashamed with the some of the attitudes displayed by classmates (although Dr. Minenko was very generous in her understanding of the "conviction" with which students expressed their concerns and feedback).*

*Anyway, all this to say, what many of them don't appreciate is how much course renovation took place between last year and this year. I trust that all the course directors take our feedback to heart which designing the courses year to year, but this is one class where I very clearly saw a course director put last year's feedback into action.*

*Thank you Dr. Minenko, for your flexibility and generous spirit and your very clear commitment to making your course an engaging learning experience. Mission accomplished for this student.'*

Appendix - Assessment Grid:

(updated 3.4.2015)		
<b>Non-final exam elements</b>	<b>Max. point value</b>	<b>% of total course points</b>
<b>Online quizzes</b>	<b>90</b>	<b>18.0</b>
Quiz 1 (3 x level I, 2 x level II, 1 x level III)	10	
Quiz 2 (3 x level I, 4 x level II, 3 x level III)	20	
Quiz 3 (5 x level I, 5 x level II, 5 x level III)	30	
ORTHO clinical skills workshop quiz	10	
OTOL clinical skills workshop quiz	10	
OPTH clinical skills workshop quiz	10	
<b>Self attestation to HHD5 orientation &amp; online integrated packages (OIPs)</b>	<b>20</b>	<b>4.0</b>
Orientation to HHD5 (due 0800 Tuesday 3/17)	5	
Bug 'day'	3	
Baby steps	3	
Trauma	3	
Boning up on bone turnover	3	
match.com	3	
<b>Required 'attendance' attestations</b>	<b>40</b>	<b>8.0</b>
March 17 RHEUM flipped classroom 'morning report'	2	
PATH Lab Participation & Professionalism (March 17 - bone & soft tissue tumor)	3	
March 20 or April 3 OTOL clinical skills workshop	2	
March 20 or April 3 ORTHO clinical skills workshop	4	
March 27 OPTH clinical skills workshop	4	
March 31 FCT	4	
RHEUM self study modules	5	
April 2 RHEUM flipped classroom 'morning report'	2	
PATH Lab Participation & Professionalism (April 2 - joints )	3	
April 7 ID small groups	2	
April 7 ORTHO (trauma) cases	2	
PATH Lab Participation & Professionalism (April 7 - skin)	3	
April 9 ORTHO (sports med) cases	2	
April 9 ORTHO (general) cases	2	
<b>Individual reflections</b>	<b>60</b>	<b>12</b>
Process of learning (Medical Knowledge)	15	
Interpersonal skills & communication	15	
Professionalism	15	
Systems of practice	15	
<b>Non-final exam element sub-total</b>	<b>210</b>	<b>42.0</b>
<b>Final exam elements</b>	<b>Max. point value</b>	<b>% of total course points</b>
Written Final Exam: subject specific section	140	28.0
Written Final Exam: subject integrated section	120	24.0
Lab Practical Final Exam	30	6.0
<b>Final exam element sub-total</b>	<b>290</b>	<b>58.0</b>
<b>Total Course Points</b>	<b>500</b>	<b>100</b>
<b>Requirements to pass Course (per Medical School policy)</b>		
70% or over of maximum possible points for entire course (70% of 500 = <b>350 points or over</b> )		
and		

**70% or over of maximum possible points for the entire 3 part final exam [subject specific, subject integrated, pathology lab](70% of 290 = 203 points or over)**

**Requirements to earn Honors consist of ALL 6 of the criteria in gold:**

*The total % course points required for Honors can be lowered but not raised at the discretion of the course director.*

<i>Achieve 95% or more of total possible course points</i>	
<i>(475) Achieve &gt; or = 90% of total points on the combined written &amp; lab practical final exams (261)</i>	
<i>Achieve &gt; or = 70% on the final written exam</i>	
<i>(182) Achieve &gt; or = 70% on the final lab practical exam</i>	
<i>(21) Score &gt; or = to 10 points on each of the four reflections (40)</i>	
<i>Complete post-course evaluation</i>	

University of Minnesota Medical School  
Joint Admissions Scholars Program Proposal

The proposed Joint Admissions B.S./M.D. Scholars program (JAS) will identify and recruit high potential premedical students from broadly diverse backgrounds who demonstrate a strong early interest in medicine. This is a seven year program where three years are spent taking undergraduate coursework in CBS or another U of MN Twin Cities undergraduate college and four years of coursework at the Medical School.

The program will recruit up to 10 high potential students. Scholars will have demonstrated they are prepared and possess potential for an accelerated program at the point of admission. Scholars are expected to meet GPA and ACT/SAT requirements at the point of acceptance to the undergraduate college and GPA and MCAT requirements at the point of acceptance to the Medical School. Additionally, students will be guided and supported in building a co-curricular portfolio comprised of research, service, leadership, and clinical experiences through their undergraduate experience.

