Background & overview

Sally Gregory Kohlstedt
Acting Dean & Vice Provost of Graduate Education
The WASC peer review team noted the completion of learning outcomes for all undergraduate and graduate degree programs at UCSB.

"Outcomes" on the rise

UCSB's Accreditation Renewed for a Full 10 Years
updated: Apr 02, 2014, 2:37 PM

Source: UCSB Public Affairs News

"The WASC peer review team noted the completion of learning outcomes for all undergraduate and graduate degree programs at UCSB."

Office of Institutional Research and Planning

Assessment

THE CHRONICLE OF HIGHER EDUCATION
December 1, 2010 by David Glew
Measurement of 'Learning Outcomes' Comes to Graduate School

Rutgers
School of Arts and Sciences

Graduate Program Assessment Overview

Ph.D. Degree Learning Goals and Assessment
The goal of the Ph.D. degree in the Graduate School-New Brunswick is to train students at an advanced level in specific fields of study in order to assume positions of leadership in research, teaching, and service in industry, business, and government.

Learning Goal 1: Attain marked ability, scholarship, and research skills in a broad field of learning.
To identify and implement program-specific graduate student outcomes for use in program assessment & self-improvement through a faculty-driven process that includes consultation with students.”
Graduate Student Outcomes and Assessment Committee

A faculty-driven process

Faculty

Provost’s Office/Grad School Staff

Office of Institutional Research Staff

Student
Goals of the initiative

1. Encourage clear, transparent & shared intentions
2. Create dialogue
3. Respond to stakeholders’ requests
4. Inform current & prospective students
5. Prepare for accreditation
What’s expected of programs?

1. Identify most significant and fundamental goals of program
2. Identify how goals are (or will be) put in place
3. Establish plan to determine how students are meeting goals
4. Produce and review a report
5. Develop long term plan for review and update
What does the process look like?

1. Identify lead faculty member
2. Discuss program's educational goals among faculty & students
3. Generate additional ideas about goals & outcomes
4. Audit existing materials
5. Develop process for evaluating/assessing outcomes
6. Revisit goals & outcomes at regular intervals
Original approach:
- Biomedical Informatics and Computational Biology
- Rhetoric and Scientific and Technical Communication
- Quantitative Methods in Education/Educational Psychology
- Communication Sciences and Disorders (Duluth)
- Scientific and Technical Communication

Streamlined approach:
- Aerospace Engineering and Mechanics
- Applied Economics
- Child Psychology
- History
- History of Science, Technology, and Medicine
Commonalities: Outcomes

- Knowledge and scholarship
- Research and methodological skills relevant to the field
- Communication skills
- Education for service, citizenship in the discipline, professionalism
- Pedagogy/training for teaching
- Collaboration/interdisciplinary skills
- Practical application of knowledge
Commonalities: Assessment

- Course completion/faculty evaluation of coursework
- Written preliminary examination
- Oral preliminary examination
- Written research project or paper
- Annual student progress evaluations/self-evaluation
- Thesis/dissertation prospectus
- Final defense
- Dissertation
- Publications
- Presentations/conference participation
- Participation on departmental (or other University or non-University) committees and in research seminars
- Teaching apprenticeship/graduate assistantship/teaching evaluations
Academic assessment overview

Joe Shultz
Office of the Senior Vice President for Academic Affairs & Provost
Accountability & Improvement

- Formal Academic Program Review
- Regional & Specialized Accreditation
- Graduate Review & Improvement Process
- Assessment of Graduate Student Outcomes
- Approval Process for New, Changed, Discontinued Programs
Molly Schwartz
Communications Consultant, Graduate School
Engaging our students, faculty, and industry partners in the process was key to producing a relevant report.

— Claudia Neuhauser, Director, Informatics Institute

What does it mean to have a graduate degree from the U?

At an educational institution as large and diverse as the University of Minnesota, there is no single answer to this question. Instead, each program defines for itself—in a faculty-driven, consultative process—what students can expect to have learned when they graduate. About the initiative

Workshops offered for Directors of Graduate Studies

Background
Impetus and context

Getting Started
A starting point for graduate programs

Examples
Pilot programs share their statements

FAQs
How do I begin?
Presentations
Claudia Neuhauser
- Biomedical Informatics and Computational Biology

Sally Gregory Kohlstedt
- History of Science, Technology, and Medicine

Ann Hill Duin
- DGS, Scientific and Technical Communication

Michael Maratsos
- DGS, Child Psychology

Donald Ross
- DGS, Rhetoric and Scientific and Technical Communication
Ph.D. and M.S. graduate program in the Twin Cities and Rochester

Founded in 2008

DGS: Claudia Neuhauser, UMR/UMTC

Associate DGS: John Carlis, Computer Science and Engineering

BICB Administration: Sue Van Riper (UMR)
Interdisciplinary, all-University graduate program

- Administrative home: UM Rochester
- Ph.D. and Master of Science (M.S. Plan A and Plan B) degrees and a Minor

- More than 40% of BICB graduate students are employed full-time in industry or at the University of Minnesota

- Adult-learner friendly

- Thesis in Industry
  - Co-advising model: Industry-U of M

- Personalized degree program to meet the needs of full-time and part-time students
Enrollment (F13) and Faculty (S14)

Graduates (Spring 2014)
- 3 Ph.D.
- 10 M.S.

