UNIVERSITY OF MINNESOTA
BOARD OF REGENTS

Academic and Student Affairs Committee

Thursday, February 13, 2014
10:00 a.m. - 12:00 p.m.

600 McNamara Alumni Center, East Committee Room

Committee Members
Patricia Simmons, Chair
Linda Cohen, Vice Chair
Thomas Devine
David Larson
Peggy Lucas
Abdul Omari

Student Representatives
Meghan Mason
Joelle Stangler

AGENDA

1. Board of Regents Policy: Commercialization of Intellectual Property Rights - Action - B. Herman (pp. 2-9)

2. Annual Graduate Education Planning & Update - K. Hanson/S. Kohlstedt (pp. 10-29)

3. Research & Interdisciplinarity - K. Hanson/B. Herman/T. Ames/T. Ebner/C. Shively Slotterback (pp. 30-32)

4. Undergraduate Tuition & Financial Aid Philosophy - K. Hanson (pp. 33-37)

5. Consent Report - Review/Action - K. Hanson (pp. 38-43)
Academic and Student Affairs Committee                                      February 13, 2014

Agenda Item:  Board of Regents Policy: Commercialization of Intellectual Property Rights

☐ review     ☐ review/action     ☒ action     ☐ discussion

Presenters:  Vice President Brian Herman

Purpose:

☒ policy     ☐ background/context     ☐ oversight     ☐ strategic positioning

To review proposed amendments to Board of Regents Policy: Commercialization of Intellectual Property Rights.

Policy Section II, Subd. 4 and Section V, Subd, 1(b) have been revised. The proposed policy amendment is intended to exclude from University ownership intellectual property (IP) created by undergraduate or graduate students during course work taken for credit as long as the resources used were routinely made available to all students in the course; the IP was not based upon pre-existing University-owned IP nor is a University employee or outside individual a co-inventor; and the class or project was not supported by a third party or corporation or government grant or contract.

The policy was last reviewed and amended December 10, 2010. Current policy revisions have been reviewed and accepted by the appropriate faculty and administrative governance groups.

Outline of Key Points/Policy Issues:

The intent of the recommended policy amendment is to clarify that the University owns intellectual property that results from research activity while the student owns IP that results from academic or educational activity.

• Our basic agreement with students is to provide an education, for which they pay tuition. Experiential programs and courses offer real-world problem-solving opportunities for students:
  o Students should own/control the results of their educational efforts, including any IP generated;
  o For the U to reach in and claim ownership of coursework IP changes this fundamental relationship.

• Companies contribute real-world problems and projects for experiential courses and understandably value the solutions:
  o Companies want to work with students who they may someday hire, and also expect to own IP generated;
Faculty are protective of relationships with companies providing projects, and want the companies to have access to the IP without having to license it from the university.

- Faculty teaching experiential courses must:
  - Inform students of the requirement to transfer ownership of inventions to a sponsor at the beginning of the semester;
  - Provide alternative projects to those where students would otherwise be compelled to assign IP to a company providing a project.

The Office of Technology Commercialization (OTC) has and will continue to provide advice and guidance to students who wonder how to commercialize their coursework IP. One vehicle OTC will use is the Minnesota Innovation Corps (MIN-Corps), a cross-disciplinary program established to educate and support students, post-docs and faculty who are interested in transitioning their STEM ideas, devices, processes or other intellectual activities into the marketplace.

OTC will fully assist with protecting and marketing IP of students who wish to assign their ownership rights to the university, in the same manner as IP arising from research activity.

**Background Information:**

Prior to 2007, the BOR policy on commercialization of intellectual property specifically excluded IP created within a course taken for credit: “Intellectual property created solely for the purpose of satisfying a course requirement is owned by the creator …”

In December 2007, the policy was amended to capture ownership of IP created within a course taken for credit: “The University shall be the sole owner of [IP] … created by students or post-doctoral or other fellows in the course of their academic duties …”

With this amendment, the institution will be in the company of other Big Ten, land-grant universities who allow students to own IP created in courses taken for credit (e.g. Illinois, Penn State, Ohio State, Purdue).

**President's Recommendation for Action:**

The President supports this policy change and recommends adoption of the proposed amendments.
COMMERCIALIZATION OF INTELLECTUAL PROPERTY RIGHTS

SECTION I. SCOPE.

This policy governs patents and the ownership, commercialization, and dissemination of intellectual property rights in technology created at the University of Minnesota (University).

SECTION II. EXCLUSIONS.

Subd. 1. Copyright. With the exception of the commercialization of intellectual property rights in software owned by the University, this policy shall not apply to the ownership or use of copyrighted works that are governed by other Board of Regents (Board) or administrative policies.

Subd. 2. Trademarks. With the exception of intellectual property rights in University trademarks that identify University-owned plant varieties or that are commercialized in conjunction with other technology covered by this policy, this policy shall not apply to the use of University-owned or licensed names, trademarks, or service marks.

Subd. 3. Equity Interests. This policy shall not apply (a) to the University's acquisition of equity securities in a publicly held company or appointment of a voting member to the governing body of a publicly held company or (b) to the acquisition of equity securities of a publicly held company by a University employee.

Subd. 4. Student-Created Technology. This policy shall not apply to technology created or reduced to practice by University students to fulfill a University course requirement unless (i) the development of the technology was funded, in whole or in part, by an external sponsor; (ii) the technology was an improvement of an invention in which the University holds the intellectual property rights; (iii) a University faculty member or other University employee was a co-inventor of the technology; or (iv) substantial University resources were used to develop or reduce the technology to practice. This policy does not prohibit the University from conditioning participation in a University course or other University-sponsored activity on an individual's assigning to or licensing the University the rights in technology created or reduced to practice in the course or activity.

SECTION III. DEFINITIONS.

Subd. 1. Inventor. Inventor shall mean a University employee, student, or postdoctoral or other fellow who invents technology.
Subd. 2. Technology. Technology shall mean the following items and their related intellectual property rights:

(a) a discovery or invention, patentable or not;
(b) software owned by the University; and
(c) trademarks owned by the University that identify University-owned or University-licensed plant varieties or that are commercialized in conjunction with other technology covered by this policy.

Subd. 3. University Official. University official shall mean a person defined as a University official in Board of Regents Policy: Institutional Conflict of Interest and any person covered by administrative policies or procedures implementing that policy.

Subd. 4. Controlling Equity Interest. Controlling equity interest shall mean the University’s ownership of equity securities of a licensee sufficient to grant the University the power to direct the licensee’s management. The University shall be considered to have a controlling equity interest in a licensee under this policy if:

(a) the University owns a majority of the voting equity interest in the licensee; or
(b) the University has the power to appoint a majority of the voting members of the governing body of the licensee.

Subd. 5. Licensee. Licensee shall mean a for-profit, privately held company to which the University licenses or assigns intellectual property rights in University-owned technology.

Subd. 6. Net Income. Net income shall mean the gross monetary payments the University receives in consideration for granting rights in the technology less (a) the University’s out-of-pocket expenditures (including legal fees) directly attributable to protecting, developing, and transferring that technology and (b) a fifteen percent administrative fee of the gross monetary payments to help defray the costs associated with operating the Office of Technology Commercialization. Fees, charges, and other monetary payments made to the University to compensate it for administering intellectual property agreements or seeking and maintaining intellectual property protection for technology shall not be considered monetary payments under this policy.

SECTION IV. GUIDING PRINCIPLES.

The following principles shall guide the University in commercializing technology:

(a) The primary mission of University research is the generation and dissemination of knowledge, and academic freedom requires that faculty, staff, and students be free to pursue areas of research and study without regard to the potential for the creation of inventions.
(b) The development and dissemination of new knowledge, technology, or scientific procedures resulting in innovative products, practices, and ideas is a valued
supplement to scholarly publications.

(c) University commercialization activities shall not inhibit the ability of University researchers to pursue research of their choosing, to publish results of their work in a timely manner, and otherwise to exercise their rights of academic freedom.

(d) Licensing University-owned technology to private companies promotes the University’s interest in successful commercial development of University-owned intellectual property. In some circumstances, a non-commercial method of distribution, such as open source sharing of technology or licensing for humanitarian needs, may be the preferred method of providing public access to, and use of, University discoveries.

(e) The University may own a controlling equity interest and assert control over the direction and management of a licensee only when doing so (1) enhances the potential for the licensee to successfully develop and make available to the public useful products and services and (2) increases the potential value of the University's investment.

SECTION V. OWNERSHIP OF TECHNOLOGY.

Subd. 1. Ownership. The University shall be the sole owner of all rights, titles, and interests (including intellectual property rights) in and to technology:

(a) created by University employees in the course of their employment;
(b) created by students or post-doctoral or other fellows in the course of their academic duties or appointments; or
(c)(b) created by individuals, including employees, students, or post-doctoral or other fellows, using substantial University resources.

Subd. 2. Assignment of Intellectual Property Rights. Inventors assign to the University all rights, titles, and interests, if any, in and to technology owned by the University.

