Graduate Faculty Council Meeting

Tuesday, April 5, 2016, 4-5 pm

Minutes

**Members** (16): Andrew Storer (SFRES), Craig Friedrich (MEEM), Ashutosh Tiwari (Chem), Zhenlin Wang (CompSci), Mari Buche (DataSci), Kelly Steelman (CogSci), Jiguang Sun (Math), Eugene Levin (SOT), Ebenezer Tumban (Bio), Yoke Khin Yap (Phys), Veronica Webster (CivEng), Feng Zhao (BioMed), Leonard Bohmann (Meng), Noel Urban (Envir), Judith Perlinger (Atmos), Kari Henquinet (PCorps), Julie King (ChemEng), Thomas Oommen (Geo), Michael Roggemann (Elec)

**Guests** (7): Debra Charlesworth (Grad Sch), Nancy Byers Sprague (Grad Sch), Nicole Rubino (Grad Sch), Sarah Lucchesi (Lib), Alex Guth (Grad Sch), Heather Suokas (Grad Sch), Chelsea Nikula (GSG), Dave Reed (Spon Prog), Jackie Huntoon & Jean Kampe (Provost Office)

1) Meeting called to order at 4:05 pm.

2) Review and approval of 03/01/2016 meeting minutes.

3) New Business:

   a. **Graduate Student Tuition Structure (D. Sheldon, D. Reed)**
      Please review the handout. It includes a table of the Graduate Student Tuition Structure. A meeting will be scheduled with GSG to discuss it with the students.

      Q) Has there been a discussion about the competitiveness of the tuition rate for course work only and professional degrees?
      A) Yes, we have looked into doing a 9-12 credit rate for grad students and decided that this wasn’t something we wanted to do at this time. The last time we looked at tuition there was no strong consensus among the Deans. This year we decided that this made since to do so that we do not have a tuition fee that causes complications for everyone. However, this does not mean we should not stop the discussion and try and come to a consensus.

      Q) A. Storer is concerned looking into the future that a significant increase in coursework only and professional master’s degrees will not be competitive in the market place.
      A) It is a discussion worth having.

      Q) How will the proposed tuition rate affect our current revenue stream?
      A) It is 6,000 less

      Q) How will we assign this to non-departmental programs?
      A) However it is assigned today, it will just be tuition instead of fee. They are charged for the academic home unit of their advisor.

   b. **GTA allocations announcement (H. Suokas)**
      - No adjustments to the GTA allocations this year.
      - Changes within the schools and colleges is at the discretion of the Dean.
      - This information has been communicated to the program assistants/directors.
4) Old Business:

a. **Graduate Student Learning Goals (J. Huntoon, P. Murthy, A. Guth, J. Kampe)**
   - Handout included a summary of the questions and concerns that arose when this topic was discussed during the previous meeting. Essentially the Higher Learning Commission says it is ok to have different learning objectives even if the students are getting the same degree.
   - You may articulate different learning goals for thesis, coursework, and report. It will need to be clearly justified and we must articulate the reasons as to why we have these different goals.
   - The higher learning commission does not care or prescribe mechanics for assessment. As long as we have a process for assessment and we use the data to make improvements.
   - Jackie commented that we do not have to have the same goals as the undergraduate level. We can use embedded assessments for assessment purposes. Collect actionable data in an efficient way that can help continually help improve departments.
   - Storer commented that the departments need guidance with developing learning goals.
   - Another comment was with graduate learning outcomes (GLO’S). Strive to keep the language the same between departments and the university.
   - Specifics regarding learning goals, objectives and outcomes will be developed by departments.

Q) How many programs have started this process? Who has shared with their departments in faculty meetings? Has there been any discussion? This needs to be started.
A) There hasn’t been many serious discussions only FYI conversations.

