IPiB Steering Committee Meeting
2014-2015
Wednesday, March 18, 2015, 1:00pm
179 Biochemistry Labs

MINUTES

Present: Dave Brow, Jim Keck, Ann Palmenberg, Ivan Rayment, Tom Record, Alessandro Senes, Mike Sheets, Ellen Crummy

Absent: None

1. Implications of increase in graduate assistant tuition remission (2 attachments) – Rayment
   a. Provost’s memo regarding tuition remission surcharge
   b. Impacts of surcharge on IPiB per Cathy Michael

Mr. Rayment opened the discussion on how the two-year plan to phase in increases to the tuition remission surcharge will impact IPiB’s graduate training program (Attachments 1 and 2). Mr. Brow noted that the fringe benefits rate for postdocs was not included in the comparison with graduate student compensation; Mr. Rayment will get clarification on this figure (0.152% for FY 2014-15, https://www.rsp.wisc.edu/chap4/rn/rn14-2.html) and provide updated numbers to the Committee. Overall, the Committee noted the following potential impacts:

- IPiB graduate students in FY16 (stipend, fringe, tuition remission) will cost $210 less than the NIH-allowed compensation package but will exceed the cap in FY17 unless there is an increase in the zero-year postdoctoral compensation. (It was noted by Cathy after the SC meeting that the NIH rules state: “A graduate student supported by an NIH research grant or cooperative agreement (non-NRSA) cannot be paid more than the zero level of the National Research Service Award (NRSA) stipend for postdoctoral fellows in effect at the time the grant award is issued. For more information, see NOT-OD-02-017.”);
- Graduate students cost almost as much as postdocs, but graduate students can be put on training grants to help offset these costs;
- The nature of graduate training and research will be impacted;
- Current PIs with graduate students will be hit hardest by these increases, as they already have a difficult time affording graduate students. IPiB department chairs may need to consider adding more awards and fellowships or providing emergency funds to help offset these increases for current graduate students’ PIs; and
- Graduate programs will shrink further.

2. IPiB Seminar – Senes
   a. Grading requirements for non-IPiB students
   b. Presentation credit for non-dissertators

Mr. Senes proposed strengthening the language in the IPiB Handbook regarding the IPiB seminar presentation requirement. At issue is whether or not an IPiB graduate student in their third year or lower can give an IPiB presentation for a letter grade and have it count towards their IPiB
seminar presentation requirement. The Committee agreed that the spirit of the IPiB seminar requirement is for the student to present his or her own research after several years of accomplishing a body of work on that research; this cannot, under most circumstances, be accomplished by a second- or third-year student.

The current and proposed texts are:

**Current language, Section 3.3.2, third bullet (2014-15 Handbook):** One seminar will be presented on their research progress (“IPiB Seminar”) in the interdepartmental graduate seminar (currently BMC 901 / Biochem 729). This will generally occur in the fourth or fifth year of graduate study. Students are required to enroll for two semesters in this seminar series, even though they are required to present a seminar only once. Students may present more than once, especially if they wish to gain more public speaking experience.

**Proposed language (2015-16 Handbook):** One seminar will be presented on their research progress (“IPiB Seminar”) in the interdepartmental graduate seminar (currently BMC 901 / Biochem 729). This should occur in the fourth or fifth year of graduate study. Students are required to enroll for two semesters in this seminar series, even though they are required to present a seminar only once. Students may present more than once, especially if they wish to gain more public speaking experience.

**Exceptions to this requirement must be requested of and approved by the ECC [previously defined]. Contact the Graduate Student Services Coordinator for assistance.**

The Committee approved the proposed language.

3. **Examination and Certification Committee – Brow**
   a. MS certification

Mr. Brow presented a request by a current graduate student to receive certification of his Master’s degree as he continues to work toward his PhD. The student suggests that having a Master’s degree designation will help in his job search in situations where a PhD might be considered an overqualification. The Committee agreed unanimously that the request be denied, because IPiB is a PhD program and, as such, is not set up to grant Master’s degrees at the student’s passing of his preliminary examination. Mr. Brow will notify the student that the request is denied for the reasons given.