Subd. 3. Ownership Under Third Party Agreements. Ownership of and rights in technology are subject to the terms of written agreements between the University and third parties under which the University, solely or in collaboration, conducts research or other activities. Under these agreements, the University may claim, disclaim, or otherwise grant or accept rights in technology as appropriate and desirable.

Subd. 4. Waiver of University Rights. Consistent with administrative policies and procedures, the president or delegate is authorized to waive or otherwise assign to an inventor all or part of the University’s rights, titles, or interests in or to a technology created by the inventor.

Subd. 5. Rights to Publish. At the University’s request, inventors shall delay the publication or public disclosure of any descriptions of technology for a brief period of time to permit the registration, application for, and protection of the intellectual property
rights in the technology.

**Subd. 6. Rights to Third Parties.** The president or delegate may assign, license, or otherwise grant a third party the right to use technology royalty-free or in exchange for cash, stock or other securities, or other tangible or intangible property.

**SECTION VI. DISTRIBUTION OF INCOME FROM COMMERCIALIZATION OF TECHNOLOGY.**

The University shall share with inventors the net income from the commercialization of technology as follows:

(a) thirty-three and one-third percent to the inventors;
(b) twenty-five and one-third percent to the department, division, or center that supported the creation of the technology, to be spent in support of the inventor’s research or directly related University work;
(c) eight percent to the collegiate unit that supported the creation of the technology; and
(d) thirty-three and one-third percent to the Office of the Vice President for Research, to be spent in support of the University’s technology commercialization activities and to fund University research and scholarly activity.

The president or delegate may change the distribution to collegiate units or to departments, divisions, or centers if such amounts become disproportionate compared to their budgets or if there have been administrative organizational changes, including an inventor’s movement among units or departments. The president or delegate also may distribute to inventors a portion of the net income from commercialization of technology in the form of a bonus or salary supplement.

**SECTION VII. EQUITY, CONTROLLING INTERESTS, AND ASSISTANCE WITH COMMERCIALIZATION.**

**Subd. 1. Disposition of Equity Securities.** The University shall sell the equity securities acquired under this policy as soon as prudent and in strict compliance with all applicable federal and state laws. The cash proceeds derived from the sale of equity securities shall be distributed in the same proportions as income derived from technology.

**Subd. 2. Acquiring a Controlling Equity Interest in the Commercialization of Technology.** In acquiring, as part of a transaction to commercialize technology, a majority or other equity interest in a company that grants the University the power to direct the company’s management or the power to appoint a majority of the voting members of the governing body of the company, the following prohibitions shall apply:

(a) Except as permitted under other applicable Board policies, the University shall
not make a cash investment in, lend money to, or guarantee the obligations of the company; and
(b) University officials shall not purchase or invest, directly or indirectly, in the equity securities of a licensee as long as the licensee is privately held, except that University employees who are not University officials may purchase or invest, directly or indirectly, in such equity securities if permitted under Board of Regents Policy: Individual Business or Financial Conflict of Interest and other applicable Board policies.

Subd. 3. Appointment of Voting Members to Governing Bodies as Part of the Commercialization of Technology. The president shall appoint voting members to the governing bodies of privately held companies commercializing technology. A University-appointed member shall:

(a) be a University employee with demonstrated experience and competence in technology commercialization and in the creation, management, and capitalization of privately held companies; and
(b) be reasonably insured against liability arising from service on the governing bodies of such companies.

A University-appointed member:

(a) shall not accept compensation for service as a member of the governing body of the company, but may accept reasonable reimbursement for service-related expenses;
(b) shall comply with University policies and procedures;
(c) shall discharge fiduciary and contractual responsibilities to the company, subject to the performance of University duties as provided in Board and other University policy and procedures; and
(d) shall resign as a voting member of the governing body of the company prior to the company’s becoming publicly held, unless the president or delegate approves an extension of the appointment.

Subd. 4. Use of Technology Commercialization Income to Assist Commercialization by Non-University Entities. The president or delegate may authorize non-University entities to use income the University earns from technology commercialization to directly encourage, promote, or assist with the commercialization and development of University intellectual property. The commitment of financial support for particular projects shall not exceed $250,000, consistent with Board of Regents Policy: Reservation and Delegation of Authority.

SECTION VIII. REPORTING.

The president or delegate shall report annually to the Board on University activities
under this policy.

**SECTION IX. IMPLEMENTATION.**

The president or delegate shall implement this policy and maintain appropriate policies and procedures to administer it.

Academic and Student Affairs Committee   February 13, 2014

**Agenda Item:** Annual Graduate Education Planning and Update

- [ ] review
- [ ] review/action
- [ ] action
- [x] discussion

**Presenters:** Senior Vice President/Provost Karen Hanson
Acting Vice Provost & Dean of Graduate Education Sally Gregory Kohlstedt

**Purpose:**

- [ ] policy
- [x] background/context
- [ ] oversight
- [ ] strategic positioning

To update and engage the committee in a discussion of the configuration and the value of graduate education to the University with highlights on enrollment trends, funding patterns, program assessment initiatives, and strategies to advance graduate education.

**Outline of Key Points/Policy Issues:**

Overview of current national opportunities and challenges in relationship to post-baccalaureate education at the University with attention to the implementation of program statements on learning goals, outcomes, and assessment as well as the role of the Graduate School.

**Background Information:**

Discussions relating to graduate education include: Graduate Education Update and Trends Overview (May 9, 2013); Focus on Graduate Education (May 13, 2010); Size, Scope, and Mission of the University of Minnesota: Interim Report on Enrollment Management Strategies (December 9, 2010).
Graduate Education Updates

Sally Gregory Kohlstedt
Acting Vice Provost and Dean of Graduate Education

February 13, 2014

I. Overview and National Patterns

A. Definitions and categories

The University of Minnesota offers one of the broadest arrays of post-baccalaureate education in the nation. Post-baccalaureate programs are those that require a bachelor’s degree as one of the admissions criteria. This level of education is often referred to as “graduate education” and, as such, can include professional degrees (law, medicine, and engineering) as well as hybrid degrees that involve professional training and research (Doctor of Education or Doctor of Physical Therapy) alongside the research degrees (Master of Science, Master of Arts, and Doctor of Philosophy degrees.)

Different terminologies and algorithms are being used to categorize these programs. At our University, the different categories: Undergraduates; First-Professionals; Departmental Master’s; and Graduate, have some distinct relationships to policy, data and record systems, budgetary, and other matters. In recent years, the National Center for Educational Statistics has instituted five degree categories for purposes of national data collection and reporting including Bachelor’s, Post-baccalaureate certificate, Master’s, Post-master’s certificate, and Doctor’s (research/scholarship, professional practice, and other subcategories).

To avoid confusion, the term post-baccalaureate will be used throughout this document because we are often using comparisons with national data that are encompassing. When the data are more narrowly focused as, for example, on the research and scholarly degrees (Doctor of Philosophy, Master of Science, Master of Arts, etc.) we will make that clear.

B. National trends

As a public institution, we have the obligation to educate and train the workforce that supports our state and nation. According to data from the U.S. Bureau of Labor Statistics, the greatest projected growth in employment from 2012 to 2022 is for those credentialed at the post-baccalaureate level (see Figure 1). This is in tandem with the overall growth in graduate enrollment and degrees across most broad fields of study for the past decade as reported by the Council of Graduate Schools (CGS), (see Figure 2). In terms of total post-baccalaureate enrollment, there has been an increase of 33%, from 2.2 million in fall 2000 to 2.8 million in fall 2009 according to data from the National Center for Education Statistics (NCES). It is predicted that post-baccalaureate enrollment will continue to grow to 3.5 million by fall 2021, representing an 18% growth while the undergraduate enrollment is expected to grow by 12% during the same time period (NCES).
Figure 1. Projected Growth in Employment by Level of Educational Attainment, 2012 – 2022

- Doctoral or professional degree: 16%
- Master's degree: 18%
- Bachelor's degree: 12%
- Associate's degree: 18%
- Postsecondary non-degree award: 16%
- Some college, no degree: 11%
- High school diploma or equivalent: 8%
- Less than high school: 11%
- Total, all occupations: 11%

Source: Bureau of Labor Statistics

Figure 2. Average Annual Percentage Change in Total Graduate Enrollment by Broad Field, Fall 2002 to Fall 2012

- Total: 1.8%
- Arts & Humanities: 0.6%
- Biological & Agric. Sci.: 3.5%
- Business: 2.4%
- Education: -0.5%
- Engineering: 2.6%
- Health Sciences: 8.2%
- Math & Computer Sci.: 2.0%
- Physical & Earth Sci.: 2.0%
- Public Admin. & Svcs.: 2.4%
- Social & Behavioral Sci.: 1.8%
- Other Fields: -0.8%

Note: These data do not include enrollment in the professional doctoral degree programs such as J.D., M.D., Pharm.D., D.D.S., D.V.M. etc.

Source: CGS/GRE Survey of Graduate Enrollment and Degrees
Among graduate students enrolled in fall 2012, about three-quarters (74.1%) were in programs leading to a master’s degree or a graduate certificate and about one-quarters (25.9%) were in doctoral programs. Collectively, three broad fields (education, business, and health sciences) accounted for 56.6% of all master’s degree or graduate certificate programs.