Q) We wanted to make sure we were not locked into the same objectives for each? It has been conferred that we can have different objectives for coursework versus thesis. Is there going to be any minimum required assessment points among departments?
A) HLC does not prescribe the kind of assessment, the number of assessments or how to conduct them.
   - It is important to design an assessment that will measure the things you want to assess.
   - What HLC really wants to see is that we collect high quality data and we use it towards something.
   - We would like the departments to have articulated their student learning goals soon. HLC is coming back in two years to review and when they come to review they want us to have gone through the process once. Collected, analyzed and put forth changes. Not every program needs to complete this during the 2 years. Only a few programs must have completed one cycle of the process by the time the HLC returns in 2018 but all programs should be working on this.
   - Andrew Storer volunteers Forestry.
   - The 4 departments that are currently going through the self-review and already started a department-wide discussion could volunteer a program within these departments to begin this assessment. All programs will need to articulate their learning goals and the assessment rubric. By the end of fall all departments should have this in place.

As the meeting is coming to a close and we will not be able to discuss GTA training – I propose that we have one more meeting to discuss this. Additional meeting will be added April 21st.

Q) Is the expectation that the GTA training be in place next fall?
A) Yes, the board of trustees would like it sooner than later.

5) Motion to adjourn at 5:04 pm.
Graduate Programs Review and Assessment

I. Graduate Program Self-Review
   Started
   - How many students?
   - Completion and attrition rates?
   - Qualifying examinations?
   - Time to completion?
   - How are students supported?
   - Student publications?

II. Articulate graduate learning outcomes and outline assessment methods

   Articulate graduate learning outcomes (GLOs)  
       Spring 2016
       - Demonstrate mastery of the subject matter
       - Demonstrate advanced research skills
       - Make an original and substantial contribution to the discipline
       - Demonstrate effective oral and written communication skills

   Map GLOs to potential measures  
       Spring 2016

   Develop Assessment rubric (Deficient; Satisfactory; Excellent)  
       Spring 2016

   Gather data  
       Starting Fall 2016

   Analyze data for formative evaluation  
       Every year at department retreat?

   Submit (brief) Assessment Reports to Grad School  
       Annually, after data analysis
HLC Standards

2.E.1. Students are offered guidance in the ethical use of information resources.

3.A.1. Courses and programs are current and require levels of performance by students appropriate to the degree or certificate awarded.

3.A.2. The institution articulates and differentiates learning goals for its undergraduate, graduate, post-baccalaureate, post-graduate, and certificate programs.

3.A.3. The institution’s program quality and learning goals are consistent across all modes of delivery and all locations.

3.B.3. Every degree program offered by the institution engages students in collecting, analyzing, and communicating information; in mastering modes of inquiry or creative work; and in developing skills adaptable to changing environments.

4.A.1. The institution maintains a practice of regular program reviews.

4.A.6. The institution evaluates the success of its graduates. The institution assures that the degree or certificate programs it represents as preparation for advanced study or employment accomplish these purposes. For all programs, the institution looks to indicators it deems appropriate to its mission, such as employment rates, admission rates to advanced degree programs, and participation rates in fellowships, internships, and special programs (e.g., Peace Corps and Americorps).

4.B. The institution demonstrates a commitment to educational achievement and improvement through ongoing assessment of student learning.

Including: clearly stated goals for student learning that are assessed, use of assessment information to improve student learning, assessment processes and methodologies reflect good practice, substantial participation of faculty and other instructional staff members.

4.C. The institution demonstrates a commitment to educational improvement through ongoing attention to retention, persistence, and completion rates in its degree and certificate programs.

5.C.2. The institution links its processes for assessment of student learning, evaluation of operations, planning, and budgeting.
### Graduate Learning Outcomes (GLOs) PhD¹

