INTRODUCTION

Through its wide range of programs, services, research and scholarship, the Searle Center for Advancing Learning & Teaching seeks to assist all members of the Northwestern community who are engaged in the development and promotion of “cutting edge” learning environments and experiences for their students, their colleagues and themselves. In this enterprise we work with faculty, post-docs, graduate TAs and instructors, and under-graduate peer mentors, clinicians, and administrators. Through our educational initiatives, research projects, presentations and publications, the Center also engages in broad national and international conversations and collaborations with those who study and promote teaching and the facilitation of learning in higher education.

The Searle Center is composed of four major spheres of activity: Faculty Programs, Graduate Student Programs, Undergraduate Programs, and Research & Evaluation projects. An Associate Director directs each of these areas. In each of the first three spheres we provide seminars, talks & workshops, designed to provide information and practical guidance on specific topics of learning and teaching, as well as long-term programs designed to prompt more profound changes in participants, such as our year-long Searle Fellows faculty program, our Graduate Teaching Certificate program, and our Gateway Science Workshop program. We also provide a wide variety of linked services, including individual consultation and classroom analysis, as well as resources, including an extensive collection of books on teaching and learning housed in our Center Library. In the research and evaluation sphere, we collaborate with faculty and staff on a wide variety of disciplinary and cross-disciplinary projects. These range from smaller projects, with individual faculty experimenting with new teaching techniques, to the evaluation of large national foundation funded programs.

Some 2013-2014 Highlights

In the past academic year we continued to extend the work arising from the strategic plan we developed in 2010 and began implementing the several funded projects we had won in the previous year. As a result we have, once again, seen innovation in our programs and projects, and growth in participation of faculty and graduate and undergraduate students in them.

- This year, in collaboration with the Office of the Provost and the University Assessment and Re-Accreditation Council, we offered the first university-wide annual Learning, Teaching and Assessment Forum, “Critical Reflections on Learning.” Over 150 faculty, staff, and graduate students attended the event, with over 20 people presenting.

- The Graduate and Postdoctoral programs continue to grow, with 270 graduate students attending the New TA Conference and 63 graduate students and postdocs from over 33 disciplines participating in the 2013-2014 Teaching Certificate Program. We received over 90 applications for the 2014-2015 program. With support from the Graduate School, we continue to foster graduate student learning communities with the Graduate
Teaching Fellows and the Graduate Teaching Mentors who lead Searle workshops and provide peer feedback for fellow graduate students. The Center for the Integration of Research, Teaching, and Learning (CIRTL) at Northwestern had a successful year with the launch of Mentored Discussions of Teaching for graduate students and postdocs in the STEM disciplines. We continue to collaborate with Evanston Township High School to provide college prep courses for seniors in the AVID program.

- In the Undergraduate Programs area, we continued to develop the Academic Mentoring Program (AMP), adding the General Chemistry sequence to our offerings. We also developed the new Undergraduate Program for Advancing Learning (UPAL), which will pilot in fall 2014, working with administrators and staff across schools and units to ensure our planning will meet student needs. We developed and piloted the Peer-Led Undergraduate Study (PLUS) program, in collaboration with the Office of Residential Academic Initiatives, and will expand it next year. We also developed and piloted the NULearn program, in which students create and deliver interactive presentations for their peers on effective learning approaches. The Gateway Science Workshop (GSW) program continued successfully, with 939 student registrations, and the Science Research Workshop (SRW) program and NuBioscientist program combined yielded 39 funded student research projects.

- In our research and evaluation sphere, we collaborated on over 20 projects including: institutional projects such as the CTEC pilot, CIRTL (funded by NSF), nuViBE project in Biology (funded by HHMI), Teagle project in history; national collaborations with peer institutions such as Duke University; and several international collaborations such as An Najah University in the West Bank (funded by USAID).

In addition our staff have taken leadership roles in a range of new university wide strategic ventures including the university diversity curriculum initiative, the development of the university’s six Coursera Massive Open Online Courses (MOOCs) and Learning Management System review. But these are just a few of the activities that the Center has engaged with over the past year. I encouraged readers to learn more about our activities for themselves.

— Greg Light, Director
I. PROGRAMS

The Searle Center provides a variety of programs for faculty, graduate students, and undergraduate students. These range from one-off workshop sessions to year-long programs designed to change participants’ approach to teaching.
Faculty Programs

The Searle Center offers a range of faculty development opportunities, from ad-hoc, one-off roundtables and workshops, to more substantial programs designed to enhance teaching and learning. Please see the Appendix for more detailed information on participation numbers and evaluation of these programs.

The Searle (Junior/Early Career) Fellows Program

The Searle Fellows program is a comprehensive, year-long (eight month) faculty development program for pre-tenure, early career faculty. The program seeks to provide faculty with the expertise and knowledge to critically assess and solve problems in their courses. To participate in the program, applicants must provide a description of a teaching project related to a course they teach. In most cases, faculty are nominated for the program by deans or department chairs and self-select in or out according to their ability to participate in all program events.

The program has two main objectives: (1) to strengthen the participants’ knowledge, understanding, and expertise in learning and teaching; and (2) to help them develop a project that will foster deep student learning. These projects usually focus on the development of a new course or curriculum, the revision of an existing course or curriculum, or the revision of a key assessment strategy in a course, curriculum, or other learning context. During the year, faculty participate in 4 dinner meetings, an overnight retreat in fall, a full-day retreat in spring, 3-4 workshops, 3 project meetings, evaluation activities (small group analysis of their class etc.), development of a project related to a course they are teaching. Fellows must communicate their project findings and reflections through a written critical account, a group poster, and
presentation at the final celebratory dinner. Rick McGee, associate dean for faculty affairs in the medical school, helps facilitate the program. This year we also invited Walter Eppich, an associate professor in pediatrics and emergency medicine, and director of Medical Education, to work specifically with the FSM faculty. The Feinberg Academy of Medical Educators (FAME), led by Jon Lomasney, also participated in the selection of Searle Fellows from Feinberg.