Compared to undergraduate students, post-baccalaureate students have a more varied pattern of enrollment. Gap years between completing the bachelor’s degree and matriculating into a graduate degree program are common. Some post-baccalaureate students work fulltime while pursuing a graduate degree, especially in fields such as education and business, while others attend school part-time and/or intermittently (see Table 1).

Table 1. Total Graduate Enrollment by Gender, Attendance Status, and Broad Field, Fall 2012

<table>
<thead>
<tr>
<th>Broad Field</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Full-Time</td>
<td>Part-Time</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>435,488</td>
<td>282,409</td>
</tr>
<tr>
<td>Arts and Humanities</td>
<td>31,968</td>
<td>13,038</td>
</tr>
<tr>
<td>Biological and Agricultural Sciences</td>
<td>30,681</td>
<td>8,362</td>
</tr>
<tr>
<td>Business</td>
<td>67,170</td>
<td>64,503</td>
</tr>
<tr>
<td>Education</td>
<td>29,528</td>
<td>45,307</td>
</tr>
<tr>
<td>Engineering</td>
<td>72,006</td>
<td>31,969</td>
</tr>
<tr>
<td>Health Sciences</td>
<td>27,402</td>
<td>14,927</td>
</tr>
<tr>
<td>Mathematics and Computer Sciences</td>
<td>32,168</td>
<td>18,967</td>
</tr>
<tr>
<td>Physical and Earth Sciences</td>
<td>26,720</td>
<td>5,159</td>
</tr>
<tr>
<td>Public Administration and Services</td>
<td>10,094</td>
<td>7,634</td>
</tr>
<tr>
<td>Social and Behavioral Sciences</td>
<td>34,429</td>
<td>15,781</td>
</tr>
<tr>
<td>Other Fields</td>
<td>22,052</td>
<td>16,062</td>
</tr>
</tbody>
</table>

Note: Because not all institutions responded to all items, details may not sum to totals. Percentages are based on total of known attendance status.

Source: CGS/GRE Survey of Graduate Enrollment and Degrees

Another notable trend is the increase in international students (temporary residents) at the post-baccalaureate level (see Figure 3). In the education and other fields categories, the growth in international student enrollment has been significantly greater than that of domestic students. This reflects the continuing view of the United States as the leader in advanced education and professional training at the post-baccalaureate level.
## II. Significance of Post-baccalaureate Education

The value of graduate education goes well beyond meeting the employment needs of the United States and globally. The graduate education enterprise has been a critical part of the research engine that energizes knowledge growth. Faculty, graduate students, post-doctoral associates, and research staff often work in teams to tackle large projects and pursue big ideas. Well-trained graduate students are the “seed corn” for future strength in all areas of research, including the sciences, social sciences, humanities, and technology, in which our nation has led over the past century.

Graduate students teach in research universities in a variety of ways to complement faculty, instructors, and other educational personnel. Many graduate teaching assistants are responsible for entire sections of the courses or assist with grading and evaluation of undergraduate work.
Some advanced graduate students have the opportunity to conduct specialized courses. In addition, graduate students often work closely with undergraduates involved in UROP projects and provide a valuable informal advising link with near peers as they meet with students for office hours or do tutoring for departments.

Graduate students’ initiatives for outreach and public service are evident during their educational years with many actively working in the larger community, including local and regional volunteer work, prolific international research leading to policy recommendations, and engagement with professional leadership at the national level.

In all these areas, post-baccalaureate students are in training for the significant leadership roles that they are likely to achieve in their subsequent careers. Evidence indicates that post-baccalaureate degree recipients are particularly likely to be in leadership positions not only in academia at all levels but also across all major fields, in hospitals and local non-profit arts organizations as well as multi-national corporations. Moreover, the reputation of a research university depends in a very significant way on the overall quality of its graduate programs; graduate students are a critical component in the evaluations done by national agencies concerned with research universities, including the National Research Council and the Association of American Universities. Graduate education is an engine for advancement in research, teaching, and community engagement.

III. Funding Patterns for Post-baccalaureate Education

A. Funding Sources

Considerable contemporary discussion concerns the availability and level of funding for post-baccalaureate education. Funding sources and patterns vary widely by area of study and degree type. They can be grouped into two dominant categories – sponsored and self-supported.

Sponsored support, such as graduate assistantships, fellowships, traineeships, etc., can range from the full support provided to many Ph.D. students (a stipend plus tuition coverage as well as heavily subsidized health benefits) to smaller grants that help offset tuition costs. Both assistantships and traineeships provide students with teaching or research experiences and are payment for services rendered. Fellowships that are not tied to any work or service expectation are typically used as a recruitment tool for the top-tier applicants.

Self-supported includes those who are working, taking out loans or being sponsored in some way by an employer. This is much more common for those pursuing a master’s or professional practice doctoral degree and for part-time students. Many students rely on a combination of these sources over the course of their graduate studies.

B. Debt Level

High debt load is a national issue and its impact varies somewhat by degree category and by the length of time required for degrees. Data suggest that it is particularly high for masters and professional practice students such as J.D., M.D., and D.D.S. Statistics from the National Science
Foundation showed that most (52%) research doctorate graduates in 2009-10 carried no education-related debt. Still, even in this category, a little over 6% of the graduates have combined undergraduate and graduate debt of over $90,000 (see Figure 4).

**Figure 4. Education-related Debt of Doctorate Recipients, 2009-10**

According to College Board’s Trends in Student Aid 2012, the amount of federal loans for post-baccalaureate students increased from $14.8 billion to $36.8 billion \(^1\) from 2001-02 to 2011-12 (see Figure 5). Over the same period, post-baccalaureate students received 28% more in grant aid per FTE student (after adjusting for inflation) but they borrowed 68% more in federal loans (see Figure 6).

\(^{1}\)Revised data from The College Board’s Trends in Student Aid 2013 report.
Figure 5. Graduate Student Aid by Source and Type (in Billions), 2011-2012

Note: Percentages may not sum to 100 and components may not sum to total because of rounding. See Notes and Sources for a list of programs included in Federal Grant Programs. Nonfederal loans are not included because they involve no subsidy and are not actually a form of financial aid.

Source: College Board Trends in Student Aid 2012

Figure 6. Average Aid per Full-Time Equivalent (FTE) Graduate Student in 2011 Dollars, 1996-1997 to 2011-2012

Note: Loans reported here include only federal loans to students and parents. Includes enrollment in all post-baccalaureate degree programs (Ph.D., J.D., M.D., D.D.S., D.V.M., etc.) Grants from all sources are included.

Source: College Board Trends in Student Aid 2012
Another distinct difference between undergraduate and graduate education is in the funding pattern. Nationally, and in contrast to graduate students, the amount of grant aid received by undergraduate students per FTE is greater than the amount of federal loans they borrowed (see Figure 7).

**Figure 7. Average Aid per Full-Time Equivalent (FTE) Undergraduate Student in 2011 Dollars, 1996-1997 to 2011-2012**


Source: College Board Trends in Student Aid 2012

In addition to federal loans, post-baccalaureate students often rely on other types of loans to meet the costs of advanced and professional education thus, bringing their total loan debt to much higher levels than those shown in Figure 6.

More recent data from the National Postsecondary Student Aid Study: 2012 Graduate Students provide a glimpse of the debt burden of post-baccalaureate students (see Table 2). About 28% of students with a professional practice degree had accumulated a debt load of $46,200 or more.

For the state of Minnesota, concerns from the policymakers regarding the high rates of students taking out loans to finance their postsecondary education prompted the Minnesota Office of Higher Education to conduct a survey of institutions to gather data on cumulative education-related loan debt for the 2009-2010 degree recipients. Not surprisingly, results show that professional practice degree recipients had the highest level of loan debt (see Figure 8). It is important to note that the Minnesota Office of Higher Education defines cumulative student loan debt as “the total debt incurred while the student attends the institution. Debt incurred from previous institutions is not included…In addition, students with no debt are not included in the data.” Therefore, data from the Minnesota study cannot be directly compared with those from the National Postsecondary Student Aid Study.
Table 2. Proportion of Post-Baccalaureate Students with Education-Related Debt, by Degree Type and Amount, 2011-2012

<table>
<thead>
<tr>
<th>Total Loan Debt (Cumulative)</th>
<th>$0 (%)</th>
<th>$1 - $21,499 (%)</th>
<th>$21,500 - $46,199 (%)</th>
<th>$46,200 - $80,999 (%)</th>
<th>$81,000 or more (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduate Degree Type</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Certificate²</td>
<td>13.6</td>
<td>7.1</td>
<td>9.4</td>
<td>19.1</td>
<td>50.8</td>
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<tr>
<td>Master’s</td>
<td>32.2</td>
<td>18.2</td>
<td>19.0</td>
<td>18.2</td>
<td>12.4</td>
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<tr>
<td>Doctoral</td>
<td>41.8</td>
<td>18.0</td>
<td>17.1</td>
<td>12.9</td>
<td>10.2</td>
</tr>
<tr>
<td>Professional Practice</td>
<td>46.2</td>
<td>14.2</td>
<td>11.9</td>
<td>10.4</td>
<td>17.3</td>
</tr>
</tbody>
</table>

Source: National Postsecondary Student Aid Study: 2012 Graduate Students

Figure 8. Average Cumulative Debt Among Minnesota Graduates, by Degree Type, 2009-2010

Note: Professional practice degrees include degrees in dentistry, law, medicine, pharmacy and veterinary medicine.