Admitting students into the JAS program will be a collaborative effort between the U of MN Twin Cities undergraduate college and undergraduate and medical school offices of admissions. Candidates will be evaluated through a holistic review process. Students will be expected to meet all stated expectations of their undergraduate college/program and milestones to enter medical school upon the successful completion of three years of the undergraduate curriculum. The first three years of the curriculum would include the necessary courses to prepare undergraduate students for the rigors of medical school (approximately 90 semester credit hours), and required pre-requisites for entrance to the UMN Medical School Twin Cities campus.

Lastly, the University of Minnesota Duluth has successfully implemented an early pathway for current UMD students for early admission to medical school; this program will serve as a guide and resource. Students at UMD matriculate to the Duluth campus medical school after completing three years of undergraduate studies in the Swenson College of Science and Engineering.

*UMD Early Admission Scholars Program: Selection Factors*

- Resident of Minnesota
- For **UMD students in the SCSE only** who demonstrate a high potential and motivation for family practice in rural or Native American communities in Minnesota
- MCAT score of 27 or higher in verbal reasoning, physical sciences, biological sciences with no score lower than 8
- GPA of 3.5 or higher overall, and 3.5 or higher in science/math
- Significant service activities and exposure to the medical field

*UMD scholar performance data*

- 22 students since 2005
  - UG GPA 3.43-3.98 (89% > 3.5)
- 16 in residency
  - 100% 4 year medical school graduation rate
- 6 enrolled in medical school
  - 83% on track

**Rationale**

The Joint Admissions Scholars program has been created in order to meet the following University of Minnesota Medical School goals and priorities outlined by leadership. The purpose of the program is to provide an opportunity for exceptional students to begin their medical education one year earlier than usual, and earn both a B.S. and M. D. in a total of seven years instead of the traditional eight years. The baccalaureate degree is a requirement for medical school admissions. This program aligns with the following goals and priorities of the Medical School:

- Enhance education programs to support the career goals of our learners and meet workforce needs - this program specifically addresses shortening the track for students through early admissions,

- Increase efforts to retain students, faculty, and staff from broadly diverse backgrounds to a community that intentionally promotes inclusivity - this program will address increasing the broadly diverse population of students in medical education,

#### **Benefits to the student**

- **Retention:** Create an accelerated pipeline for high achieving students from broadly diverse backgrounds
- **Medical exposure:** Integrated program with early introduction to medicine; build career maturity
- **Fast track:** Individualized accelerated undergraduate program at the UMN TC
- **Productivity:** Accelerated workforce entry & reduced debt burden

#### **Benefits to the university**

- Attract a broadly diverse pool of exceptional students to the University of Minnesota
- Retain High Ability MN Residents to train and serve the state
- Potentially attract top students who may enroll at other institutions

#### **Challenges and critical feedback**

- How will we really know which students are the right ones for this kind of a program?
- 17/18 years olds cannot make this decision.
- How will we measure maturity?
- Very little data to work from at this point to confidently say who will and will not succeed in this program.
- Is the undergraduate experience being compromised?

#### **Necessary program components**

- Admissions process, for undergrad and medical school, must be meticulous in obtaining appropriate and exceptional answers to “why medicine?”
- Ensure applicants have had sufficient experiences to solidify his/her interest in becoming a physician
- Mentoring and extensive preclinical shadowing and exposure
- Multipronged approach to helping students by way of mentoring, shadowing, research, and unrestricted networking and communication with local physicians and faculty

#### **Accelerated programs**

- There are 52 active baccalaureate–MD programs across U.S. and Canadian Medical Schools.
- There are 20 accelerated Bachelors to MD programs in the U.S. ranging from 6-7 years.
- Historically these programs address physician shortages, increasing representation, and the need for physicians in primary care. In addition to shortening the curriculum which results in lowering education cost, and increasing earning potential (Eaglen et. al, 2012).

#### **Accelerated program outcomes:**

- Highly qualified carefully selected students can be successful in an accelerated program, younger students performing well translates into productive physicians (Callahan et al., 1992).
- Students in accelerated programs generally perform as well or better than regularly admitted students, there is no evidence that accelerated graduates perform poorly on boards or as physicians, however the data is limited (Lanzoni & Kayne, 1976; Jacobs, 1988; Roman & McGanney, 1994; Emmanuel & Fuchs; 2012).
- Accelerated integrated programs develop a pipeline from high school to medical school, to attract high potential students early in their premedical studies, in turn these students will be strongly aligned to the institutional mission (Roman & McGanny, 1994).
- These programs attract the best, retain students that may have enrolled at other institutions, have lower attrition rates than other premedical initiatives, high student satisfaction, and lessens the burden on the student (Eaglen et al., 2012).