This year, 17 early-career tenure-line faculty completed the full program. Seventeen senior faculty served as their mentors. Of these, 2 were returning mentors, and 5 were former Fellows. We built a “capacity-building” element into the program, where faculty (especially those in FSM) met to develop pedagogical roundtables and workshops for their home departments. This year, Kannan Mutharasan, a faculty member in cardiology, facilitated a workshop on flipped classrooms for the Public Health classroom. In addition, we asked two prominent Searle Fellows to return and speak to our current Fellows and Mentors about their pedagogical innovations: Georgia Kernell from Political Science spoke about how she engaged students in large lectures, while Todd Murphey described his experience with teaching one of the University’s pioneer MOOCs. In addition, a number of current and former Searle Fellows facilitated sessions in the university’s first annual Learning, Teaching, and Assessment forum.

Goals:
Next year, we intend to continue to help build capacity in our Searle Fellows, training them to lead workshops and sessions for their peers. In addition, with the new learning management system (Canvas) we intend to use discussion boards more productively, and offer more online small group sessions as well.

nuViBE Faculty Development Project

Intro BioSci Faculty members teaching the large introductory biology classes (~500 students per year) met at the end of each quarter to discuss the revised Intro BioSci curriculum. These discussions are facilitated by Searle Center staff and are forums for continuing improvements for the curriculum. All seven new courses (BioSci 215-218, 220-222) were offered in 2013-2014 for the second time, with BioSci 215 offered for the third time. Lecture courses incorporated various active-learning methods, and laboratory courses changed from cookbook exercises to open-ended, exploratory research projects. The Searle Center will continue to work with this faculty group, as new members are rotated into teaching the introductory biology sequence.

Shorter, One-Off Sessions

NEW: Learning, Teaching and Assessment Forum “Critical Reflections on Learning”
This year, in collaboration with the Office of the Provost and the University Assessment and Re-
Accreditation Council, we offered the first university-wide annual Learning, Teaching and Assessment Forum, “Critical Reflections on Learning.” Over 150 faculty, staff, and graduate students attended the event, with over 20 people presenting. This university-wide event is designed to:

- Provide faculty, doctoral students, and administrators the opportunity to showcase their assessment initiatives at the class, department/program, school, and/or university levels.
- Share and highlight teaching & assessment innovations, strategies, practices, and outcomes.
- Demonstrate the University’s assessment framework in practice.
- Promote dialogue about assessment, its purpose and value for improving learning & teaching.

Approximately 180 people attended the forum with representation from the following groups:

- Professors
- Instructors
- Administrators/staff
- Students
- Post docs
- External visitors from two local universities

Concurrent Sessions

<table>
<thead>
<tr>
<th>Session Title</th>
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<tbody>
<tr>
<td>“Using Cooperative Learning and In-Class Demonstrations to Illuminate a Structure for Integrating Knowledge”</td>
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<tr>
<td>“TGS’s Comprehensive Approach to Degree Competencies”</td>
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<tr>
<td>“Using Measurement to Evaluate Program Success while Developing Future Leaders”</td>
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<tr>
<td>“Assessing and Enhancing Critical Thinking Skills in the Undergraduate Science and Engineering Classroom”</td>
</tr>
<tr>
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There were 11 poster sessions in addition to the 12 concurrent sessions listed above.

**NEW: Workshops in NU-Qatar**
For the first time, we travelled to NU-Qatar to facilitate pedagogical sessions for NU-Q faculty. We ran three workshops, focusing on designing learning objectives, aligning courses around learning, teaching methods that promote active learning, and assessing students. We also met with several writing instructors to help them develop a rubric for assessing incoming student essays. In addition we had several individual consultations with NU-Q faculty. Throughout our time there, we gathered feedback about what future sessions might entail.

**Faculty Workshop Series**
We offered 14 workshops this year, focusing on a range of topics including promoting critical thinking, assessment and grading, and course evaluation. One of these workshops (Developing Effective Learning Objectives) was offered online, to improve access for instructors who find it challenging to come to our workshops in person.

**New Faculty Workshop (NFW)**
This year, we returned to our customary format to introduce new faculty to teaching and learning at Northwestern. This full-day interactive session featured an overview of designing learning objectives, promoting active learning and critical thinking, and assessing student learning. We also offered a session with Academic Research and Technologies staff, one resource panel with undergraduates, and one with representatives from various campus divisions (CAPS, Athletics, disabilities, and academic integrity), and a student panel. Thirty new faculty participated in the program.

**Teaching, Learning & Technology (TLT) workshops**
In collaboration with Academic and Research Technologies, we offered two workshops on “Using Rubrics to Enhance Learning,” which focused on both the pedagogy surrounding the use of rubrics, focusing on the new rubric function in Blackboard. We have also been developing new workshops to facilitate learning and teaching in the university’s new Learning Management System, Canvas, which we will implement in Fall.