Source: Minnesota Office of Higher Education, Cumulative Debt Survey

IV. Graduate Education at the University of Minnesota

A. Enrollment and Degrees

Compared to national trends, the graduate enrollment at the University of Minnesota has shown slightly smaller overall increase than data reported (fall 2002 to fall 2012) by the Council of

² Certificates include post-baccalaureate and post-master’s certificate programs
Graduate Schools (see Figure 9). While the Arts & Humanities field has demonstrated an average enrollment growth per year of 0.6% over a decade at the national level, the University has experienced an average annual decline of 1.6%. In the “other fields” category, which includes programs such as Social Work, Urban and Regional Planning, and Architecture, the University did not follow the national declining trend. For the physical & earth sciences field, our data closely aligned with national pattern.

Figure 9. Average Annual Percentage Change in Total Graduate Enrollment at the University of Minnesota, Fall 2002 to Fall 2012

<table>
<thead>
<tr>
<th>Field</th>
<th>National data</th>
<th>U of MN data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td></td>
<td>1.8%</td>
</tr>
<tr>
<td>Arts &amp; Humanities</td>
<td>-1.6%</td>
<td>0.6%</td>
</tr>
<tr>
<td>Biological &amp; Agric. Sci.</td>
<td>0.9%</td>
<td>3.5%</td>
</tr>
<tr>
<td>Business</td>
<td>0.6%</td>
<td>2.4%</td>
</tr>
<tr>
<td>Education</td>
<td>-0.5%</td>
<td>-0.2%</td>
</tr>
<tr>
<td>Engineering</td>
<td></td>
<td>2.6%</td>
</tr>
<tr>
<td>Health Sciences</td>
<td>1.2%</td>
<td>8.2%</td>
</tr>
<tr>
<td>Math &amp; Computer Sci.</td>
<td>2.0%</td>
<td>2.9%</td>
</tr>
<tr>
<td>Physical &amp; Earth Sci.</td>
<td>2.0%</td>
<td>2.1%</td>
</tr>
<tr>
<td>Public Admin. &amp; Svs.</td>
<td>2.4%</td>
<td>2.4%</td>
</tr>
<tr>
<td>Social &amp; Behavioral Sci.</td>
<td>1.8%</td>
<td>1.1%</td>
</tr>
<tr>
<td>Other Fields</td>
<td>-0.8%</td>
<td>1.7%</td>
</tr>
</tbody>
</table>

Sources: CGS/GRE Survey of Graduate Enrollment and Degrees; The Graduate School, University of Minnesota

In terms of graduate student diversity, the University has experienced the fastest annualized growth in the enrollment of American Indian/Alaska Native students across aggregated broad fields, far outpacing the national data reported by the Council of Graduate Schools (see Figure 10). In the field of education, the growth in all key underrepresented minority (URM) groups has exceeded the national averages. The rate of growth for Hispanic/Latino and Black/African American students has lagged behind national trend in business, social sciences & humanities, and natural sciences & engineering.
Figure 10. Average Annual Percentage Change in Total Graduate Enrollment by Broad Field and Race/Ethnicity, Fall 2002 to Fall 2012

<table>
<thead>
<tr>
<th>BUSINESS</th>
<th>White</th>
<th>Hispanic/Latino</th>
<th>Black/African American</th>
<th>Asian/Pacific Islander</th>
<th>Am. Indian / Alaska Native</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>0.7%</td>
<td>2.8%</td>
<td>4.4%</td>
<td>3.6%</td>
<td>4.2%</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>2.8%</td>
<td>7.4%</td>
<td>4.4%</td>
<td>3.6%</td>
<td>4.2%</td>
</tr>
<tr>
<td>Black/African American</td>
<td>4.4%</td>
<td>10.4%</td>
<td>3.6%</td>
<td>4.1%</td>
<td>4.2%</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>3.6%</td>
<td>7.2%</td>
<td>4.1%</td>
<td>4.2%</td>
<td>4.2%</td>
</tr>
<tr>
<td>Am. Indian / Alaska Native</td>
<td>4.2%</td>
<td>19.8%</td>
<td>4.2%</td>
<td>4.2%</td>
<td>4.2%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EDUCAITON</th>
<th>White</th>
<th>Hispanic/Latino</th>
<th>Black/African American</th>
<th>Asian/Pacific Islander</th>
<th>Am. Indian / Alaska Native</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>-0.4%</td>
<td>-0.9%</td>
<td>3.6%</td>
<td>2.4%</td>
<td>3.6%</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>3.6%</td>
<td>10.3%</td>
<td>3.6%</td>
<td>7.2%</td>
<td>12.4%</td>
</tr>
<tr>
<td>Black/African American</td>
<td>3.6%</td>
<td>4.4%</td>
<td>2.4%</td>
<td>7.2%</td>
<td>12.4%</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>2.4%</td>
<td>7.2%</td>
<td>3.6%</td>
<td>12.4%</td>
<td>12.4%</td>
</tr>
<tr>
<td>Am. Indian / Alaska Native</td>
<td>3.6%</td>
<td>12.4%</td>
<td>3.6%</td>
<td>12.4%</td>
<td>12.4%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SOCIAL SCIENCES &amp; HUMANITIES</th>
<th>White</th>
<th>Hispanic/Latino</th>
<th>Black/African American</th>
<th>Asian/Pacific Islander</th>
<th>Am. Indian / Alaska Native</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>0.7%</td>
<td>2.3%</td>
<td>0.7%</td>
<td>0.7%</td>
<td>0.3%</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>2.3%</td>
<td>6.1%</td>
<td>2.3%</td>
<td>6.1%</td>
<td>6.1%</td>
</tr>
<tr>
<td>Black/African American</td>
<td>0.7%</td>
<td>2.8%</td>
<td>0.7%</td>
<td>2.8%</td>
<td>2.8%</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>0.7%</td>
<td>2.8%</td>
<td>0.7%</td>
<td>2.8%</td>
<td>2.8%</td>
</tr>
<tr>
<td>Am. Indian / Alaska Native</td>
<td>0.3%</td>
<td>16.2%</td>
<td>0.3%</td>
<td>16.2%</td>
<td>16.2%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NATURAL SCIENCES &amp; ENGINEERING</th>
<th>White</th>
<th>Hispanic/Latino</th>
<th>Black/African American</th>
<th>Asian/Pacific Islander</th>
<th>Am. Indian / Alaska Native</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>2.6%</td>
<td>6.8%</td>
<td>3.3%</td>
<td>4.1%</td>
<td>2.3%</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>2.6%</td>
<td>6.8%</td>
<td>3.3%</td>
<td>4.1%</td>
<td>2.3%</td>
</tr>
<tr>
<td>Black/African American</td>
<td>2.1%</td>
<td>6.8%</td>
<td>3.3%</td>
<td>4.1%</td>
<td>2.3%</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>2.1%</td>
<td>6.8%</td>
<td>3.3%</td>
<td>4.1%</td>
<td>2.3%</td>
</tr>
<tr>
<td>Am. Indian / Alaska Native</td>
<td>2.1%</td>
<td>6.8%</td>
<td>3.3%</td>
<td>4.1%</td>
<td>2.3%</td>
</tr>
</tbody>
</table>

Sources: CGS/GRE Survey of Graduate Enrollment and Degrees; The Graduate School, University of Minnesota
Because of our overall size and comprehensive nature of our post-baccalaureate programs, comparisons are complex. Even as our total enrollment number has declined slightly in recent years, we continue to award higher numbers of master’s and doctoral degrees than the average of our 10 peer institutions (see Figures 11 and 12).

**Figure 11. Total Number of Master's Degrees Awarded in Comparison of Total Post-baccalaureate Enrollment**

![Figure 11. Total Number of Master's Degrees Awarded in Comparison of Total Post-baccalaureate Enrollment](image)

<table>
<thead>
<tr>
<th>Year</th>
<th>UMTC-MastersDegrees</th>
<th>PeerAvg-MastDegrees</th>
<th>UMTC-FallGradEnrol</th>
<th>PeerAvg-FallGradEnrol</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007-08</td>
<td>3,188</td>
<td>2,531</td>
<td>18,589</td>
<td>12,556</td>
</tr>
<tr>
<td>2008-09</td>
<td>3,115</td>
<td>2,573</td>
<td>18,583</td>
<td>11,966</td>
</tr>
<tr>
<td>2009-10</td>
<td>3,419</td>
<td>2,703</td>
<td>18,423</td>
<td>12,509</td>
</tr>
<tr>
<td>2010-11</td>
<td>3,379</td>
<td>2,818</td>
<td>18,114</td>
<td>12,522</td>
</tr>
<tr>
<td>2011-12</td>
<td>3,413</td>
<td>2,907</td>
<td>17,745</td>
<td>12,556</td>
</tr>
</tbody>
</table>

*Source: The Graduate School, University of Minnesota*
Figure 12. Total Number of Doctoral Degrees Awarded in Comparison of Total Post-baccalaureate Enrollment

Note: Peer institutions’ data obtained from IPEDS; includes enrollment in the professional doctoral degree programs such as J.D., M.D., Pharm.D., D.D.S., D.V.M. etc.  