4. **BMC / Chemistry 627 (attachment) – Rayment**
   a. Discussion of proposal for BMC 627 to count towards the IPiB physical sciences breadth requirement

The Committee agreed unanimously that the course BMC / Chem 627 should count toward the IPiB physical sciences breadth requirement. Information will be sent to the Media Lab to add this course listing to the IPiB website.

5. **Draft Learning Goals (2 attachments) - Rayment**
   a. GFEC-approved learning goals
   b. IPiB proposed learning goals
i. Do we want to articulate Master’s degree learning goals, as suggested by the GFEC?

The Committee reviewed the revised IPiB learning goals, which reflected the input of the Graduate Faculty Executive Committee, and approved them. The Committee also considered the GFEC’s recommendation that learning goals are articulated at the Master’s degree level. After discussion, the Committee agreed unanimously not to articulate Master’s degree learning goals since IPiB does not admit graduate students for a Master’s degree as the terminal degree.

   a. How to address the first of two new required courses, which is not yet organized, particularly as it is not currently available to meet breadth or minor requirements? (Section 3.1.2)

   * Course requirements will be updated to indicate that first-year students should take a biological or physical sciences breadth requirement course in the first semester in place of the new course in development that pairs with the “Biochemistry of the Cell” course now being offered in the second semester.

   b. Remove appendix of approved course and direct students to the IPiB website? Retain language for course substitution procedures (Section 3.1.3)

   * The Committee agreed unanimously to remove the course listing in the handbook and direct students and faculty to the IPiB website for current course listings and requirement fulfillments.

   c. Explain remedy for U grade in a seminar course? Graduate School has no policy, except that student cannot graduate with a U grade, and a hold can be placed on their record (new Section 3.4.1)

   * The seminar instructor may require the student to attend the appropriate number of meetings in a different offering of the seminar in order to change the U grade to an S grade.

   d. Updated description of Graduate School Minimum Credit Requirements (new Section 3.5.2) - AGREED

   e. New language regarding thesis committee composition and attendance requirements (new Sections 3.8.2, 3.8.3, 3.8.5) - AGREED

   f. Revised language regarding direct admits (Section 4.1) - AGREED

   g. Revised language regarding lab rotations (Section 4.1.2) - AGREED

   h. Addition to appendix of Guidelines for Final Defense and Graduation (last page) – AGREED
7. **Update on Admissions and Recruiting – Record**  
Mr. Record reported that 49 offers have been extended to prospective students, and so far 5 have responded: 3 accepted, 2 declined. The remaining responses are expected between now and the April 15th deadline. The Admissions and Recruiting Committees are targeting an incoming class of 20 students in Fall 2015.

8. **Update on SFLC – Crummy**  
Ms. Crummy updated the Committee on the SFLC’s science outreach efforts to local middle schoolers and their parents, which are well-received and hopefully will continue in the future. The A.R.T. (Awards for Research and Teaching) Show is scheduled for Friday, May 8. This year’s fundraising efforts yielded a $300 profit; unfortunately, BMC faculty were inadvertently excluded from those emails. Ms. Crummy will follow up with the Fundraising Chair to reach out to BMC faculty, and with other SFLC committee chairs to clarify and streamline IPiB communications going forward.

Finally, Ms. Crummy commented that the three recruiting weekends went very well, and that the success of these weekends is due in large part to IPiB student involvement. The Committee – in particular Tom Record, Alessandro Senes, and Jim Keck as Chairs of the Admissions and Recruiting Committee – agree wholeheartedly that the weekends and overall recruiting success would not be possible without the active involvement of current IPiB students.

9. **Other?**
   a. Mr. Sheets raised the topic of lab rotations and verifying faculty ability to support students in their labs. While the Biochemistry and BMC Front Offices can work with IPiB faculty to determine if they are currently able to support a student, they cannot predict what the faculty will receive in future funding. Mr. Sheets proposed, for a future discussion, that faculty are asked what source of funding they plan to use, and the appropriate Front Office staff can verify and make projections based on that information. The Committee agreed that IPiB faculty should be advised that this type of verification question is coming once it has been fully vetted by the Steering Committee.

   b. Mr. Keck proposes to update the IPiB Handbook descriptions of the Admissions Committee’s and the Recruiting Committee’s charges. Note: After this meeting, members of the Admissions Committee and Steering Committee discussed the changes proposed by Mr. Keck. The agreed-upon language is included in the 2015-16 IPiB Handbook.