**University Teaching Roundtables (UTR)**
The UTRs are sponsored by the provost and hosted by the Searle Center. Each roundtable—meant to be an interdisciplinary forum exploring current topics in teaching and learning—is led by a Charles Deering McCormick Professor of Teaching Excellence, a McCormick Distinguished Lecturer, or an Alumnae of Northwestern Teaching Professor, the highest awards for teaching offered by the university. Recipients are appointed as fellows of the Searle Center and
contribute to Searle events.¹

- Teaching as Leadership: Emotional Intelligence and Course Objectives
- Teaching in a Controlled Environment: Lessons from Qatar and the West Bank
- A Discussion of the First-Generation Student Experience in the Northwestern Classroom
- Teaching the Un teachable: Pedagogies for Teaching Disturbing Topics in the Classroom
- The Challenge of Assessment in Large Classes: Faculty and student perspectives
  (brownbag discussion)

**Specialized Internal Workshops and Sessions for faculty**

We also conducted specialized workshops and sessions for specific units at Northwestern, tailored to the needs of individual departments and programs. We offered

- an orientation for new Calculus faculty (WCAS)
- a workshop on “Engaging and Motivating Students” for the Department of Spanish and Portuguese (WCAS),
- a workshop on diversity and learning (SESP),
- an orientation session on engaging students (SCS)
- a session at the MPH retreat (facilitating a conversation about student survey results)
- a session for Otalarangology on mentoring residents (FSM)

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¹ Please see Appendix for details.
PROGRAMS FOR GRADUATE STUDENTS
The Center leads a number of programs to support graduate students and postdoctoral fellows in their professional development at various levels throughout their career. At the New TA Conference we train graduate students as new TAs, we offer continuing support with workshops and events to graduate students and postdocs as they develop their approaches to teaching and learning in their disciplines, and provide more extensive preparation for teaching at the college and university level with the Teaching Certificate Program. Please see the Appendix for more detailed information on participation numbers and evaluation of these programs.
New TA Conference (NTAC)
This one-day conference is held every September the week before classes begin, and prepares graduate students for their first teaching experience. This year, 312 new TAs registered for the event, which included 23 discipline-specific workshops to orient TAs to their roles and responsibilities in their department, as well as 13 sessions on topics such as “Leading a Lab Section” and “Facilitating Discussion Sections” as well as new topics such as “Promoting Critical Thinking” and “Teaching as Professional Development”. All workshops are developed and facilitated by Graduate Teaching Fellows and NTAC Workshop Leaders who are graduate students trained by Searle Center staff. On a 5-point scale, the average evaluation rating for the conference sessions was 4.2.

NTAC Workshop Leaders and Teaching Consultants
The Searle Center provides four days of training for the NTAC Workshop Leaders to develop and implement workshops at the New TA Conference. The two-day training in June focuses on introducing topics in teaching and learning and modeling active learning techniques. Graduate students also work in pairs to develop their conference workshops, and in August we provide a venue for the NTAC Workshop Leaders and Graduate Teaching Fellows to receive peer feedback on their workshop demonstrations. This year, we had 18 NTAC Workshop Leaders participate in the program from a diversity of disciplines. Outstanding Workshop Leaders have been appointed as Teaching Consultants, who receive further training in classroom practice and observation. The Teaching Consultants conduct Small Group Analyses (SGAs) for faculty and graduate students at Northwestern throughout the year. The Searle Center employed 13 Teaching Consultants this year.

Graduate Workshop Series
To provide continuing support to graduate students in their teaching, we offer interactive workshops in the fall, winter, and spring quarters. Workshops are developed and facilitated by Center staff as well as trained Graduate Teaching Fellows. This year we offered 15 workshops on topics such as “Working with Student Writing”, “Getting Out of the Classroom: Teaching Through Civic Engagement and Service Learning” as well as “In Class Problem Solving: An Approach to Effective Learning in STEM.” We had a total of 196 graduate students attend our workshops throughout the year, with a range of 3-45 students at each session. On a 5-point scale, the evaluation average for this series was 4.27.

Teaching Certificate Program
This twelve-month program prepares graduate students and postdocs to teach at the university level through a series of workshops, seminars, and small-group discussions. Over the course of the year, participants develop a course design project, a teaching philosophy, and a teaching portfolio. The program offers a Certificate of Achievement to acknowledge that work is evaluated by Center staff. The Searle Center and The Graduate School jointly fund 6 part-time Graduate Teaching Mentors who assist the Associate Director by facilitating discipline-specific, small-group discussions, and providing feedback and guidance to participants. This year there
were 66 participants, seven of whom were postdoctoral fellows.

Our primary goals for the Teaching Certificate Program in the coming year are to:

- Accommodate another large cohort while maintaining the same level of mentorship and a format that allows for productive discussions.
- Continue to revise the curriculum to reflect Northwestern’s participation in the Center for the Integration of Research, Teaching and Learning (CIRTL) Network by developing a STEM-focused “track” for participants in the STEM disciplines.
- Continue to strengthen the program component that focuses on the importance of recognizing diversity in the classroom and requires students develop a diversity statement for their teaching portfolio.
- Provide more explicit requirements to help participants integrate evidence-based approaches in their teaching philosophies and portfolios.

**Graduate Teaching Fellows Program**

The Graduate Teaching Fellows (GTFs) are group of nine graduate students with a demonstrated commitment to teaching excellence who wish to further develop their teaching and professional skills and contribute to the pedagogical development of their fellow graduate students. Appointed for a full academic year, they work with the Searle Center staff to develop programming and resources to improve graduate student teaching at Northwestern. Selected in the spring via a competitive application process, the Fellowship comes with a stipend of $3000, eight of which are funded by The Graduate School; one position is funded by the Department of Political Science.

This was the fourth year for the program. Among other activities, the Graduate Teaching Fellows develop workshops for the New TA Conference and the Graduate Workshop Series; conduct teaching observations for graduate students; and develop discipline-specific projects aimed at providing mentorship and improving undergraduate student learning and graduate student teaching in their home departments.

**CIRTL at Northwestern**

The Center for the Integration of Research, Teaching and Learning (CIRTL) is a national NSF-funded teaching and learning center in which member institutions work to advance the teaching of science, technology, engineering, and mathematics (STEM) disciplines in higher education, particularly by providing programs for future faculty professional development. The program emphasizes three CIRTL core ideas: Learning-through-Diversity, Learning Communities, and Teaching-as-Research.