<table>
<thead>
<tr>
<th>GLO</th>
<th>Potential Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Demonstrate mastery of the subject matter</td>
<td>Grades in graduate courses</td>
</tr>
<tr>
<td></td>
<td>Qualifying exams</td>
</tr>
<tr>
<td></td>
<td>Research proposal</td>
</tr>
<tr>
<td></td>
<td>Dissertation &amp; defense</td>
</tr>
<tr>
<td>2) Demonstrate advanced research skills</td>
<td>Research proposal</td>
</tr>
<tr>
<td></td>
<td>Dissertation</td>
</tr>
<tr>
<td></td>
<td>Dissertation defense</td>
</tr>
<tr>
<td>• Design a research project</td>
<td></td>
</tr>
<tr>
<td>• Execute a research project</td>
<td></td>
</tr>
<tr>
<td>• Master application of existing methodologies and techniques</td>
<td></td>
</tr>
<tr>
<td>• Critically analyze &amp; evaluate one’s own findings and those of</td>
<td></td>
</tr>
<tr>
<td>others</td>
<td></td>
</tr>
<tr>
<td>3) Make an original and substantial contribution to the discipline</td>
<td>Research proposal</td>
</tr>
<tr>
<td></td>
<td>Dissertation</td>
</tr>
<tr>
<td></td>
<td>Peer-reviewed publications</td>
</tr>
<tr>
<td></td>
<td>Conference presentations</td>
</tr>
<tr>
<td>• Think originally and independently to develop concepts and</td>
<td></td>
</tr>
<tr>
<td>methodologies</td>
<td></td>
</tr>
<tr>
<td>• Identify new research opportunities within one’s field</td>
<td></td>
</tr>
<tr>
<td>4) Demonstrate professional skills</td>
<td>Qualifying exams</td>
</tr>
<tr>
<td></td>
<td>Research proposal</td>
</tr>
<tr>
<td></td>
<td>Dissertation &amp; defense</td>
</tr>
<tr>
<td></td>
<td>Teaching</td>
</tr>
<tr>
<td></td>
<td>Seminars</td>
</tr>
<tr>
<td></td>
<td>Conference presentations</td>
</tr>
<tr>
<td></td>
<td>Exit surveys</td>
</tr>
<tr>
<td>• Effective oral and written communication skills</td>
<td></td>
</tr>
<tr>
<td>• Follow ethical guidelines for field</td>
<td></td>
</tr>
<tr>
<td>5) Optional Departmental GLO(s)</td>
<td></td>
</tr>
</tbody>
</table>

¹ The possible measurements listed are intended only as starting points rather than an exhaustive list. Programs are expected to identify assessment measures most appropriate for their discipline. Use of both qualitative and quantitative (direct / indirect) measures is encouraged.
Lumina Degree Qualifications Profile for (coursework) MS

Potential method for setting learning goals for coursework-only/professional Masters Degrees.

NOTE: this is provided as reference only, we need to confer with the HLC on some points (e.g. can we have different goals for people earning the “same” degree, as coursework/report/thesis are not distinguished on the diploma).

Report: https://www.luminafoundation.org/resources/dqp
Website: http://degreeprofile.org/

Master’s Coursework (Lumina framework): Programs would fill these in as part of developing their departmental goals. Programs should be referred to the DQP document for examples of what students should be able to do after completing a Master’s degree, and adapt statements as needed.

- Specialized Knowledge
- Broad and Integrative Knowledge
- Intellectual Skills (rather than being completely independent from the other 4 proficiencies, these can be seen as skills to be practiced within those other contexts)
  - Analytic Inquiry
  - Information Resources
  - Engaging Diverse Perspectives
  - Ethical Reasoning
  - Quantitative Fluency
  - Communication Fluency
- Applied and Collaborative Learning
- Civic and Global Learning

For articulations of what is expected after completing a Master’s degree (according to the Lumina framework) for each of the above, see: http://degreeprofile.org/grid-viewer/
Appendix A

Templates: Evaluation forms and Rubric
Evaluation of PhD GLOs - Qualifying exam written and oral

Student name _____________________

Committee decisions

GLO1: Demonstrate mastery of the subject matter
   Circle one: Deficient Satisfactory Excellent

GLO4: Demonstrate professional skills (effective written communication)
   Circle one: Deficient Satisfactory Excellent

GLO4: Demonstrate professional skills (effective oral communication)
   Circle one: Deficient Satisfactory Excellent

Overall Determination: Pass Provisional Pass Fail

Faculty signatures       Date
Evaluation of PhD GLOs - Dissertation and dissertation defense

Student name _____________________

Committee decisions

GLO1: Demonstrate mastery of the subject matter
Circle one:  Deficient       Satisfactory       Excellent

GLO2: Demonstrate advanced research skills
Circle one:  Deficient       Satisfactory       Excellent

GLO3: Make an original and substantial contribution to the discipline
Circle one:  Deficient       Satisfactory       Excellent