10. **Next Meeting:** Wednesday, April 15, 1:00pm

Mr. Rayment adjourned the meeting.

Respectfully submitted,

Kate Ryan
MEMORANDUM

Date: March 12, 2015

To: Deans
   Directors
   Department Chairs

From: Sarah Mangelsdorf, Provost
       Darrell Bazzell, Vice Chancellor for Finance and Administration

Re: Assessments for Graduate Assistant Tuition Remissions

Based on recommendations made by a faculty committee in 2006, UW-Madison re-implemented a surcharge on graduate assistantships to recover a portion of the forgone tuition revenue associated with graduate assistant tuition waivers (or tuition remissions). The committee devoted over a year of intense study of the significant negative impacts that excess graduate assistant tuition waivers were having on the university’s base budget. In response to the structural budgetary shortfall caused by excess tuition waivers, the committee recommended and the campus implemented a fixed surcharge of $8,000 per year for graduate assistants who have appointments at one-third time or greater.

Teaching assistants were excluded from the surcharge because the institutional tuition and budget model accommodates a fixed number or value of tuition waivers associated with teaching assistants. Tuition waivers in excess of that fixed number cause a structural imbalance in the base budget. Roughly 85% of the related assessments for graduate assistantships that are subject to the charge are applied to external funds—federal and non-federal grants and contracts and gift funds. It should be noted that this assessment is permissible under federal guidelines and a common practice among our peer institutions.

Although campus administration initially planned to index the surcharge to establish annual increases, the $8,000 per year surcharge has not changed since implementation in 2007. However, since the first full year of implementation in 2007-08, graduate assistant waivers have grown by approximately $8.0 million per year. Total revenue accruing from the surcharge has not grown sufficiently enough to keep pace with the growth in excess graduate assistant tuition waivers. This growing structural imbalance is causing increasing problems.
Budget reductions imposed on the campus in the current biennium and anticipated reductions that will be imposed in the 2015-17 biennial budget have created additional budgetary pressures to address the structural imbalance. Our approach to these budget reductions has been to seek ways to spread the reductions across the university, rather than concentrating them in the units that are heavily dependent on state dollars. Higher tuition remission surcharges can help address our budgetary pressures. As a result, UW-Madison must raise the tuition remission surcharge to help address both the structural imbalance and budgetary pressures. This will help ease pressures on other areas of the base budget.

Therefore, we are establishing a two-year plan to phase in the necessary increase to the tuition remission surcharge. Specifically:

- Beginning with the 2015 Fall Semester surcharge assessment, the surcharge will rise from $8,000 per year to $10,000 per year.
- For the 2016 Fall Semester surcharge assessment, the surcharge will rise an additional $2,000, bringing the assessment to $12,000 per year.

We note that the final phased-in amount of $12,000 per year is still well below the weighted average tuition waiver for graduate assistants based on residency status and dissertator/non-dissertator status, which is estimated to be approximately $16,000 and in many cases lower than the corresponding assessments charged by our peers. And, as in the past, the assessment will be allowable under applicable federal guidelines.

For most existing sponsored projects, the total award amount will not increase due to the change in the surcharge. However, tuition remission surcharge is exempt from overhead charged to sponsored projects. Therefore, under most sponsored projects, the principal investigator will be able to re-budget the overhead savings to partially offset the impact of the increase in the surcharge. Nonetheless, we understand that this will be a significant change for faculty and some local units and/or specific programs. If the increase will cause extreme hardship for any of your programs, please let us know. In exceptional cases we may be able to discuss potential options for transitional mitigation.

The increase offers the best strategy available to help resolve a structural imbalance that has grown since 2007, which is now all the more significant given our current budget challenges. As you work through these changes, we stress that the university must make every effort to honor commitments to existing graduate students.

cc: Chancellor Rebecca Blank  
Interim Vice Chancellor Marsha Mailick  
Kim Moreland  
Martha Kerner  
Dan Langer  
Tim Norris  
University Committee
Implementation Schedule and Direct Cost Impact for Current Awards budgeted using MTDC.