Source: The Graduate School, University of Minnesota

B. Tuition and Debt

With the diverse range of post-baccalaureate programs that we offer at the University, the tuition rate also varies greatly. All Ph.D. programs use the general graduate tuition rate but most master’s, professional practice doctoral, and post-baccalaureate certificate programs have unique rates. Programs can also differ in the use of tuition bands, with some having no tuition band at all (straight per-credit rates or a single per term rate.) Some programs do not have differential rates between resident and non-resident; some others guarantee tuition rate for two or three years.

For the current academic year (2013-14), master’s programs’ tuition rate ranges from $7,163 (Master of Dental Therapy) to $26,250 (Master of Business Administration) per semester (resident rate only.) For doctoral programs’, including professional practice degrees, tuition rate ranges from $7,504 (general graduate rate) to $19,020 (Juris Doctor) per semester (full-time, resident rate only.) Post-baccalaureate certificate programs’ tuition rate ranges from $7,356 (College of Education and Human Development) to $14,436 (Public Affairs Leadership and Policy Issues on Work and Pay) per semester (12 credits, resident rate only.) This variation is in many cases a reflection of market forces.
Consistent with national pattern, University post-baccalaureate students received significantly less grant aid than the tuition costs. Therefore, they also borrowed a much higher amount of federal loans than our undergraduate students (see Figures 13 and 14).

**Figure 13. University of Minnesota – Twin Cities Average Aid per Full-Time Equivalent (FTE) Post-Baccalaureate Student in 2012 Dollars, AY 2001 – 2013**

```
$1,467 $2,000 $2,551 $3,000 $3,500 $4,000 $4,500 $5,000 $5,500 $6,000 $6,500 $7,000 $7,500 $8,000
```

**Figure 14. University of Minnesota – Twin Cities Average Aid per Full-Time Equivalent (FTE) Undergraduate Student in 2012 Dollars, AY 2001 – 2013**

```
$1,000 $2,000 $3,000 $4,000 $5,000 $6,000 $7,000 $8,000 $9,000 $10,000 $11,000 $12,000 $13,000 $14,000
```

Source: Office of Institutional Research, University of Minnesota
C. Funding Sources and Patterns

The biggest source of funding support for our post-baccalaureate students comes in the forms of graduate assistantships, fellowships, and traineeships that are primarily offered to Ph.D. students. In the last few years, there is evidence that the level of graduate student funding support has experienced some erosion. Total stipend expenditures have declined (see Table 3); clearly, either the level of support has decreased per student or fewer students are being supported, or both. A similar pattern can be observed for the tuition waivers for graduate assistants where there is a lower total amount provided in tuition waivers even as tuition rate rises (see Table 4). Total expenditures for graduate assistantships (including fringe costs) have not kept pace with the increases in tuition and health fringe rates (see Figure 15). All these data combined illustrate the reality that the overall availability of funding support for our graduate students has been dwindling. This erosion can limit our ability to provide competitive funding packages to recruit and retain outstanding students through degree completion.

Table 3. Stipend expenditures for Graduate Assistants, Fellows and Trainees from FY09 to FY13

<table>
<thead>
<tr>
<th></th>
<th>FY09</th>
<th>FY10</th>
<th>FY11</th>
<th>FY12</th>
<th>FY13</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduate Assistants</td>
<td>$80,534,566</td>
<td>$80,044,247</td>
<td>$80,233,992</td>
<td>$78,473,793</td>
<td>$78,991,821</td>
<td>-1.9%</td>
</tr>
<tr>
<td>Fellows &amp; Trainees</td>
<td>$22,076,667</td>
<td>$21,463,756</td>
<td>$22,510,454</td>
<td>$20,906,900</td>
<td>$21,525,917</td>
<td>-2.5%</td>
</tr>
</tbody>
</table>

Source: Office of Institutional Research, University of Minnesota

Table 4. Amount of Tuition Waivers for Graduate Assistants from FY09 to FY13

<table>
<thead>
<tr>
<th></th>
<th>FY09</th>
<th>FY10</th>
<th>FY11</th>
<th>FY12</th>
<th>FY13</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>$19,602,499</td>
<td>$18,724,617</td>
<td>$17,300,931</td>
<td>$18,172,521</td>
<td>$18,703,455</td>
<td></td>
<td>-4.6%</td>
</tr>
</tbody>
</table>

Note: 98% of the tuition waivers were “nonresident waivers”, charging non-resident graduate assistants the resident tuition rate.

Source: Office of Institutional Research, University of Minnesota
Another trend that has emerged is the reduced amount of O&M funding being spent on graduate assistantships while the amounts from other funding sources have increased (see Table 5). With the budgetary challenges at the federal level such as sequestration, and the volatility in the return on investment for fellowship endowments, heavier reliance on these sources of funding may mean more instability in the coming years (the short-term increase in sponsored funds related in part to the stimulus bill while the endowed funds have fluctuated with the market).

Table 5. Total funding for Graduate Assistants, Fellows and Trainees Based on Expenditures from FY09 to FY13

<table>
<thead>
<tr>
<th></th>
<th>FY09</th>
<th>FY10</th>
<th>FY11</th>
<th>FY12</th>
<th>FY13</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>O&amp;M</td>
<td>$79,469,164</td>
<td>$73,183,417</td>
<td>$76,123,646</td>
<td>$77,661,581</td>
<td>$77,640,828</td>
<td>-2.3%</td>
</tr>
<tr>
<td>Sponsored</td>
<td>$53,861,440</td>
<td>$58,051,303</td>
<td>$62,476,228</td>
<td>$59,606,642</td>
<td>$57,445,165</td>
<td>+6.7%</td>
</tr>
<tr>
<td>Other</td>
<td>$22,731,387</td>
<td>$27,552,637</td>
<td>$22,545,978</td>
<td>$23,099,737</td>
<td>$26,176,348</td>
<td>+15.2%</td>
</tr>
<tr>
<td>Total</td>
<td>$156,061,991</td>
<td>$158,787,356</td>
<td>$161,145,852</td>
<td>$160,367,960</td>
<td>$161,262,341</td>
<td>+3.3%</td>
</tr>
</tbody>
</table>

Note: Amounts listed do not include fringe expenditures for fellows and trainees as they are paid separately and not via payroll.

*Source: Office of Institutional Research, University of Minnesota*
Making strategic decisions in the face of these individual and institutional challenges requires careful assessment, and the University is positioned to evaluate the quality and outcomes of our post-baccalaureate education. The Graduate School is attentive to these matters and working to advise university constituencies on the value and quality of the programs within its purview.

D. Assessing and Advancing Graduate Education as a Strength of the University

The quality of our graduate education enterprise has a definitive impact on the reputation of our institution and the intellectual leadership in our state and beyond. It is imperative that we continue to be vigilant in assessing and advancing our academic programs. Despite the breath of academic offerings, there are some standard measurements that help us evaluate post-baccalaureate degree programs, providing that we are sensitive to the field variations. For the Quality Metrics Allocation Plan, a set of nationally recognized “quality metrics” is regularly reviewed and individual programs can document the particular ways they compare to similar programs across the country, as well as to others on campus within their colleges.

The quality metrics include an assessment of time to degree, attrition patterns, and completion rates. Comparative time to degree data are derived from the Association of American Universities Data Exchange (AAUDE) for those institutions that submit to the database. Complementing the metrics data, we invite short, two-page narratives from each graduate program (Ph.D., M.S., M.A., and M.F.A degrees) that comment on these data as well as on other important elements not readily measured, such as the recent and longer term placement of graduate students.

Following the metrics and narratives review in the fall of 2013, conversation with college deans are currently underway with the goal of helping collegiate leadership to identify strengths and weaknesses that could play a role in planning.

In addition to the quality metrics review, the Graduate School is collaborating with a team of evaluation experts at the College of Education and Human Development to pilot and promote the Graduate Review and Improvement Process (GRIP) project. The Graduate School is also part of the provostal team that has developed a set of guiding principles and an action plan for the coordinated external academic program review of individual departments. The goal is to assist departmental self studies by providing appropriate data and engaging them in assessing their aspirations and achievements with a team of external reviewers.

Parallel efforts to identify and articulate graduate student learning outcomes have been ongoing since fall 2012. There are currently ten pilot programs adopting two different approaches to identifying goals, developing strategies to achieve those goals, and establishing a plan to measure the outcomes. Early results from these pilot programs reveal several broad common goals in graduate education, including expert knowledge, research skills, and communication abilities. This spring, the Graduate School will post on its website guidelines, useful templates, and additional information on learning goals.

