Review of Year HAE I course

• Course occurs in the Fall term of Year 1
• Course Director – Virginia Lyons, PhD
• Course has 80 curricular hours
• Course was last reviewed in March 2012
Action Plan from Prior Review

• reduce the number of lectures in the course completed
• reorganize the schedule to allow more time for solving problems in small groups, as the students feel this is a useful learning experience completed
• increase active learning activities in the classroom completed
• evaluate the quiz content to make sure students can achieve a passing grade if they have achieved a reasonable level of mastery of the material completed
• emphasize course resources better so more students take advantage of them completed
Course Objectives

1. Explain the gross morphology and three-dimensional organization of the body and how it relates to normal function.
2. Recognize common anatomical variations that are relevant to clinical practice.
3. Predict how abnormal or altered anatomical structure would affect normal function.
4. Apply anatomical and radiologic knowledge to interpret two-dimensional radiologic images such as plain films, CT and MRI scans.
5. Recognize what lies beneath the skin for the purpose of palpating and locating anatomical structures used in clinical practice.
6. Describe basic principles of human development.
7. Predict how dysfunction of developmental events would affect anatomical structure and function.
8. Recognize and use proper anatomical vocabulary in order to communicate effectively with colleagues and faculty.
9. Practice basic dissection skills and procedures that are relevant for clinical practice.

10. Practice and demonstrate systematic problem-solving skills.

11. Practice team skills and demonstrate the ability to work productively with others.

12. Demonstrate respect for anatomy group members by being punctual and engaged in the dissection process.

13. Demonstrate respect for the body donors and their families by adhering to anatomy laboratory policies.


15. Accept responsibility for his/her own actions. Receive constructive criticism and feedback well.

16. Provide constructive suggestions to colleagues during peer review exercises to aid their professional development.
Course Objectives – Comments

• The number of course objectives seems appropriate for the course, and objectives provide a good overview of what the course is about

• Content in session objectives correlates well with the “embryonic development” and “organ structure and function” categories of the Step I brochure

• Due to the flipped classroom approach, the subcommittee felt the course should have an objective that reflected its focus of independent learning
Format of Course & Session Objectives

• Course objectives are provided in the syllabus
• Course objectives are written in the correct format
• Session objectives are provided in the course materials with the exception of two sessions:
  – Course introduction
  – Lab orientation
• Session objectives are written in the correct format
Issues of Redundancy

• Ilios was used to search 15 different general anatomical terms such as “vertebral column”, “heart” and “liver”

• The subcommittee did not find unplanned redundancy in the HAE course; when redundancy was present it was appropriate (i.e. HAE provided foundational content, SBM built upon it introducing clinical or pathological information)

• For several terms, namely “liver”, “pancreas” and “pelvic diaphragm”, Ilios did not show that the topic was covered in the course, even though it was. Further investigation revealed that session objectives did not mention key terms – for example one objective stated “Describe the location, structure and general function of the organs in the upper abdomen” rather than naming the organs
The course discusses ethical treatment of body donors and evaluates students on professional behavior in the laboratory.

There is a potential to add some Health and Values content in the PBL case on a baby with a neural tube defect that was introduced in the course this academic year.
Summary regarding Objectives

- There are no major issues to be addressed regarding the course objectives; two minor issues are:
  - session objectives need to be drafted for the course introduction and lab orientation session
  - the course should consider adding an objective about its emphasis of self-directed learning
- Some session objectives should be revised to include key words for the purpose of curriculum mapping
- The course should investigate opportunities to add health and values content into the course
Course Learning Opportunities

- Lecture 4 hrs. (5%)
- Large group flipped classroom sessions 27 hrs. (34%)
- Conferences 8 hrs. (10%)
- Laboratory 41 hrs. (51%)

Optional review sessions are available prior to each quiz and the final exam.
Course Learning Opportunities

• The course has a good mix of learning formats including clinical correlation lectures, flipped classroom sessions, small group conferences and laboratories; both large group sessions and conferences provide opportunities for students to apply the material they are learning to solve clinical problems.

• Readiness quizzes were done during the first 10 minutes of the flipped classroom sessions with the intent of discussing the questions in class; students felt this made large group sessions “required”.

• The course has an extensive website that includes self-assessment activities; additional practice questions are provided in the course ibooks.
Summary regarding Pedagogy

• Multiple learning formats in the course is beneficial to students with different learning styles
• The focus on problem-solving allows students to develop critical thinking skills
• Having an activity (readiness quizzes) that counts toward the course grade in non-required sessions doesn’t match with the spirit of the MEC attendance policy [Note: this was discussed previously in the MEC and was already rectified]
Assessment

• 5 Written Quizzes (50% of course grade)
• Final Written Exam (20% of course grade)
• Final Practical Exam (20% of course grade)  
  – required to pass this exam to pass the course
• Readiness quizzes (5% of course grade)  
  – taken during the first 10 minutes of flipped classroom sessions to assess preparation for class
• Team performance score (5% of course grade)  
  – based on participation, attendance and timeliness
Assessment for Course Objectives