<table>
<thead>
<tr>
<th>Tuition Remission Rates</th>
<th>Semester</th>
<th>Academic Year</th>
<th>Unbudgeted cost to current grant</th>
<th>Current awards under MTDC have indirect cost savings as a result</th>
<th>Direct Cost to Award</th>
</tr>
</thead>
<tbody>
<tr>
<td>Through Spring 2015</td>
<td>$4,000</td>
<td>$8,000</td>
<td>$0</td>
<td>$0</td>
<td>$8,000</td>
</tr>
<tr>
<td>Fall 2015 - Spring 2016</td>
<td>$5,000</td>
<td>$10,000</td>
<td>$2,000</td>
<td>$1,060</td>
<td>$8,940</td>
</tr>
<tr>
<td>Fall 2016 - Spring 2017</td>
<td>$6,000</td>
<td>$12,000</td>
<td>$4,000</td>
<td>$2,120</td>
<td>$9,880</td>
</tr>
</tbody>
</table>

It is important to note that most of our current awards budgets are calculated using Modified Total Direct Costs (MTDC), which makes tuition remission costs exempt from our current 53% F&A rate. Thus 53% of the increased tuition remission costs will be charged against the awards indirect costs.

How does this effect current annual costs of an IPiB student?

It is important to note that the maximum amount that NIH will award to support the compensation package for a graduate student research assistant (stipend, fringe, and tuition fee remission) remains at the zero level postdoctoral stipend, as described in NOT-OD-02-017.

At the current stipend rate and using estimated fringe rates for FY16, we are still under the NIH 0 year postdoctoral compensation rate by $210. This will change if the fringe rate increases more than 1%.

<table>
<thead>
<tr>
<th>NRSA FY15 0 Year Postdoctoral Compensation</th>
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<tbody>
<tr>
<td>IPIB Stipend</td>
<td>$26,000</td>
</tr>
<tr>
<td>Fringe @ 25.5 (est 1% increase)</td>
<td>$6,630</td>
</tr>
<tr>
<td>Tuition Fee Remission (Fall 2015)</td>
<td>$10,000</td>
</tr>
<tr>
<td>Total</td>
<td>$42,630</td>
</tr>
<tr>
<td>Over/(under) cap?</td>
<td>$ (210)</td>
</tr>
</tbody>
</table>

At the current stipend rate and using estimated fringe rates for FY17, we are projected to be over the NIH 0 year postdoctoral compensation rate by $1,193. This will change if the fringe rate increases more than 1% or if the 0 year postdoctoral compensation rate increases less than 2%.

It is important to note that NIH does not require detailed budgets for modular budgets (up to $250,000 in annual direct costs). NIH will cut graduate compensation on non-modular budgets in which graduate compensation is over the 0 year postdoctoral rate.

<table>
<thead>
<tr>
<th>NRSA FY16 0 Year Postdoctoral Compensation (est 2% increase)</th>
<th>$</th>
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</thead>
<tbody>
<tr>
<td>IPIB Stipend</td>
<td>$26,000</td>
</tr>
<tr>
<td>Fringe @ 26.5 (est 1% increase)</td>
<td>$6,890</td>
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<tr>
<td>Tuition Fee Remission (Fall 2015)</td>
<td>$12,000</td>
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<tr>
<td>Total</td>
<td>$44,890</td>
</tr>
<tr>
<td>Over/(under) cap?</td>
<td>$1,193</td>
</tr>
</tbody>
</table>

You will see this note in your Notice of Award:

In accordance with the Notice: NOT-OD-02-017 entitled, "GRADUATE STUDENT COMPENSATION" published on December 10, 2001, in the NIH Guide for Grants and Contracts, total direct costs (salary, fringe benefits and tuition remission) for graduate students are provided at a level not to exceed the NIH maximum allowable amount (zero level of the Ruth L. Kirschstein National Research Service Award stipend in effect at the time of the competing award). Support recommended for future years has been adjusted accordingly, if applicable.
Course Instructor:
Professor Joshua J. Coon
Office: 4422 Genome Center
Phone: 608-263-1718
Email: jcoon@chem.wisc.edu

JJC Office hours: 3:00 – 5:00 PM on Mondays or by appointment

Lecture time: 11:00 AM – 11:50 AM, MW in BSB 1220A

Course overview: This course seeks to engage students interested in both chemical instrumentation and those who desire to apply proteomic technologies to current biological problems. Understanding the current proteomics landscape, the limitations of these technologies and their practical application are among the course learning objectives. Emphasis is placed on understanding the very latest cutting-edge research.