Looking ahead, we will remain attentive to national trends, program quality and aspirations, and changing student needs and interests.
E. Strategies and Projects to Advance Graduate Education at the University of Minnesota

It is important to note the long-standing role of the Graduate School in ensuring the quality of graduate education at the University. Since its creation in the early 20th century (1905), the Graduate School has been attending to the needs of graduate students as well as providing oversight and scrutiny to maintain high standards. The leadership and staff of the Graduate School work with colleges and departments to provide the support they and their students need to be high achievers and prepared for the next steps in their careers in a variety of initiatives and programming.

In the fall of 2013, the Graduate School developed vision, mission, and values statements (http://www.grad.umn.edu/about/vmv). Our immediate actions are shaped by the mission statement:

*The mission of the Graduate School at the University of Minnesota is to ensure quality in graduate education, advocate for the academic and professional development of graduate students, advance intellectual communication and scholarship across disciplines, and promote cultural diversity, scholarly integrity, and inclusivity.*

In support of that mission, the Graduate School is currently focusing on:

- Assessing, evaluating, and advising academic programs so that they adhere to policy and make continuous advancement.
- Offering fellowships and grants that are appropriately all-university such as institutional matches for external training grant applications, bridging funds for high prestige national fellowships that provide no or inadequate tuition support, as well as doctoral dissertation fellowship grants, interdisciplinary fellowships, and research travel funds.
- Coordinating and sponsoring a range of academic and professional development programs and workshops to facilitate post-baccalaureate students in ways not available in every college. These include dissertation writing groups, planning for non-traditional careers or those that cut across disciplines, working through difficult situations, finding creative ways to present research findings to the public, creating a budget that is reasonable and responsible, exploring new career possibilities and more.
- Initiating and facilitating interdisciplinarity activities that often require negotiation across colleges or seed funding not readily available in other ways.
- Supporting diversity-related initiatives, particularly by working closely with the Office for Diversity in Graduate Education and leading the on campus effort as part of a National Science Foundation funded project through the CIC to mentor under-represented post-doctoral candidates in the STEM fields.
- Providing high quality and efficient admissions application system, evaluating credentials of international students, maintaining up-to-date information on national testing products and other information essential to maintaining standards.
- Identifying national and local issues as well as emerging trends in post-baccalaureate education to help guide planning and programming in addressing and responding to them. For example, the spring 2014 Graduate and Professional Education Assembly will be on “Building Digital Capacity in Graduate Education.”
The most recent restructuring of our graduate education enterprise, launched in 2009, has so far yielded mixed results. There have been some improved efficiencies, particularly in the area of automated forms and processes. However, several key concerns remain about funding support for graduate education; oversight and maintenance of standards and policy compliance; and continued debate about what constitutes a “graduate” program both on campus and at the national level.

In early 2013, President Kaler called for “Graduate School 2.0” to assess both the successes and remaining challenges of the restructuring effort and to identify ways to further strengthen graduate education at the University. The Faculty Consultative Committee and the Provost formed and charged the Special Committee of Graduate Education in summer 2013 to evaluate specific aspects of the graduate education enterprise and to develop a set of recommendations for improvement. The Committee, chaired by Professor Scott Lanyon, submitted its final report to the Provost and the Chair of the Faculty Consultative Committee at the end of fall semester and it will be a topic of discussion this spring (http://www.academic.umn.edu/provost/graduate/2013_Special_Committee_on_GraduateEducation-Final_Report.pdf).

V. Challenges Facing Graduate Education for Further Discussion

1. If you agree that post-baccalaureate/graduate education is at the heart of our institution, how can we better reach the public where its significance may not be immediately/readily evident?

2. Do you think that it is important to do more to “cross pollinate” among the various component parts of our post-baccalaureate programs? This means not only interdisciplinarity for graduate education but also enhanced collaboration and visibility within those diverse and critical elements?

3. What are additional strategies to address recruitment of under-represented students as well as the quality of their experience and their successful graduation?

   Note: During the 2010-2011 academic year, 24.9% of all Master’s degrees awarded (730,635) and 23.7% of all doctorates awarded (163,765) were to underrepresented minorities (URM). At the University of Minnesota, 11% of the Master’s degrees awarded and 10% of the doctorates awarded were to URM.

4. What are likely to be the opportunities and needs of the state, nation, and indeed the global community that graduate education should be positioned to address in the coming decades? How can we prepare our graduate students to be not only engaged as scholars and successful in their careers but also leaders in their fields and communities?
Academic and Student Affairs Committee

February 13, 2014

Agenda Item: Research & Interdisciplinarity

☐ review       ☐ review/action       ☐ action       ☒ discussion

Presenters: Senior Vice President/Provost Karen Hanson
Brian Herman, Vice President for Research
Trevor Ames, Professor and Dean, College of Veterinary Medicine
Timothy J. Ebner, Professor and Head, Department of Neuroscience
Carissa Schively Slotterback, Associate Professor and Chair, Regional Policy and Planning area, Humphrey School of Public Affairs

Purpose:

☐ policy       ☒ background/context       ☐ oversight       ☐ strategic positioning

To provide the committee with an overview of the University’s efforts to foster interdisciplinary research and highlight select interdisciplinary research projects.

Outline of Key Points/Policy Issues:

The University of Minnesota, with its broad range of scholars and researchers across many colleges, schools, and disciplines, has built tremendous strength in interdisciplinary research. However, some obstacles to such collaborative work persist, which Provost Hanson and Vice President Herman are committed to addressing.

To demonstrate the importance of interdisciplinary research and teaching, three faculty members will showcase the impact and promise of current projects in the areas of food, neuromodulation, and resilient communities.

Background Information:

June 12, 2008: Update: Interdisciplinary Initiatives, Educational Planning and Policy Committee

December 7, 2006: Interdisciplinary Initiatives Report, Educational Planning and Policy Committee
In the October 2013 issue of *Scientific American*\(^1\), Subra Suresh—president of Carnegie Mellon University, former director of the National Science Foundation, and founding chair of the Global Research Council—writes:

> Collaboration among people from many different disciplines and nations—sharing goals and resources—is becoming the new normal … Diversity in research teams accelerates innovation, perhaps because researchers with different backgrounds see the same problems through different lenses, and together they can correct one another’s hidden biases.

As one of the most comprehensive institutions in the country, the University of Minnesota is well positioned to be a leader in tackling many of the complex issues of our society. Interdisciplinary research is not new to the University of Minnesota. Our scholars and researchers regularly collaborate with other universities, with industry, and with government and non-profit agencies across the country and around the world. Much of the University’s strength lies in the depth and breadth of the many disciplines we support, and in our long history of support for interdisciplinary scholarship.

In the late 1990s, the University identified five interdisciplinary priorities: agricultural research and outreach, design, digital technology, molecular and cellular biology, and new media studies. In addition to the University’s internal reallocations to support research, teaching, and outreach activities in these areas, the 1998 state legislature appropriated a total of $18,625,000 for these initiatives.

The strategic positioning process begun in 2004 launched new efforts to transform policies and practices that might impede faculty and student mobility across disciplines. These efforts included the launch of the President’s 21st Century Interdisciplinary Conference Series; revision of the “Creating and Evaluating Interdisciplinary Centers” administrative policy, which established a category for university-wide centers such as the Institute for Advanced Study, the Institute on the Environment, and the Institute for Translational Neuroscience; and a broadening of the university’s promotion and tenure criteria to include areas of inquiry beyond disciplinary boundaries.

In 2006, the Provost’s Interdisciplinary Team—comprising the Vice President for Research, Vice Provost and Dean of Graduate Education, Vice Provost and Dean for Undergraduate

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\(^1\) See Suresh, Subra.”The Power of Many Minds.” *Scientific American* October 2013: 60.
Education, Vice Provost for Faculty and Academic Affairs, and a faculty representative named by the Faculty Consultative Committee—was formed and charged with:

• Overseeing planning, development, and implementation of major interdisciplinary initiatives.
• Conducting reviews of university-wide interdisciplinary centers and institutes.
• Encouraging affiliations to foster new interdisciplinary programs.
• Monitoring interdisciplinary system-wide activities.
• Developing institutional policies and procedures.
• Developing priorities for fundraising.
• Monitoring central investments in interdisciplinary activities.

Since its inception, the team has supported a number of activities, including:

• Creation of an online listing\(^2\) of the nearly 300 interdisciplinary programs, centers, and institutes across the University. The directory is used by on- and off-campus parties seeking to learn about, locate, and access these interdisciplinary entities and to identify opportunities for collaboration among those with similar research, teaching, and public engagement interests.
• Minnesota Futures Research Grants, designed to bring together faculty who might not otherwise be able to collaborate on interdisciplinary research. The program, which provides up to $250,000 over two years, has had great success in helping researchers to attract subsequent external grants.
• Interdisciplinary Proposal Preparation support of up to $2,500 for the administrative tasks of preparing interdisciplinary proposals that involve more than one principal investigator.
• Interdisciplinary Doctoral Fellowships, which provide a unique opportunity for talented PhD students whose research and scholarship engages multiple disciplines. Fellowship recipients study for one academic year with the support of a mentor (a mentor in addition to the student’s adviser) and are hosted by one of the University’s interdisciplinary research centers or institutes.