In collaboration with Rob Linsenmeier (Biomedical Engineering), we have launched CIRTL at Northwestern, which includes three central programs: Mentored Discussions of Teaching, a STEM-focused track of the Teaching Certificate Program, and a CIRTL workshop series. Mentored Discussions of Teaching was initiated in spring 2013, and connected 22 graduate
students and postdocs across Weinberg, Feinberg, and McCormick with 10 faculty members to observe classes and discuss teaching. The program attracted more than twice as many graduate students and postdocs as we could place. Since initiating the program, we have had 30 participants in the fall of 2013, and 18 participants in the spring of 2014. We hired a graduate assistant with support from the NSF grant to assist with growing CIRTL at Northwestern programs in 2013-2014, implementing and evaluating of the three component programs.
PROGRAMS FOR UNDERGRADUATE STUDENTS

STEM Programs

Gateway Science Workshop (GSW) program
Begun in the late 1990s, the GSW program brings undergraduates together in small groups (5–7 students) with a peer mentor, to work on challenging conceptually oriented problems related to a course. Groups meet weekly for two hours, and peer mentors meet an additional 2 hours with the course professor or TA to review the worksheet problems. Peer mentors also take an education course concurrent to their mentoring; see SESP 291 below. The GSW program has consistently shown, on average, an advantage in course grade for participants over non-participants, and results have been presented and published in a variety of venues and peer-reviewed publications.

Current activity and future goals
During 2013–2014, we had 939 registrations, and served 117 individual classes within the Chemistry, Biology, Physics, and Mathematics Departments, as well as the McCormick School of Engineering. Within these departments, we worked with

- 65 faculty members
- 14 teaching assistants
- 93 undergraduate mentors (75 new and returning mentors and 18 senior mentors)
We also have recently published a 10-year GSW findings paper in *Educational Research and Evaluation* (see Research section).

**SESP 291: Mentoring Learning in the STEM Disciplines**

SESP 291 is the training course for the GSW peer mentors. It is a one-credit course that extends over three quarters. In 2013–2014 we enrolled 54 students in the course; students engaged in readings, reflection papers, discussions, and a group project, for which they presented their findings at an end-of-year poster fair.

This year, we enhanced the course with professional development opportunities, including a discussion with Lesley Ann Brown, Director of Campus Inclusion and Diversity, a discussion with Stanley Lo about the Harkness Table method, and an interactive “clinical” experience with Dr. Toshi Uchida from Feinberg.

**Academic Mentoring Program (AMP)**

AMP provides academic support for undergraduates enrolled in introductory courses known to be difficult for many students. Mentors – fellow undergraduates who have taken and done well in the course – meet weekly with a small group of students to discuss and work through questions and challenging course concepts. Mentors participate in training and regular meetings with AMP staff, and provide regular feedback about their groups’ progress. Students are required to commit for the full quarter, so that the groups can build a sense of community, and so that the students and mentor become comfortable with one another. The groups meet at a set time and location each week for two hours. Students are expected to attend all sessions and prepare for each session in advance.
Current activity and future goals
This year we worked with

- 26 individual classes in 5 departments (Economics, Statistics, Psychology, Mathematics, and Chemistry)
- 18 faculty members
- 36 peer mentors
- 378 student registrations (240 were waitlisted) in 83 AMP groups over the year (see table below)

<table>
<thead>
<tr>
<th>Registrations – full quarter</th>
<th>Registrations – late start*</th>
<th>TOTAL REGISTRATIONS</th>
<th>Waitlist</th>
<th>Waitlist-late start</th>
<th>TOTAL WAITLIST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>110</td>
<td>50</td>
<td>160</td>
<td>114</td>
<td>80</td>
</tr>
<tr>
<td>Winter</td>
<td>102**</td>
<td>11</td>
<td>113</td>
<td>46</td>
<td>0</td>
</tr>
<tr>
<td>Spring</td>
<td>92**</td>
<td>13</td>
<td>105</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>304</td>
<td>74</td>
<td>378</td>
<td>160</td>
<td>80</td>
</tr>
</tbody>
</table>

* In fall, late-start groups met weekly; in winter and spring, we moved to a drop-in model; numbers reflect individuals, not repeat visits
** 3 of these students had Unsatisfactory grades for low attendance

When asked if participating in AMP was useful in understanding course concepts, we received an average rating of 4.26/5, across all disciplines for the academic year.

AMP ran this year in Macroeconomics (Econ 201), Microeconomics (Econ 202), Introduction to Statistics for the Social Sciences (Stat 210), Introduction to Psychology (Psy 110 – fall only), Finite Math (Math 202), and the General Chemistry Sequence (Chem 101-2-3).

Innovations this year included:

- Moving the registration AMP to CAESAR (students register through the main CAESAR system, and will have a notation on their transcripts indicating they have participated in AMP)
- Moving to a two-hour session versus the previous one-hour sessions
- Creating a mentor-developed materials drive
- Offering quarterly participant feedback to mentors
- Shifting away from late-start sessions to the PLUS program (see PLUS description below)
Goals for next year include:
• Expanding the program to additional courses
• Implementing senior mentor model to develop student leadership in the program
• Continuing to review evaluation data and make program adjustments as appropriate

Student-Organized Seminars (SOS) Leader Training Program
This program supports undergraduates who lead student-organized seminars (SOSs). These seminars are student-created, student-led, credit-bearing courses, sponsored by a faculty member in the relevant department, and offered through the School of Communication, the School of Education and Social Policy, and the Weinberg College of Arts and Sciences. Undergraduate SOS leaders gain depth of knowledge of their seminar topic, as well as valuable leadership, organizational, and mentoring experience.

The Searle Center program focuses on developing leaders’ understanding of teaching and learning concepts, ability to effectively facilitate learning for individuals and groups, and skill in using reflection and feedback for continuous improvement. This year, 18 undergraduate leaders from the School of Communication and WCAS took part in the program. Innovations for this year include:

• Assigning an Undergraduate Programs Coordinator to manage the program
• Revising activities to increase student leader engagement
• Adding a reflection assignment at the end of the year
• Providing detailed feedback to the appropriate assistant/associate deans

After implementing these changes, we received an average satisfaction rating in spring quarter of 4.29/5.