Homework: On February 25th, you will be given a peptide sequencing assignment. This assignment will be due at the beginning of class on March 9th. You may work in small groups to complete this task, if you wish; however, each person must submit their own homework.

Journal club presentation. Each student will select a topic for a journal club presentation to be given on the date scheduled in the syllabus. You will have 25 minutes to present a single paper from the selected topic. Please confirm your selection with the instructor for final approval (by March 30). The paper must be made public to the class at least one week prior to the scheduled time. Here you goal is to present the paper and to stimulate/moderate the ensuing discussion. Come prepared with questions or other mechanisms to engage the class. Grading will be based on relevance of the paper, quality of the presentation, and overall class discussion. Note 30% of this grade will be derived from a peer evaluation. (25% course grade)

Laboratory: This course can be taken for either 2 or 3 credits. For those of you signed up for 3 credits, you must complete the laboratory portion. You are expected to dedicate 3 to 4 hours per week to the laboratory project until it is complete. The timing of your laboratory work is flexible and should be scheduled with the laboratory coordinator Evgenia Shishkova (shishkova@wisc.edu). The grade for the additional credit will be computed based on your participation in the laboratory, the quality of your final journal-style project report, and your group presentation.

Grades: For the lecture component, grading will be based on the sequencing homework, the journal club presentation, and the final exam. Each component will count for 1/3 of the total overall grade. For those signed up for 3 credits, the letter grade earned for the lecture will count 2/3 toward the total grade and 1/3 will come from the laboratory grade. Academic misconduct of any kind will result in a failing course grade and other possible disciplinary actions.

Final exam: There will be a final exam. It will be on Thursday, 05/14/2015, from 05:05 PM—07:05 PM.

Below is a tentative schedule of topics:
<table>
<thead>
<tr>
<th>Lecture Date</th>
<th>Week</th>
<th>Lecture Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/21/15</td>
<td>1</td>
<td>Course overview/Mass Spectrometry</td>
</tr>
<tr>
<td>1/26/15</td>
<td>2</td>
<td>Mass Analyzers</td>
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<tr>
<td>1/28/15</td>
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<td>Mass Analyzers</td>
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<tr>
<td>2/02/15</td>
<td>3</td>
<td>Ionization</td>
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<td>2/04/15</td>
<td>3</td>
<td>Ionization</td>
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<tr>
<td>2/9/15</td>
<td>4</td>
<td>Chromatography (LC-MS)</td>
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<td>2/11/15</td>
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<td>Chromatography (LC-MS)</td>
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<td>2/16/15</td>
<td>5</td>
<td>Tandem MS – peptides</td>
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<td>2/18/15</td>
<td>5</td>
<td>Automated Spectral Sequencing</td>
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<td>2/23/15</td>
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<td>Automated Spectral Sequencing</td>
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<tr>
<td>2/25/15</td>
<td>6</td>
<td>Mass Spectral Interpretation</td>
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<td>3/02/15</td>
<td>7</td>
<td>Mass Spectral Interpretation</td>
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<td>3/04/15</td>
<td>7</td>
<td>Post-translational Modifications, an overview</td>
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<tr>
<td>3/09/15</td>
<td>8</td>
<td>Top-down analyses of PTMs</td>
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<td>3/11/15</td>
<td>8</td>
<td>Post-translational Modifications – enrichment</td>
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<tr>
<td>3/16/15</td>
<td>9</td>
<td>Post-translational Modifications – case studies</td>
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<tr>
<td>3/18/15</td>
<td>9</td>
<td>Protein Quantification -- SILAC, Chemical Labels, etc.</td>
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<td>10</td>
<td><strong>SPRING BREAK</strong></td>
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<tr>
<td>3/30/2015</td>
<td>11</td>
<td>Protein Quantification -- Isobaric Tagging</td>
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<tr>
<td>4/01/15</td>
<td>11</td>
<td>Protein Quantification -- Label-free, Spectral Counting</td>
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<tr>
<td>4/06/15</td>
<td>12</td>
<td>Targeted Proteomics</td>
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<tr>
<td>4/08/15</td>
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<td>Protein-protein Interaction Mapping</td>
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<td>4/13/15</td>
<td>13</td>
<td>Journal Club Presentations</td>
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<td>4/15/15</td>
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<td>Journal Club Presentations</td>
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<tr>
<td>5/14/15</td>
<td>5:05 PM</td>
<td><strong>Final Exam</strong></td>
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</tbody>
</table>
Date: December 19, 2014