Faculty (Spring 2014)

<table>
<thead>
<tr>
<th>Faculty</th>
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<tbody>
<tr>
<td>Cray</td>
<td>1</td>
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<tr>
<td>Hormel</td>
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<td>IBM</td>
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<td>Mayo</td>
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<tr>
<td>Medtronic</td>
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<tr>
<td>NMDP</td>
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<tr>
<td>UMTC</td>
<td>35</td>
</tr>
<tr>
<td>TOTAL</td>
<td>66</td>
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Motivation to Participate as Pilot

- Transparency of expectations and what the program offers
- Setting and evaluating goals (faculty and students)
- Vehicle to engage faculty and students in focused discussions about the different dimensions of the BICB program
- Recruitment of new students
- Continuous improvement
- UMR Accreditation
September 2013
  – Invitation to faculty and students to participate in focus groups
  – E-mail feedback

October 2013
  – Focus groups: ppt on six dimensions; discussion
    • UMTC faculty
    • Industry
    • Students
  – First draft: solicit feedback

December 2013
  – Final draft before program meeting

January 2014
  – Program meeting at BICB Symposium (faculty and students)

March 2014
  – Final version
• Scholarly Formation
  – Knowledge and skills
  – Critical thinking
  – Lifelong learning
• Communication
  – Team science
• Leadership and Collaborative Skills
• Professional Responsibility
  – Professional conduct and preparation for diverse jobs
• Cultural and Global Awareness
  – Ethics
• Personal and Professional Management Skills
  – Know thyself
• BICB program is highly individualized. Each student should develop
  – a plan to define their goals and objectives
  – measurable outcomes
  – timeline for when to meet milestones
• Annual review of the plan by adviser and DGS
• Assessment integrated into annual review
  – Trial run this spring semester to assess Scholarly Formation, Communication, and Leadership/Collaborative Skills: essay format
Lessons Learned

• Involve faculty and students
• View it as “in progress”
• Take it one goal at a time
• Don’t feel constraint—whatever you develop must work for your program
• This is for improvement—structure it so that you can identify weaknesses
• Find out what others did and “copy and paste” if you find something you like
• It’s OK not to know how to assess everything
• It’s OK to revise if your plan doesn’t work
• It’s OK not to be perfect
Sally Gregory Kohlstedt
History of Science, Technology & Medicine
Ann Hill Duin
Scientific & Technical Communication
What is the occupational outlook in the field of technical communication?

Most recent information from the US Bureau of Labor Statistics reports expectations of growth across technical communication fields.

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<tr>
<td>2012 Median Pay</td>
<td>$65,500 per year</td>
<td>49,500</td>
<td>15% (Faster than average)</td>
<td>7,400</td>
</tr>
<tr>
<td></td>
<td>$31.49 per hour</td>
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Figure 1. Statistics from Bureau of Labor Statistics.
4.C. **The institution demonstrates a commitment to educational improvement through ongoing attention to retention, persistence, and completion rates in its degree and certificate programs.**

① The institution has defined goals for student retention, persistence, and completion that are ambitious but attainable and appropriate to its mission, student populations, and educational offerings.

② The institution collects and analyzes information on student retention, persistence, and completion of its programs.

③ The institution uses information on student retention, persistence, and completion of programs to make improvements as warranted by the data.

④ The institution’s processes and methodologies for collecting and analyzing information on student retention, persistence, and completion of programs reflect good practice.
We now have models that can significantly improve student success. What is our obligation to do something about it?

- Change approach to learning
- Maximize the availability and use of data
- Unlock the silos
- Empower students to know where they are and what they can do to improve

The principal goal of the Graduate School’s Pilot Program to Develop Graduate Student Learning Outcomes is “graduate program self improvement.”