The environment and opportunities for interdisciplinary teaching and research shift over time, however, so Provost Hanson and Vice President Herman have this year been reconsidering how best to support interdisciplinary work. Both all-campus and research office strategic planning are concerned with this issue, and those efforts—along with the MnDrive partnership and the planning of our system campuses—will frame the work of our faculty, staff, and students for the next several years.

\(^2\) See http://www1.umn.edu/twincities/centers/index.html
Agenda Item: Undergraduate Tuition and Financial Aid Philosophy

Presenters: Senior Vice President/Provost Karen Hanson

Purpose:

Outline of Key Points/Policy Issues:

In December 2013, Undergraduate Tuition and Financial Aid Philosophy for the Twin Cities campus was the focus of discussions at the Academic and Student Affairs Committee meeting as well as a Board of Regents work session.

These sessions provided the University administration an opportunity to present the current tuition philosophy and related financial aid strategies, and to hear Board members’ perspectives on this important topic. The attached memo summarizes the discussion from both the committee meeting and the work session and addresses the key questions and issues that arose.

Background Information:

December 13, 2013: Undergraduate Tuition and Financial Aid Philosophy, Board of Regents Work Session

December 12, 2013: Undergraduate Tuition and Financial Aid Philosophy, Academic and Student Affairs Committee
TO: Members of the Board of Regents’ Academic and Student Affairs Committee

FROM: Karen Hanson, Senior Vice President and Provost

DATE: January 31, 2014

RE: U of M Twin Cities Tuition Philosophy and Financial Aid

Summary of the December meeting

The December BOR Work Session on Twin Cities Campus Undergraduate Tuition Philosophy and Financial Aid provided the University of Minnesota administration an opportunity to discuss the current tuition philosophy and related financial aid strategies, and to hear Board member’s perspectives on this important topic. In this memo we summarize the discussion (from both the Academic and Student Affairs Committee meeting and the full Board work session) that was scheduled as part of the Board’s 2013-14 workplan. In particular, we address some of the key questions and issues that arose in these discussions.

Some of the important topics discussed by the Board included: controlling the cost of education as a Board priority, the determination of the non-resident tuition rate, concern over the rapid rise of indebtedness after the fourth year, the need to account for the full cost of attendance in establishing policy, the importance of investing in student support (to improve graduation rates), the role of endowment in providing financial aid, and the need for both need-based and merit-based strategies.

Current board policy on tuition and fees (Board of Regents Policy on Tuition and Fees), establishes the basic principles for assessing, collecting, and managing tuition and fees, provides a solid base for future discussions about tuition. The guiding principles of this policy include:

• Shared responsibility by the student, U of M, and the State of Minnesota
• Support access, retention, and timely progress toward degree
• Take into account the competitive environment, benefits to students, social needs, and level of state appropriation.

Likewise, the Office of the Provost has established a set of principles for financial aid that guide our current financial aid decisions and investments. These include:

• The University will fund and administer a comprehensive financial aid program, including merit-based aid and need-based aid programs.
• The University’s financial aid strategies will be linked to University and state goals and priorities. These strategies will be evaluated regularly, and adjusted as necessary, to improve effectiveness of spending as it relates to institutional and state goals.
• In support of retention and timely graduation, multi-year financial aid packages (four years for freshmen, two years for transfer students) will be offered whenever possible. Financial aid will be targeted to degree-seeking students, and continuation of aid for a student will depend upon the student’s making satisfactory and timely academic progress toward a degree.
• Financial aid packages will be tailored to each student’s circumstances and may include a variety of forms of need-based and/or merit-based aid from numerous funding sources including, but not limited to, University funds, federal and state aid programs, external scholarships and donor-directed funds.
• The University of Minnesota financial aid package for an individual student will not exceed the federal cost of attendance for any given year.
• The University is committed to providing constituents with accurate and clear information about college costs, financial aid, and debt burdens. The University will provide responsive service to its students and their families.
• As a public institution, the University supports access for qualified students, and its review of applicants for undergraduate admissions is need-blind. A student’s ability to pay is not a factor in determining admissibility.

Principles Specific to Need-Based Aid:
• Financial aid strategies and tuition strategies will be closely aligned.
• Institutional need-based financial aid will be a critical component in maintaining access for many promising students who otherwise would not be able to attend the University.
• As a public land-grant institution, the University will focus its need-based aid on Minnesota residents.
• The largest amounts of University of Minnesota need-based aid will be provided to the students with the greatest need as determined by the FAFSA, and based on the Expected Family Contribution.
• Need-based financial aid will be provided to families with incomes up to the “middle income” level. This level will be reviewed and defined annually.

Principles Specific to Merit-Based Aid:
• A major focus of merit-based aid will be to attract high-achieving students to the University and support their retention and timely graduation.
• As a public land-grant institution, the University will award the majority of freshman academic merit-based scholarships to Minnesota residents, but will also use merit aid to attract and retain excellent non-resident students.
• Scholarship awards will be leveraged to enhance the diversity of the freshman class, with diversity broadly defined to include geographic, ethnic, and socioeconomic differences, as well as special talents.
• The University may award merit-based financial aid to support its signature strengths and increase enrollments in priority areas.

The December work session and board discussion largely affirmed current policy and philosophy concerning undergraduate tuition philosophy and financial aid. However, Board members did focus on two major issues: Long-term Tuition Philosophy / Financial Aid Strategies and Administrative Plans Moving Forward.
**Long-term Tuition Philosophy and Financial Aid Strategies**

- Tuition philosophy and financial aid policy are strongly related to enrollment management and are established, in part, to achieve our enrollment goals while also balancing access for all qualified students.
- The Minnesota resident tuition will be kept as low as possible, given budgetary considerations which are largely driven by State of Minnesota investment in the University.
- The non-resident tuition will be based on the average of the U of M peer group.
- International student tuition will be the same as non-resident tuition, with additional fees applied that reflect the additional costs of educating and supporting international students.
- The Office of Student Finance will continue to fully package students with aid (including loans) up to the cost-of-attendance.
- The University will continue to maintain a balance between merit-based aid and need-based aid strategies. Need-based resources should be sufficient to enable financial access for all qualified students. Merit-based resources should enable the University to maintain competitiveness in attracting the best and brightest students. Many students receive a mixture of need- and merit-based aid.
- The University will continue to support through state funds the U of M Promise program, which provides need-based financial aid for low- and middle-income Minnesota undergraduate students.
- Given adequate resources, the University of Minnesota will continue to cover full tuition and fees for those students with zero-Expected Family Contribution (EFC), through a combination of Pell, State Grant, and U of M Promise funds.
- The University will continue to offer competitive financial aid packages to attract the very brightest students.
- The University will maintain and enhance the financial literacy programs at all levels with a focus on careful management of finances and the reduction of student debt.

**Administrative planning for accessibility and affordability-Twin Cities Campus Undergraduates**

The University is committed to ensuring that the U of M is both accessible and affordable to qualified Minnesota students. On the Twin Cities campus, this will involve a multi-pronged approach focused on: enhancing student success in order to increase timely graduation, better messaging to students on the importance of debt management and loan behavior, and securing additional scholarship resources.

Plans to accomplish our goals include:

- **Student Debt:** The Office of the Provost will continue to carefully monitor the debt loads of students at all income levels. The work of the Financial Aid Advisory Committee will
continue to focus on utilizing all possible resources (gift aid, work study, loans) in packaging. The Provost’s office will continue to work closely with the University of Minnesota Foundation in order to identify and secure new scholarship funds for both need-based and merit-based programs and to ensure that all scholarship funds are fully utilized.

Student Support: The Office of the Provost will continue to enhance student support programs for academic advising, career counseling, and student engagement. Messaging about financial literacy and timely graduation will be better harmonized among central offices, the Colleges, and their academic departments. Where appropriate, the University will continue to develop new programs, such as the recently-developed, “Retaining all Our Students (RaOS)”, to provide both academic and financial support.

Financial Aid Scorecard: A student financial aid scorecard will be developed to provide all students, on a semi-yearly basis, information on financial aid received, loans and potential payback schedules, debt loads, and degree progress. It will encourage students with excessive debt loads to seek assistance from the Office of Student Finance.

Accountability: A full tuition and financial aid report will be provided to the Board of Regents each December.

In summary, the robust discussion among the Board of Regents and the U of M administration affirmed the Board policy on tuition and financial aid, as well as the direction of new plans moving forward.
Agenda Item: Consent Report

☐ review   ☒ review/action   ☐ action   ☐ discussion

Presenters: Senior Vice President/Provost Karen Hanson

Purpose:

☐ policy   ☐ background/context   ☒ oversight   ☐ strategic positioning

To seek Board approval of new academic programs and program additions, program deletions and discontinuations, and/or program changes, as outlined below.