GLO4: Demonstrate professional skills
Circle one:  Deficient       Satisfactory       Excellent

Overall Determination:  Pass       Provisional Pass       Fail

Faculty signatures       Date
### Sample Rubric for dissertation and dissertation defense

<table>
<thead>
<tr>
<th>University GLO</th>
<th>Departmental sub-component</th>
<th>Deficient</th>
<th>Satisfactory</th>
<th>Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - Demonstrates mastery of the subject matter</td>
<td>Synthesizes existing knowledge</td>
<td>Gaps in basic knowledge. Does not understand basic concepts or conventions. Misunderstands or misses relevant literature. Misrepresents or misuses sources.</td>
<td>Displays a solid understanding of the field. Adequate exploration of interesting issues and connections.</td>
<td>Demonstrates thorough mastery as well as creativity in drawing on multiple sources. Synthetic and interdisciplinary. Demonstrates a deep understanding of relevant literatures</td>
</tr>
<tr>
<td>2 - Demonstrates advanced research skills</td>
<td>Mastered application of existing methodologies and techniques</td>
<td>Misapplies techniques or uses non-standard methods without adequate rationalization. Does not recognize limitations of data / techniques were applicable.</td>
<td>Uses appropriate, theory, methods and techniques. Appropriately explains limitations of data / techniques were applicable.</td>
<td>Suggests and utilizes improvements to standard methods and techniques. Limitations are thoroughly and competently discussed.</td>
</tr>
<tr>
<td></td>
<td>Critically analyzes and evaluate their own findings and those of others</td>
<td>Relies on others to suggest data that are relevant to solving a problem of interest. Follows instructions for routine procedures, without experimentation. Does not recognize improbable results.</td>
<td>Literature review is adequate but not critical. Identifies weaknesses in own work but discussion is not comprehensive.</td>
<td>Provides critical evaluation of previous works. Identifies and corrects weaknesses or flaws in referenced work. Identifies and discusses shortcomings in own work.</td>
</tr>
<tr>
<td>3 - Make an original and substantial contribution to the discipline</td>
<td>Think originally &amp; independently to develop concepts and methodologies</td>
<td>No independent research. Question or problem is trivial, weak, unoriginal, or previously solved.</td>
<td>Argument is strong, comprehensive, and coherent. Has some original ideas, insights, and observations.</td>
<td>Has a compelling question or problem. Project is original, ambitious, creative, and thoughtful. Asks or addresses new / important questions.</td>
</tr>
<tr>
<td>4 - Demonstrates professional skills</td>
<td>Displays effective written communication skills</td>
<td>Academic writing lacks structure and organization. Writing has frequent spelling and grammatical errors. Illustrations poorly selected or illegible.</td>
<td>Writing is adequate. Structure and organization are sufficient. Illustrations legible, technically correct, and appropriate.</td>
<td>Concise, elegant, engaging. Technical content and graphic design of illustrations well planned / executed.</td>
</tr>
<tr>
<td></td>
<td>... oral communication skills</td>
<td>Unorganized or unable to articulate an argument. Does not grasp intent of questions</td>
<td>Clear &amp; coherent. Engages appropriate audiences. Grasps intent.</td>
<td>Compelling, persuasive, and accessible to multiple audiences. Articulately addresses questions.</td>
</tr>
</tbody>
</table>
Appendix B: Resources

Walvoord, Barbara E. “Assessment of Graduate Programs: Clear, Simple, and USEFUL”  
[link]

Cornell University Graduate School

- Doctoral Proficiencies: [link]
- Research Masters Proficiencies: [link]
  - Assessment metrics for the Atmospheric Sciences [link]

Rutgers Graduate School – New Brunswick

- Ph.D. Programs: [link]
- Master's Programs: [link]
  - Mathematics Ph.D.: [link]

University of Northern Iowa

- Student Learning Outcomes and Assessment Plans (click on the colleges in the left-side navigation to see files by program/level) [link]
April 5, 2016: Alex Guth spoke with Stephanie Brzuzy who is the Vice President for Accreditation Relations at the HLC and Michigan Tech’s official HLC liaison.