Goals for next year include
• Developing an online shared drive for leader development
• Helping leaders feel empowered to give “U” grades when appropriate
• Bringing former leaders into the program as mentors for current leaders

Peer-Led Undergraduate Study (PLUS)
This year, the Searle Center worked with Brad Zakarin in the Office of Residential Academic Initiatives to develop the PLUS program. In PLUS, students meet with others in their course to study, and peer leaders (fellow students who have taken and done well in the courses) are available to provide guidance. Unlike AMP, students are not asked to pre-register, and sessions are drop-in. PLUS events are held in campus dining halls, and snacks are provided.
The program was piloted in June 2014, providing support in Macroeconomics (Econ 201), Microeconomics (Econ 202), Introduction to Statistics for the Social Sciences (Stat 210), Organic Chemistry (Chem 210), and the General Chemistry Sequence (Chem 101-2-3).

51 students attended and 6 student mentors participated in the pilot event. Participants taking a post-event survey (n=11) overwhelmingly agreed that the event had met their expectations (91% agreed), and 100% said they would attend again.

Goals for next year include:
- Expanding the program to additional courses
- Increasing event offerings to span entire academic year and various campus locations
- Implementing evaluation plan and making program adjustments as appropriate

Undergraduate Program for Advancing Learning (UPAL)

In response to the University’s broad concerns related to students matriculating with fewer previous academic enrichment opportunities than most of our students have, the Searle Center proposed the UPAL program and was funded in 2012 to develop and run it. We have developed the UPAL program over the 2013–2014 academic year, and will launch the pilot in fall 2014.

UPAL is a community of students with diverse perspectives and backgrounds who support one another in striving for exceptional academic performance. With coaching from peer mentors, UPAL participants enhance their awareness of how they learn best within the Northwestern academic environment, fine-tune their academic skills, and create and carry out individual academic advancement plans. Along the way, they connect with Northwestern faculty, administrators, and staff, and build the networks that are critical to making the most of the Northwestern academic experience.

Participants engage with the program for one quarter, spending 1-1/2 hours a week in interactive discussions and activities. In these sessions, students focus on topics such as: “smart studying” for optimal learning; interacting effectively with faculty; managing time effectively; managing academic stress; and staying focused on learning in a competitive environment.

In developing the program, we met with 16 faculty, administrators, and staff members across the university, delivered three presentations to the Undergraduate Council, and held three undergraduate focus groups, to gather the perspectives and suggestions of a broad range of stakeholders.
Twelve mentors have been selected through a competitive application process, and have received an initial training. They will all complete a fuller training in fall, as well as ongoing training in weekly meetings.

Goals for next year include
- Recruiting appropriate student participants
- Launching the program effectively
- Implementing evaluation plan and making program adjustments as appropriate

**NULearn program**
We piloted the NULearn program in 2013–2014. NULearn is a series of workshops for undergraduates and led by undergraduates, designed to help participants develop insights about learning that can help them maintain academic success. Workshops are held in residence halls, with snacks provided, in collaboration with the Office of Residential Academic Initiatives.

During 2013–2014, four undergraduate workshop leaders total (two teams of two) led three workshops on the topics of mastering Northwestern’s academic culture and successfully defining the educational experience. Approximately 15 students participated in the workshops.

Goals for next year include:
- Recruit additional workshop leaders (interviews are ongoing)
- Increase marketing efforts and program visibility
- Streamline workshop logistics
- Continue to evaluate the program and make quality improvements

**Undergraduate Learning and Teaching Committee**
The Undergraduate Learning and Teaching Committee was developed in 2011–2012, with the goal of involving undergraduates more in the teaching-and-learning “conversation” at Northwestern, by having them engage in teaching-and-learning-related projects and contribute to Center programming.

During 2013–2014, we shifted the Committee toward a new Student Associate position, which we have piloted and will officially begin in fall 2014. This year, we had had one such student associate (Alexi Stocker), who, along with a faculty member, worked on a project that focused on the challenge of assessment in large classes. This project culminated in a brownbag session that was attended by faculty, teaching assistants, Searle staff, and undergraduates, and highly reviewed by participants. Alexi has written related posts for both our Undergraduate Voices web page and our Center blog.
Goals for next year include:
We have hired 4 Student Associates for next year; goals include for them to develop brown-bag discussions, contribute to the Center blog and website, conduct undergraduate focus groups on learning-related topics, and serve on the Center advisory board.

Science Research Workshop (SRW) Program
The Science Research Workshop program prepares students for authentic science research experiences by engaging them in fall and winter workshop sessions designed to help them successfully complete a research proposal. Each session comprises two broad activities: "faculty cafés" and peer-led workshops. Faculty Cafés are weekly discussions in which faculty members share stories of how they got interested in science research; peer-led workshops train participants on components of the research process, including:
- Appropriately contacting and interviewing with Northwestern science laboratories.
- Developing a valid research project.
- Discovering strategies for funding research ideas.
- Identifying and applying key techniques in scientific writing.
- Integrating feedback from experts and peers.

Current activity and future goals
In 2013–2014, there were 19 undergraduate student participants for SRW (8 freshmen, 9 sophomore, and 2 juniors). Sixteen of those students registered on CAESAR with 3 students choosing to participate without registering due to class conflicts. All 19 students applied for the Provost Undergraduate Research Grant (URG) with 6 students earning that award. Two students decided not to continue with summer research after not earning the Provost URG. Of the 11 students who decided to continue working towards their summer research projects, 5 students earned a URG through Weinberg College, 5 students were awarded a URG through the Program in Biological Sciences (PBS), and 1 student earned a URG through the HPME program. Those 11 are on track to perform their summer research projects. Nine student mentors assisted with the workshops and peer editing of research proposals this year.