Outline of Key Points/Policy Issues:

I. Request for Approval of New Academic Programs

- College of Liberal Arts (Twin Cities campus)—Create B.A. degree in Biblical Studies
- College of Liberal Arts (Twin Cities campus)—Create B.A. degree in Classics
- Law School (Twin Cities campus)—Create Master of Science Patent Law (M.S.P.L.) degree
- Medical School (Twin Cities campus)—Create Fellowship in Integrated Orthopaedic Surgery/Neurosurgery Spine

II. Request for Approval of Changed Academic Programs

- College of Education and Human Development (Twin Cities campus)—Create sub-plan in Interdisciplinary Studies within the M.Ed. degree in Curriculum and Instruction
- College of Education and Human Development (Twin Cities campus)—Create sub-plan in Parent Education Specialty Teaching License within the M.Ed. degree in Family Education and deliver this sub-plan online
- College of Liberal Arts (Twin Cities campus)—Create sub-plans in Classical Civilization, Greek, Greek and Latin, and Latin within the B.A. degree in Classics
- College of Liberal Arts (Twin Cities campus)—Create sub-plans in Organization, Business, or Non-Profit, Health Care and Careers, Policy Analysis, and Quantitative Emphasis within the B.S. degree in Sociology
• College of Science and Engineering (Twin Cities campus)—Create Plan C option within the M.S. degree in Aerospace Engineering and Mechanics

III. Request for Approval of Discontinued Academic Programs

• College of Liberal Arts (Twin Cities campus)—Discontinue B.A. degree in Classical Civilization
• College of Liberal Arts (Twin Cities campus)—Discontinue B.A. degree in Greek
• College of Liberal Arts (Twin Cities campus)—Discontinue B.A. degree in Latin
• College of Science and Engineering (Twin Cities campus)—Discontinue M.Aero.E. degree in Aerospace Engineering and Mechanics

Background Information:

This report appears as a regular item on the Academic and Student Affairs Committee agenda. Academic program proposal review and approval is governed by University of Minnesota Policy 2.2.4: Review of Proposals for New, Changed, and Discontinued Academic Programs. Approval by the Board of Regents is required for the establishment of new academic programs; addition of formal tracks and of new sites for existing academic programs; discontinuance/merger of existing programs; and changes in program titles/degree designation.

President's Recommendation for Action:

The President recommends approval of the academic program proposals detailed in the Consent Report.
Consent Report

I. Request for Approval of New Academic Programs

- **College of Liberal Arts (Twin Cities campus)—Create B.A. degree in Biblical Studies**

  The College of Liberal Arts on the Twin Cities campus requests approval to create a Bachelor of Arts (B.A.) degree in Biblical Studies, effective Spring 2014. The proposed degree examines ancient Mediterranean religion via the study of languages and historical contexts. The interdisciplinary program covers a diverse range of religious traditions and texts. This proposal results from the evaluation and reconfiguration of B.A. degrees in Classical Civilization, Greek and Latin (see below). This program leverages existing courses and resources.

- **College of Liberal Arts (Twin Cities campus)—Create B.A. degree in Classics**

  The College of Liberal Arts on the Twin Cities campus requests approval to create a Bachelor of Arts (B.A.) degree in Classics, effective Spring 2014. The degree will comprise sub-plans in Classical Civilization, Greek, Latin, and Greek and Latin. The proposed program provides opportunity for the study of classic languages, the reading of ancient texts, and the study of ancient religion. The University of Minnesota is the only public university in the state to offer instruction in these areas. This program results from the evaluation and reconfiguration of B.A. degrees in Classical Civilization, Greek and Latin (see below). This program leverages existing courses and resources.

- **Law School (Twin Cities campus)—Create Master of Science Patent Law (M.S.P.L.) degree**

  The Law School on the Twin Cities campus requests approval to create a Master of Science Patent Law (M.S.P.L.) degree, effective Fall 2014. The proposed program targets scientists and engineers who wish to enhance their knowledge of patent law and intellectual property. The program will provide training in areas such as licensing strategies, patent portfolio management, and management of innovation pipelines. The program leverages existing faculty and other resources.
Medical School (Twin Cities campus)—Create Fellowship in Integrated Orthopaedic Surgery/Neurosurgery Spine

The Medical School on the Twin Cities campus requests approval to create a fellowship in Integrated Orthopaedic Surgery/Neurosurgery Spine, effective Summer 2014. The 12-month clinical fellowship will comprise clinical practice, didactic training, and participation in basic research. The proposed program will provide a one-year clinical experience which will train fellows in the evaluation and management of patients with neuromuscular disorders using specialized procedures and techniques.

II. Request for Changes to Academic Programs

College of Education and Human Development (Twin Cities campus)—Create sub-plan in Interdisciplinary Studies within the M.Ed. degree in Curriculum and Instruction

The College of Education and Human Development on the Twin Cities campus requests approval to create a sub-plan in Interdisciplinary Studies within the Master of Education (M.Ed.) degree in Curriculum and Instruction, effective Summer 2014. The sub-plan is a graduate-level coursework-only program designed to address the interests of specifically-targeted cohorts of teachers. Faculty in Curriculum and Instruction will work with school districts to identify the particular needs of groups of teachers and will design programs accordingly.

College of Education and Human Development (Twin Cities campus)—Create sub-plan in Parent Education Specialty Teaching License within the M.Ed. degree in Family Education

The College of Education and Human Development on the Twin Cities campus requests approval to create a sub-plan in Parent Education Specialty Teaching License within the Master of Education (M.Ed.) degree in Family Education, effective Spring 2014. The proposed sub-plan will provide a licensure option in Parent Education. This sub-plan will be delivered primarily online.

College of Liberal Arts (Twin Cities campus)—Create sub-plans in Classical Civilization, Greek, Greek and Latin, and Latin within the B.A. degree in Classics

The College of Liberal Arts on the Twin Cities campus requests approval to create sub-plans in Classical Civilization, Greek, Greek and Latin, and Latin within the Bachelor of Arts (B.A.) degree in Classics, effective Spring 2014. The proposed sub-plans will replace discontinued B.A. degrees (see below) and ensure access to existing degree content.
College of Liberal Arts (Twin Cities campus)—Create sub-plans in Organization, Business, or Non-Profit, Health Care and Careers, Policy Analysis, and Quantitative Emphasis within the B.S. degree in Sociology

The College of Liberal Arts on the Twin Cities campus requests approval to create sub-plans in Organization, Business, or Non-Profit, Health Care and Careers, Policy Analysis, and Quantitative Emphasis within the Bachelor of Science (B.S.) degree in Sociology, effective Spring 2014. The proposed sub-plans will emphasize the professional application of and specialized training in critical areas of social inquiry.

College of Science and Engineering (Twin Cities campus)—Create Plan C option within the M.S. degree in Aerospace Engineering and Mechanics

The College of Science and Engineering on the Twin Cities campus requests approval to create a Plan C (coursework) option within the Master of Science (M.S.) degree in Aerospace Engineering and Mechanics, effective Fall 2014. The proposed changes will provide students a coursework-only option and will replace the discontinued Master of Aerospace Engineering and Mechanics (M.Aero.E.) degree (see below).

III. Request for Approval of Discontinued Academic Programs

College of Liberal Arts (Twin Cities campus)—Discontinue B.A. degree in Classical Civilization

The College of Liberal Arts on the Twin Cities campus requests approval to discontinue the Bachelor of Arts (B.A.) degree in Classical Civilization, effective Spring 2014. The content of the B.A. degree in Classical Civilization will become a sub-plan in the new B.A. degree in Classics. The reorganization will make best use of departmental strengths and resources.

College of Liberal Arts (Twin Cities campus)—Discontinue B.A. degree in Greek

The College of Liberal Arts on the Twin Cities campus requests approval to discontinue the Bachelor of Arts (B.A.) degree in Greek, effective Spring 2014. The content of the B.A. degree in Greek will become a sub-plan in the new B.A. degree in Classics. The reorganization will make best use of departmental strengths and resources.

College of Liberal Arts (Twin Cities campus)—Discontinue B.A. degree in Latin

The College of Liberal Arts on the Twin Cities campus requests approval to discontinue the Bachelor of Arts (B.A.) degree in Latin, effective Spring 2014. The content of the B.A. degree in Latin will become a sub-plan in the new B.A. degree in Classics. The reorganization will make best use of departmental strengths and resources.
College of Science and Engineering (Twin Cities campus)—Discontinue M.Aero.E. in Aerospace Engineering and Mechanics

The College of Science and Engineering on the Twin Cities campus requests approval to discontinue the Master of Aerospace Engineering and Mechanics (M.Aero.E.) degree, effective Spring 2014. Enrollment in this program has been steadily declining. A Plan C has been added to the Master of Science (M.S.) degree in Aerospace Engineering and Mechanics for students who are interested in a coursework-only option. The program will work to ensure that remaining students finish in a timely manner.