9.15.13, Sally Gregory Kohlstedt, Acting Vice Provost and Dean of Graduate Education

Our task:

– Map student learning outcomes to the draft principles;
– Identify outcomes that could not be mapped to the draft principles;
– Identify additional principles that are relevant for the program’s outcomes; and
– Summarize the process by which the program arrived at these results.
2012-13
- Developed draft MSSTC learning outcomes (competencies)
  - M.S. committee meetings, faculty retreat, visits with industry & alumni

2013-14
- Compiled learning objectives from syllabi, mapped these to GS principles and MSSTC learning outcomes, and revised courses
- Surveyed and met with current students, and interviewed faculty to determine alignment and identify additional outcomes
- Developed dashboards for use by students and faculty, and used these in advising students
- Leveraged this work with other local and national initiatives
  - Provost’s eLearning effort (Personal Learning Networks)
  - Quality Metrics initiative

2014-15
- Design assessment to best demonstrate our commitment to educational improvement through ongoing attention to retention, persistence, and completion rates
### Mapping Outcomes

<table>
<thead>
<tr>
<th>Graduate School - draft principles</th>
<th>Mapping of MSSTC learning outcomes to each principle</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Scholarly formation</td>
<td>Envision and conduct research to meet user and strategic work needs</td>
</tr>
<tr>
<td>2. Communication</td>
<td>Apply rhetorical theory/principles to STC Visualize and design content for multiple media and contexts</td>
</tr>
<tr>
<td>3. Leadership and collaborative skills</td>
<td>Lead local/virtual/global teams in the design, development, and evaluation of STC Construct and foster connected, collaborative, interactive environments</td>
</tr>
<tr>
<td>4. Global context</td>
<td>Lead local/virtual/global teams in the design, development, and evaluation of STC</td>
</tr>
<tr>
<td>5. Professional responsibility</td>
<td>Apply STC to a specific industry</td>
</tr>
<tr>
<td>6. Personal and professional management skills</td>
<td>Lead local/virtual/global teams in the design, development, and evaluation of STC</td>
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</tbody>
</table>
Graduate School Student Learning Outcomes Ranked by Interest

**Weighted Average**

- Communication: 6.28
- Personal and Professional Management Skills: 6.12
- Scholarly Formation: 6.06
- Leadership and Collaborative Skills: 5.96
- Global Context: 5.32
- Professional Responsibility: 5.16

**MSSTC Student Input**
Number of times ranked in top 3

- Visualize and design content for multiple media and contexts
- Envision and conduct research to meet user and strategic work needs
- Apply STC research to a specific industry
- Apply rhetorical theory/principles to scientific and technical communication
- Lead local/virtual/global teams in the design, development, and evaluation of scientific and technical communication

MS Program Learning Outcomes
Ranked by Interest
### MS Cert Individual Progress Tracking Spreadsheet

<table>
<thead>
<tr>
<th>Learning Outcomes and Competencies</th>
<th>Courses where competencies are emphasized</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Communication (Written)</strong></td>
<td>WRIT 4573W: Writing Proposals and Grant Management</td>
</tr>
<tr>
<td>Primary Competencies:</td>
<td>WRIT 4662W: Writing with Digital Technologies</td>
</tr>
<tr>
<td>Apply rhetorical theory/principles to S&amp;TC</td>
<td>WRIT 4664W: Science Writing for Popular Audiences</td>
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<tr>
<td></td>
<td>WRIT 5270: Writing for Publication</td>
</tr>
<tr>
<td></td>
<td>WRIT 5001: Intro to STC</td>
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<tr>
<td></td>
<td>WRIT 5561: Editing and Style for Technical Communication</td>
</tr>
</tbody>
</table>

| Communication (Visual)            | WRIT 4662W: Writing with Digital Technologies |
| Primary Competencies:             | WRIT 5112: Information Design |
| Visualize and design content for multiple media and contexts | WRIT 5561: Editing and Style for Technical Communication |
|                                   | WRIT 5671: Visual Rhetoric |

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<th>Leadership and Collaborative Skills</th>
<th>Courses where competencies are emphasized</th>
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<tbody>
<tr>
<td><strong>Global context</strong></td>
<td>WRIT 4562: International Professional Communication</td>
</tr>
<tr>
<td>Personal and professional management skills</td>
<td>WRIT 5112: Information Design</td>
</tr>
<tr>
<td>Primary Competencies:</td>
<td>WRIT 8505: Professional practice</td>
</tr>
<tr>
<td>Lead local/virtual/global teams in the design, development, and evaluation of scientific and technical communication</td>
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<tr>
<td>Construct and foster connected, collaborative, interactive environments</td>
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<tr>
<td>Primary Competencies:</td>
<td>WRIT 4501: Usability &amp; Human Factors</td>
</tr>
<tr>
<td>Envision and conduct research to meet user and strategic work needs</td>
<td>WRIT 5001: Introduction to Graduate Studies in Scientific &amp; Technical Communication</td>
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<td></td>
<td>WRIT 5270: Writing for Publication</td>
</tr>
<tr>
<td></td>
<td>WRIT 8505: Professional Practice</td>
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Michael Maratsos
Child Psychology
Donald Ross
Rhetoric and Scientific and Technical Communication
Q & A with presenters