Q1: Can we have different Learning Objectives for coursework, report, and thesis-based Master's if all three paths are awarded the same degree at the end? (would that violate 3.A.3?)

Yes, we can have different learning objectives that recognize that the purpose of the different paths may be preparing students for different things (e.g. careers in industry vs preparation for doctoral research). We just need to justify and clearly articulate why they are different.

Q2: Does the HLC care about the mechanics of how we assess Graduate student learning?

Short answer is “no”.

The HLC does not prescribe any certain assessment path. They are "not in the weeds on these things".

They only care that we have:
- a process that makes sense (for all levels; undergrad, MS, PhD, etc.),
- that we assess student learning horizontally and vertically,
- that data collected are used systematically for continuous improvement (and that is were lots of people fall over - they collect the data but then don’t use it).

Course records can certainly be used as one tool for assessment - the biggest issue isn't what we use, but how we use it and why. No matter what we choose to do, it should be logical / make sense, match what we say our goals are, and be defensible.

Q3: Do we need to set/fixed quantitative targets for all Learning outcomes (e.g. 75% will achieve X or better on outcome Y), or is it okay to leave that up to departments or handle it qualitatively?

Some people like to do this, but HLC certainly doesn't require it. We can set quantified targets like this if we want to, but that is up to us.
## Resident & Non-Resident Graduate Students
### 2015-16 Tuition Rates
*(EXCLUDE FY17 INCREASES)*

### FY16 Current Tuition Rate Structure

<table>
<thead>
<tr>
<th>Tuition Rate Per Credit Hour &amp; Fees</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Standard Per Credit Hour Rate</strong></td>
<td>$861.50</td>
</tr>
<tr>
<td>Applied Science Education and Peace Corps, OSM/VISTA, and National Graduate Fellowship Students</td>
<td>$561.00</td>
</tr>
<tr>
<td>Graduate Students who are in Research Mode</td>
<td>$287.00</td>
</tr>
<tr>
<td>Engineering/Computer Science Tuition fee per semester for Graduate students taking fewer than 5 credits</td>
<td>$475.00</td>
</tr>
<tr>
<td>Engineering/Computer Science Tuition fee per semester for Graduate students taking 5 credits or more</td>
<td>$950.00</td>
</tr>
</tbody>
</table>

- 65% of Standard Rate
- 33% of Standard Rate

### FY16 Proposed Revised Tuition Rate Structure

<table>
<thead>
<tr>
<th>Tuition Rate Per Credit Hour &amp; Fees</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Standard Per Credit Hour Rate Non-Engineering/Computer Science</strong></td>
<td>$861.50</td>
</tr>
<tr>
<td><strong>Standard Per Credit Hour Rate Engineering/Computer Science</strong></td>
<td>$977.50</td>
</tr>
<tr>
<td>Applied Science Education and Peace Corps, OSM/VISTA, and National Graduate Fellowship Students Non-Engineering/Computer Science</td>
<td>$573.00</td>
</tr>
<tr>
<td>Applied Science Education and Peace Corps, OSM/VISTA, and National Graduate Fellowship Students Engineering/Computer Science</td>
<td>$654.00</td>
</tr>
<tr>
<td>Graduate Students who are in Research Mode Non-Engineering/Computer Science</td>
<td>$287.00</td>
</tr>
<tr>
<td>Graduate Students who are in Research Mode Engineering/Computer Science</td>
<td>$323.00</td>
</tr>
</tbody>
</table>

- 67% of Non Eng. Standard Rate
- 67% of Eng. Standard Rate
- 33% of Non Eng. Standard Rate
- 33% of Eng. Standard Rate
Graduate Faculty Council—Draft Agenda

April 5, 2016

NOTE: all handouts are connected to a single pdf file.

1. Old Business:

2. New Business:
   a. Graduate Student Tuition Structure (D. Sheldon, D Reed)
   b. GTA Allocations Announcement (H. Suokas)
   c. Graduate Student Learning Goals (J. HUntoon, P. Murthy, J. Kampe)

Graduate School
Administration Building, 4th Floor
1400 Townsend Drive
Houghton, Michigan 49931-1295
Ph: 906-487-2327
Fax: 906-487-2284
Email: gradadms@mtu.edu