To: Deans, School/College Academic Planners, Department Chairs, Department Administrators, Directors of Graduate Study, Graduate Studies Committee Chairs, Graduate Program Coordinators, University Council on Academic Affairs and Assessment (UCAAA)

From: Wendy Crone, Interim Dean, Graduate School

Cc: Graduate Faculty Executive Committee (GFEC) members, Mo Bischof, Eileen Callahan, Daniel Kleinman, Kelly Haslam, Regina Lowery, Jennifer Martin, Jocelyn Milner

RE: Graduate Learning Goals Related to the Higher Learning Commission’s (HLC) Criteria for Institutional Accreditation

A new policy on graduate level learning goals was approved by the Graduate Faculty Executive Committee (GFEC) on November 14, 2014 and discussed by the University Academic Planning Council (UAPC) on December 18, 2014.

Although prompted by the Higher Learning Commission’s (HLC) institutional accreditation criteria, this new policy change is one of the many ways in which our campus ensures the integrity of its degrees and the quality of the student experience. The HLC is the federally recognized accrediting agency of degree-granting higher education organizations for the North Central region of the U.S. Compliance with federal requirements by both institutions and the HLC is necessary to ensure that institutions accredited by the HLC are eligible for federal financial aid. A Core Component in the Criteria for Accreditation is “The institution articulates and differentiates learning goals for its undergraduate, graduate, post-baccalaureate, post-graduate, and certificate programs.”

A Graduate Faculty Executive Committee (GFEC) Subcommittee was charged in February of 2014 to recommend to the GFEC a set of overarching learning goals for graduate, post-baccalaureate, post-graduate, and graduate certificate programs. After an extensive process of consultation and refinement, GFEC unanimously approved the overarching learning goals in its November meeting.

A GFEC Subcommittee was charged in February of 2014 to recommend to the GFEC a set of overarching learning goals for graduate, post-baccalaureate, post-graduate, and graduate certificate programs. This GFEC Subcommittee engaged in a deliberative process for ten months and involved several iterations of input from School/College Academic Planners, Department Chairs, Directors of Graduate Study, Graduate Studies Committee Chairs. The subcommittee appreciated the engagement of individuals and programs in helping to refine the learning goals.

Graduate Learning Goals Approved by GFEC (see attachment)
The graduate learning goals were created to have broad applicability and to define a minimum set of expectations for our campus within all graduate programs. They are intended to encompass the breadth of graduate degrees offered, including professional and research-based degrees, and were designed to provide basic expectations while being flexible enough to apply to all graduate programs across the disciplines for the master’s degree, doctoral degree, graduate certificates, and capstone certificates.
Timeline for Programs to Articulate Graduate Learning Goals (see attachment)

The collection of learning goals will be coordinated between the Graduate School and Provost’s Office during the Spring of 2015 with a due date of July 1, 2015. The graduate level learning goals submitted by programs will be included in the program entry of the 2016-18 Graduate Catalog with a final opportunity for programs to edit learning goals for the Graduate Catalog in September 2015.