Innovations and new activity this year included the following:
- There are now 16 total workshop sessions (7 in the fall and 9 in the winter), up from 12. This was made in response to students’ feedback last year that they wanted more guidance during the fall to find research opportunities.
- For the first time, the SRW program was run separately from the NU Bioscientist program. This resulted in more one-on-one time with the instructor and student mentors, as well as clearer instructions and messaging. Anecdotal evidence suggests that this resulted in a stronger sense of community for the SRW students; in fact, SRW students chose to have an additional workshop session during reading week despite one not being scheduled.
- The SRW program has been very successful, thanks in no small part to working very closely with the Writing Center, the Office for Undergraduate Research (Provost office), Weinberg College and PBS. With only 6 students earning the Provost URG this year (down from 12 last year), the Center is working with the Office of Undergraduate Research to explore how to ensure that SRW students are more competitive next year to reduce the burden on Weinberg and PBS. We have already identified areas for improvement in our proposal structure and workshops for next year.

**NU Bioscientist Program**

The purpose of the NU Bioscientist program is similar to the SRW program, however this program is restricted to incoming freshmen who have to apply for admission. In 2013–2014 the NU Bioscientist Program invited 30 incoming freshmen out of 115 applicants to participate in our year-long research preparation program. These students took two specially designed freshmen seminars, Biological Thought and Action which was taught by Drs. Heather Pinkett and Tania Munz in the fall quarter, and Science Research Preparation which was taught by Drs. Luke Flores and Christina Russin. Biological Thought and Action provides an introduction to inquiry-based science, places biological research in a societal and historical context, and communicate the nature of science. In Science Research Preparation the students learn basic research skills in a laboratory setting and develop an independent research proposal in workshops that were run together with the SRW students.

**Current activity and future goals**

Of the 30 initial invitees to the program, 28 were able to secure lab placement, complete necessary coursework, and successfully earn their summer research grants. One student decided not to continue with the program after the first week of class in the fall quarter; a second student was able to complete required coursework but ultimately did not find a lab to his liking for the summer research project and chose not to continue. The other 28 are on track to perform their summer research projects.

14 student mentors assisted with the workshops and peer editing of research proposals this year.

This is our final year of funding under HHMI; the program will continue under funding from the University. Incoming students for 2014–2015 will now compete in the URG process along with other Northwestern students (Provost URG, Weinberg URG, PBS URG). In order to prepare stronger proposals, the winter course will be modified as follows:

- The lab skills course taught by Dr. Russin will be removed and replaced with additional workshops on proposal writing.
- Closer cooperation and collaboration with the Writing Center, the Office for Undergraduate Research (Provost office), Weinberg College and the PBS will be required to ensure that the NU Bioscientist students are funded to perform their research projects in the summer.
BioEXCEL/ChemEXCEL Summer Programs
The BioEXCEL program is a residential summer bridge program that promotes academic preparation, leadership, and community building with a special emphasis on increasing diversity in STEM (students selected for the program must have a demonstrated commitment to diversity). In addition to course work, the program features guest speakers and site visits to provide the students with role models and resources that will be useful to them during their four years here at Northwestern. The students live together in a residential hall on-campus and participated in community-building activities under the guidance of upperclassman counselors, many of whom are former participants of the BioEXCEL program themselves.

For the summer of 2014, we will invite our largest class ever: 25 students (13 female, 12 male). We were successful in inviting 8 ChemEXCEL students (intended chemistry majors) to the program this summer with help from the Chemistry department; they will reside and take classes with 17 BioEXCEL students (intended biology majors).

This year we will establish the first Leadership Council, which will be a student board that will serve as mentors to the incoming students, and as advisors to the program about the best way to support student success during the academic year when there is no official programming. They will be responsible for guiding students to academic and co-curricular support, planning social activities, and advising the director on programming needs.

Initial evaluation results
We are tracking our previous students, particularly in regards to retention and persistence in STEM majors. Below are the data for our first two cohorts of BioEXCEL students, who are now juniors and sophomores, compared to a matched comparison group (gender, demographics, academic prep, declared early interest in STEM major).

<table>
<thead>
<tr>
<th></th>
<th>BioEXCEL N=38</th>
<th>Percent</th>
<th>Comparison group N=38</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>STEM majors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(biological sciences, chemistry, engineering, cognitive science)</td>
<td>15</td>
<td>39%</td>
<td>9</td>
<td>24%</td>
</tr>
<tr>
<td>Social sciences</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(economics, psychology, sociology, anthropology, statistics)</td>
<td>7</td>
<td>18%</td>
<td>9</td>
<td>24%</td>
</tr>
<tr>
<td>Undeclared</td>
<td>9</td>
<td>24%</td>
<td>11</td>
<td>29%</td>
</tr>
<tr>
<td>Non-STEM</td>
<td>6</td>
<td>16%</td>
<td>6</td>
<td>16%</td>
</tr>
<tr>
<td>Withdrew from University</td>
<td>1</td>
<td>3%</td>
<td>3</td>
<td>8%</td>
</tr>
</tbody>
</table>
These early data indicate that more BioEXCEL students are declaring STEM majors than the matched comparison group (39% to 24%) and have higher retention at the University (97% to 92%). Focus groups and interviews with students will provide some insight into the potential benefit that the summer program might have played in these results.

**Web-Based Academic-Support Resources**

Over 2013–2014, we developed an extensive collection of web-based academic-support resources for undergraduates, including

a) Comprehensive listings of tutoring, peer study, peer mentoring, and other academic-support services on campus

b) Advice on studying and learning, including effective study skills, communicating with faculty, time management, managing academic stress, adjusting perspectives on intelligence and motivation, and more.

c) An “Undergraduate Voices” page in which undergrads write short opinion pieces on matters of learning and teaching, intended for the undergraduate audience.