- Objectives 1-7 are knowledge based and are assessed by quizzes and exams.
- Objectives 8-13 relate to communication skills, team skills, problem-solving skills and professionalism. Students receive written formative feedback on these skills at the end of the term; a summative evaluation occurs at the end of the HAE course. Additionally, students also receive written peer evaluations from their anatomy team members (objective 16).
- Objectives 14-15 are assessed by the faculty, e.g. if a student is struggling in the course, did they take the initiative to seek out help; did they consider the feedback given in the written evaluation and adjust their behavior if necessary.
Summary regarding Assessment

• The grading system for the course seems appropriate
• The course is currently assessing all of its objectives
• The course is one of the few courses in Y1 that provides narrative feedback to students regarding communication skills, team skills, problem-solving skills and professionalism
Measures of Quality – AAMC GQ

“Indicate how well you think that instruction in human anatomy and embryology prepared you for clinical clerkships and electives.” [1=poor; 2=fair; 3=good; 4=excellent]

<table>
<thead>
<tr>
<th>Course</th>
<th>Geisel mean 2010</th>
<th>Geisel mean 2011</th>
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<th>Geisel mean 2013</th>
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# Measures of Quality – Step I

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*values reported for core disciplines are SD above the US/Can mean for Geisel mean scores*
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<thead>
<tr>
<th>Year 1 courses</th>
<th>Overall Satisfaction AY 2014-2015</th>
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<td>Human Anatomy and Embryology II</td>
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<td><strong>Human Anatomy and Embryology I</strong></td>
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<td>Pathology</td>
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scale [1=poor; 2=fair; 3=good; 4=very good; 5=excellent]
Measures of Quality – Course Evaluation

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

<table>
<thead>
<tr>
<th>Measures of Quality</th>
<th>HAE 2012 (99%)*</th>
<th>HAE 2013 (93%)*</th>
<th>HAE 2014 (92%)*</th>
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*student participation rate on course evaluation
Measures of Quality – Student Comments

Strengths:

• Course ibooks – “The iBook is the single most well organized online resource I have ever used”

• Small group conferences – “Small groups were amazing great learning experiences”

• Large group sessions – “I think the way the large groups are presented, with case scenarios and discussions, is very helpful in learning.”

Also mentioned: lab sessions, radiology lectures, dedicated faculty
Suggestions for Improvement:

- Readiness quizzes – “[I don’t like] ...having quizzes which count for points during non required classes thereby making a non required class, required”
- Order of class sessions – “Lab should always be AFTER the readiness quiz. I know many in the class felt unprepared for lab when it was before the quiz because they had not fully prepped for lab.”
- Make discussion slides available prior to flipped classroom sessions for note taking

Also mentioned: didn’t know what to expect for practical, pelvis/perineum particularly confusing, trouble downloading ibooks from Canvas
Summary regarding Measures of Quality

• The course consistently is rated in the very good to excellent range
• Students appreciated the materials in the course (e.g. ibooks) and the case-based teaching sessions
• Students were unhappy with the placement of the readiness quizzes in the course
• Students felt the pelvis/perineum unit was particularly challenging
• Students requested some minor tweaks such as making slides available for note-taking during flipped classroom sessions and addressing the downloading problem for ibooks
Recommendations

• The course should fix the minor issues with the objectives stated on slide 9 and investigate opportunities to add health and values content into the course

• The course should remove readiness quizzes from non-required class sessions or adjust the grading policy (i.e. have them not count towards the course grade). In addition, the course should consider whether having readiness quizzes prior to laboratory sessions would be more beneficial
Recommendations

• The course should consider ways to improve the teaching of the pelvis and perineum unit

• The course should provide slides for flipped-classroom sessions if possible for the purpose of note-taking

• The course should investigate the problems with downloading ibooks to see if there is a solution
Action Plan

• Session objectives have been drafted for the course introduction and lab orientation; these are now on Ilios

• With MEC approval an objective will be added that states: “Develop and demonstrate self-directed learning skills by coming prepared for class sessions”

• Key words will be added to session objectives where appropriate, for example the objective used as an example was revised to state: “Describe the location, structure and general function of the organs in the upper abdomen, namely the liver, gallbladder, stomach, proximal parts of the duodenum, pancreas and spleen.”
Action Plan

• A meeting has occurred between a representative of the Health and Values VIG group and the course director. The VIG group is investigating the potential to add health and values content to the HAE Y1 PBL case.

• Readiness quizzes have been moved out of class sessions and are due prior to the laboratory. This encourages students to prepare prior to the lab session and the subsequent small group conference.

• Based on student feedback, the laboratories for the pelvis and perineum unit will be prosection-based during AY15-16.
Action Plan

• A version of the slides with cases and images (but not answers) are provided to students prior to flipped classroom sessions for note-taking; after the session a version is posted with answers

• Problems with downloading ibooks related to the size of files; this has been remedied in part by reorganizing course content by quiz (rather than unit) and replacing some video files with links to videos