The process of adopting program-specific learning goals should occur through the executive body or curriculum body of each graduate program for program-level formal approval. The following is provided as guidance:

*Programs may adopt the overarching set of learning goals locally and use them in their program’s graduate catalog entry. Individual programs will want to make refinements and additions in order to make them most meaningful and useful for their program. Although verbatim adoption is not an expectation, program level learning goals should meet the spirit of the overarching learning goals and not have major omissions.*

*For those programs with established learning goals (particularly those with program-level accrediting bodies), a review of their learning goals in light of the overarching goals should take place to identify if there are overarching learning goals not previously articulated. Any additions should be formally adopted and included with existing learning goals.*

*For programs without prior learning goals, we suggest that the program begin with the overarching set and make refinements that are program specific. There are many "or" statements such where it is expected that a graduate program would choose to streamline the wording. (e.g. “Creates research, scholarship or performance that makes a substantive contribution.” might be refined to “Creates research that makes a substantive contribution.”) There may also be desirable discipline specific language, as well as areas of learning which are not applicable to all programs where a program may want to make additions (for instance, learning goals associated with teaching, leadership, teamwork, entrepreneurialism, mentorship, or professionalism). After these refinements and additions are made and formally adopted, the program’s learning goals should be submitted.*

Future Examination and Plans for Graduate Learning Goals

Neither GFEC nor the Graduate School will vet the program level learning goals to be included in the Graduate Catalog this summer. GFEC will continue to review learning goals as part of the regular review process for graduate programs that occurs in the 5th year for new programs and every 10 years for established graduate programs.

However, if programs are interested in having assistance in refining or developing learning goals for their programs, the Graduate School will be working with the Provost’s Office to provide assistance through workshops which are being planned for Spring 2015. More information about these workshops will be provided in the next few months.

Directors of Graduate Study and Graduate Studies Committee Chairs are strongly encouraged to attend the January DGS meeting where graduate level learning goals will be an agenda item for the meeting: Thursday January 15, 2015, 10:00-12:00, 2241 Chamberlin Hall.
### Overarching Learning Goals Approved by GFEC 11/14/14

<table>
<thead>
<tr>
<th></th>
<th><strong>Master’s Level</strong></th>
<th><strong>Doctoral Level</strong></th>
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</thead>
<tbody>
<tr>
<td><strong>Introduction</strong></td>
<td>All UW-Madison students enter the Graduate School’s graduate programs with at least a bachelor’s degree. Graduates obtaining a master’s degree from the Graduate School, whether it be a research-based, project-based, or course-work-only master’s degree, are expected to achieve the following learning goals by the end of their degree work.</td>
<td>Regardless of whether an individual is awarded a master’s degree, the doctoral level learning goals are inclusive of the master’s level learning goals. Research-based doctoral programs culminate in a dissertation. Professional doctoral programs culminate in a project or performance. Additionally, students receiving a doctoral degree from the Graduate School in both research-based and professional programs are expected to achieve the following learning goals by the end of their degree work.</td>
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| **Knowledge and Skills**  | • Articulates, critiques, or elaborates the theories, research methods, and approaches to inquiry or schools of practice in the field of study.  
• Identifies sources and assembles evidence pertaining to questions or challenges in the field of study.  
• Demonstrates understanding of the primary field of study in a historical, social, or global context.  
• Selects and/or utilizes the most appropriate methodologies and practices.  
• Evaluates or synthesizes information pertaining to questions or challenges in the field of study.  
• Communicates clearly in ways appropriate to the field of study. | • Articulates research problems, potentials, and limits with respect to theory, knowledge, or practice within the field of study.  
• Formulates ideas, concepts, designs, and/or techniques beyond the current boundaries of knowledge within the field of study.  
• Creates research, scholarship, or performance that makes a substantive contribution.  
• Demonstrates breadth within their learning experiences.  
• Advances contributions of the field of study to society.  
• Communicates complex ideas in a clear and understandable manner. |
| **Professional Conduct**  | • Recognizes and applies principles of ethical and professional conduct. | • Fosters ethical and professional conduct. |

### Certificates

A certificate program is a designated set of for-credit courses focused upon a specific topic or theme. The certificates are distinguished by the enrollment status of students pursuing the certificates: **Graduate Certificates** are earned by students enrolled in a graduate program and **Capstone Certificates** are earned by post-baccalaureate University Special (non-degree) students.

Students receiving a **Graduate Certificate** are expected to achieve the learning goals at the master’s or doctoral level and the following: Demonstrates an understanding of a body of knowledge focused on a specific topic outside or as an extension of the major field of study.