Reaction to the site from undergraduates, faculty, and advisors has been extremely positive. We launched a marketing campaign in winter 2013 to spread awareness of the site, and will continue to do so in fall 2014.
II. RESEARCH AND EVALUATION PROJECTS

The Center is involved in a variety of research and evaluation projects on teaching and learning in higher and professional education. While some of the projects are undertaken independently by the Searle Center, the majority involve collaborations with faculty, often across multiple departments. Activities in this area include conducting research studies, evaluating programs and assisting faculty with writing of the pedagogical components of grant proposals to funders such as the National Science Foundation (NSF) and the National Institutes of Health (NIH).

Ongoing Research Projects in Faculty/Instructor Development & Learning

Enhancing Critical Thinking in STEM Disciplines: A Faculty Development Model
(NSF: Course, Curriculum and Laboratory Improvement (CCLI) award $227,000 over 3 years). This project is a collaboration between the Searle Center and the City Colleges of Chicago (CCC) to design, pilot and study a Science, Technology, Engineering, and Mathematics (STEM) faculty development program focused on improving higher order learning outcomes of STEM students. Sixteen STEM faculty – 9 faculty from CCC and 7 from Northwestern completed the program. We are currently analyzing data on changes in faculty conceptions of critical thinking, teaching and assessment.

Course and Teacher Evaluation Council (CTEC) Pilot Study
In collaboration with the office of the registrar and the university assessment council, the Searle Center piloted a small study in which we added questions about learning outcomes to the university CTECs. 10 faculty participated in the study in Fall 2012, with another 8 participating in Winter and Spring. While we have not completed the full analysis, our preliminary findings suggest that of the students who understand what learning outcomes means, most were able to indicate whether they course was successful aligned around learning. This pilot will be expanded in 2014-2015.

Palestinian Faculty Development Program
The Center has partnered with An-Najah University in Nablus in the West Bank over the past 4 years as part of a USAID/Open Society funded program to increase the use of student-centered teaching at An-Najah University and in universities in the West Bank more broadly. An-Najah University has established a Center for Excellence in Learning and Teaching (CELT) and is using a train-the-trainer approach to develop a cadre of faculty who deliver workshops on teaching and learning to An-Najah faculty. The Searle Center is currently working with Dr Zaher Nazal from An-Najah University to conduct an impact analysis for the CELT. In addition, the Searle Center is now partnering with Palestinian Polytechnical University (PPU) and Palestinian Technical University Khadoorie (PTU-K) to develop teaching centers at their universities.
NEW: Evaluation of the Sierra Community College Critical Thinking Workshop
The Searle Center created and administered pre and post-workshop surveys to assess the short-term impact of the workshop conducted by Susanna Calkins and Denise Drane in June 2013. Faculty participants reported that they had a deeper understanding of critical thinking and greater confidence in developing learning outcomes, learning activities and assessments related to critical thinking as a result of participating in the workshop. A longer-term assessment of the impact of the workshop was conducted in late 2013.

Searle Fellows Research and Evaluation
Research over the past 8 years has focused on participants’ conceptions of teaching, learning, research and mentoring and on how faculty understand relevance in their teaching. This year, we completed a research project on how medical faculty conceive of teaching; a research project on how senior faculty members mentor their junior colleagues, and how faculty in the program conceive of the academic practice of research and learning.

Ongoing Research Projects in Graduate Education

Center for Integration of Research Teaching and Learning Network (CIRTL Network) (National Science Foundation $142,800 over 3 years)
The Searle Center has collaborated with the Graduate School and 23 research universities across the nation to promote professional development of graduate students and post-docs in STEM teaching and learning. The Searle Center plays roles in both program development and evaluation.

National Institutes of Health: Mentoring for Success: Developing Fundamental Skills for Biomedical Research
This program aims to increase the number of students from underrepresented backgrounds who are admitted to and retained in doctoral programs in the biological and life sciences at Northwestern. The Center continues to play an important role in both program design and evaluation. Our evaluation results suggest that the program has been extremely successful with substantial increases recorded in the number of underrepresented students admitted to doctoral programs in the biological and life sciences and very high retention rates of CLIMB (Collaborative Learning and Integrated Mentoring in the Biosciences) students. The program was originally funded by NIH for 5 years and a 3 year renewal was awarded in 2011.

National Institutes of Health: T32 Training Grants
The Center is currently involved in evaluation of doctoral and post-doctoral training grant programs in the Cellular and Molecular Basis of Disease (CMBD), Biophysics, Biotechnology, Communication Sciences and Disorders, Endocrinology, Human Cognition, Information Storage, Mechanisms of Aging and Dementia (MAD), Motor Control and Physical Therapy. In
addition the Center designed evaluation plans and developed survey instruments for new proposals and renewals for training programs in Cardiovascular Disease Epidemiology and Prevention and Physical Therapy.

**External Review of Duke University T32 Training Grants**
Searle Staff have completed an external review of T32 training grants in the Biomedical and Life Sciences at Duke University. To date 56 surveys have been created and administered to examine the experience of trainees in 14 training programs at Duke. Focus groups have been conducted with trainees from 18 programs.

**Preparing Graduate Students in History for Teaching (Teagle Foundation $85,000 over 2 years)**
The Searle Center has collaborated with the Graduate School on a proposal to develop a discipline-specific program aimed at improving the training of graduate students in History as teachers of undergraduates. The Searle Center has provided consultation both on program development and evaluation. The evaluation is comprised of surveys, focus groups and observations of teaching.

**Northwestern University-Patient-centered Intervention and Engagement Training (NU-PATIENT)**
The Searle Center will consult on the evaluation of Northwestern’s new institutional career development program, the Northwestern University-Patient-centered Intervention and Engagement Training (NU-PATIENT) K12 Faculty Scholars Training Program. This Agency for Healthcare Research and Quality (AHRQ) funded NU-PATIENT K12 program is designed to support the early research career development of junior faculty who will be engaged in patient-centered outcomes and comparative effectiveness research.