Students receiving a **Capstone Certificate** are expected to achieve the following: Articulates the key concepts, methodologies, or theoretical concepts in a specialized area of study.
**GFEC Learning Goals Implementation Timeline**

**Spring 2014**
Develop drafts of overarching (university-level) learning goals for master’s programs, doctoral programs, graduate certificates, and capstone certificates. Solicit feedback on drafts from key stakeholders (School/College Academic Planners, Department Chairs, Directors of Graduate Study, and Graduate Studies Committee Chairs), UCAA members, and GFEC.

**Summer 2014 - Early-September 2014**
Revise drafts of overarching learning goals.

**Mid-September 2014**
Solicit feedback on revised drafts from School/College Academic Planners, Department Chairs, Directors of Graduate Study, and Graduate Studies Committee Chairs. Include proposed framework for development of program-level learning goals. Share expected timeline that seeks to have program-level learning goals included in the next Graduate Catalog and coordinates with Provost Office assessment expectations.

**Mid-October 2014**
Finalize overarching learning goals.
Work with Provost’s Office to develop information about current assessment methods utilized by programs.

**November 2014**
Present and adopt overarching learning outcomes, framework for development of program-level learning goals, and program-level implementation timeline to GFEC.

**December 2014**
Announce GFEC action to School/College Academic Planners, Department Chairs, Directors of Graduate Study, Graduate Studies Committee Chairs.
Work with Provost’s Office to provide information about current assessment methods utilized by programs.

**January – July 2015**
Coordinate with Provost’s Office on assessment plan development with connections to program-level learning goals. Coordinate with Provost’s Office to provide workshops to programs.

**April 2015**
Reiterate deadlines associated with GFEC action to School/College Academic Planners, Department Chairs, Directors of Graduate Study, and Graduate Studies Committee Chairs.

**July 2015**
Deadline for programs to submit learning goals.

**September 2015**
Final opportunity for programs to edit learning goals for the Graduate Catalog to the Graduate School. Deadline for programs to submit Assessment Plan and Annual Assessment Report to Provost’s Office.
Learning Goals of the Integrated Program in Biochemistry
(as required by the Higher Learning Commission)
Revised 10-10-14; 03-11-15

Comments from the GFEC
1. Program-level goals are consistent with the draft overarching outcomes and [IPiB] is on the right track.
2. Outcomes [are] not defined separately at the masters and doctoral levels.
3. Skills could be framed to focus more on student learning rather than on [IPiB] activities.

Introduction

The goal of the program is to train the next generation of biochemists who will be well prepared to address 21st Century challenges in science. The training, which culminates in a research-based dissertation, is expected to qualify its graduates for leadership positions in industry, government, and academic settings. By the end of their degree work, IPiB students are expected to achieve the following learning goals:

Knowledge and Skills

- Gain a broad understanding of the biochemical principles that underlie all biological processes
- Become aware of the current limitations of the state of understanding of this discipline and the strategies that are required to advance the field.
- Formulate and design new approaches that extend and apply biochemical principles beyond their current boundaries.
- Conduct independent research using a diverse breadth of biochemical processes
- Think critically to address research challenges using a broad range of the theories, research methods, and approaches to scientific inquiry
- Collaborate with investigators within the program, university, and beyond since current and future advances in the biomolecular sciences demand interdisciplinary skills
- Develop communications skills that enable the articulation of research to fellow scientists and non-scientists
- Explore career development opportunities in industry, government and academia to realize professional goals and paths
- Develop teaching and mentoring skills in both lecture and laboratory settings

Professional Conduct

Foster professional and ethical conduct in the sciences, including but not limited to: exposition of the scientific method; ethical design of experimental protocols; reproducibility in science; professional behavior in industrial, government, and academic settings; documentation of
scientific results; communication to other scientists and the public; peer review; and confidentiality.

Note: Minimum of three learning goals must relate to one or more of the following Essential Learning Outcomes (ELOs):

**Essential Learning Outcome(s) for Goal #1**
- [ ] Knowledge of Human Cultures and the Physical and Natural World
- [ ] Intellectual and Practical Skills
- [ ] Personal and Social Responsibility
- [ ] Integrative Learning
- [ ] None applicable for this learning goal