**Ongoing Projects in Undergraduate Education**

**Academic Mentor Program (AMP) Evaluation**
AMP is a small-group, peer-led tutoring program which was piloted in 2011-12 in Economics, Statistics, and Psychology, developed jointly by Searle and the University Academic Advising enter. We evaluated the program throughout the academic year, using a waitlisted control group, and examining grades as well as student motivation and approaches to the coursework, as well as student and mentor satisfaction. Results suggest a positive impact of the Program. Findings have been presented to the Undergraduate Council and used to make mid-course changes in program policies and practices in order to continue improving quality. Evaluation will continue next year.
An Interactive Steel Connection Teaching Tool – A Virtual Structure
The Searle Center is providing consultation on this NSF Transforming Undergraduate Education (TUES) funded project. The project is a collaboration between Northwestern University and Minnesota State University lead by Prof Karen Chou from the department of Civil and Environmental Engineering at Northwestern. To enhance students’ understanding of steel connections, Prof Chou has created an innovative, web-based interactive version of a steel sculpture. The virtual sculpture shows the close up view of each connection with description of how it may be used, potential failure modes, sample calculations, and field examples. The Searle Center has worked with Prof Chou to develop surveys to gather data on students’ experience interacting with the tool and to develop a ‘hands on’ construction assessment task to compare the performance of students who had access to the virtual sculpture with the performance of students who had access only to the course textbook. Data are currently being analyzed.

Engineering Workshop Program (EWP)
Completed its 11th year. McCormick School of Engineering continues to fund this extension of the GSW program and its evaluation in engineering. Evaluation continues to focus on performance and retention. An analysis of pooled data was also conducted for EWP. As with GSW, positive effects of the program were seen.

Gateway Science Workshop (GSW) Program Impact
This project, investigating the impact of a small-group learning program on performance and retention of undergraduates in STEM disciplines, commenced in 2001 and was originally funded by a 6-year grant from the Andrew W. Mellon Foundation. The program and program evaluation continues through funding from Northwestern and analysis of data on course grades and retention continues. We have continued to build a database, now pooling data from more than 11 years. These pooled analyses revealed an overall positive impact of the program on course grades and retention, with larger retention effect sizes seen for minority students in several courses. The book *Making Scientists*, which draws on the GSW experience was published in 2012 by Harvard Press. A paper presenting the 10-year results has been published in the Journal of Educational Research and Evaluation.

Howard Hughes Medical Institute (HHMI) Grant
(Howard Hughes Medical Institute grant SP0008821 $2,000,000 over 4 years.) This project is a collaboration between the Howard Hughes Medical Institute and Northwestern University to undertake a major reform of its undergraduate biological science training program by emphasizing inquiry-based learning and by introducing students early on to the compelling realities of laboratory investigation, providing a research-informed context for scientific learning from the first months of matriculation through graduation.
Over the past 4 years, data have been collected on course grades, course retention, biology concept inventories, student interest in biology and science and student experience of the new
Biology course sequence. Data on experience of faculty, teaching fellows and graduate research mentors in the program have also been collected.

**Mellon-Mays Undergraduate Fellowship Program Evaluation**
The Searle Center is managing the evaluation of this program, for which Northwestern was awarded $500,000 over 5 years. The program aims to increase the number of minority students who pursue PhDs in the humanities and social sciences. The goals of this primarily qualitative evaluation are to better understand students’ experiences in the program, including their development as academic researchers, their relationships with faculty mentors, and their general satisfaction with the program structure and policies. We have provided findings from the first year of the evaluation to Program directors; recommendations based on these findings have contributed to continued improvement of the Program. Evaluation is ongoing.

**Student Experience in and Perception of Biology Laboratory Experiences**
This project was funded by the Hewlett Fund at Northwestern University for $5189.04 from Spring 2012 to Summer 2013 and is lead by Stanley Lo from the Searle Center. The goal of this project is to identify and compare characteristics of different forms of laboratory experience (traditional, inquiry-based, and independent research) in the biological sciences and to understand how these experiences affect student learning. Specific areas of interest are: 1) sense of community, 2) help-seeking strategies, 3) ability to cope with challenges in scientific inquiry, 4) sense of personal achievement, 5) perception of connections between scientific inquiry and societal issues, and 6) understanding of scientific inquiry. This information is intended to better inform how to design scientific inquiry programs and laboratory experiences that engage students in meaningful learning activities. Data collection finished in this past year, and preliminary data analyses indicates that even though inquiry-based laboratory courses may provide inquiry experience for students, they do not necessarily capture the community and apprenticeship involved in independent research. While the project is focused on the experience of students in the biological sciences, the outcomes should be applicable to other related STEM disciplines that rely on scientific inquiry and have laboratory courses.

**Student Conceptions of Chromosome Segregation**
Professor Robert Holmgren from the Biology department at CSU Fullerton, and Searle staff have collaborated on this project to explore how students solve genetics problems and conceptualize “chromosome segregation”, an important yet difficult concept in genetics. They are particularly interested in identifying learning obstacles, and the possibility of using this knowledge to inform the design of instructional interventions. Data are being collected and analyzed annually. Currently, they have identified three main approaches that students employ to solve problems based on reasoning, algorithms, and test-taking strategies. Further data analyses are focusing on student understanding of the concept of chromosome segregation.
Student Conceptions of International Experience (SCIE)

To better understand students’ international experience through study abroad, the Buffett Center for International and Comparative Studies and the Searle Center for Teaching Excellence launched a collaborative project in the summer of 2007 called the Student Conceptions of International Experience (SCIE). Based on results of a phenomenographic study of undergraduate students’ conceptions of international experience, a 70 item survey instrument to assess students’ conceptions of and approaches to international experience was developed. The new 45 item survey was piloted with 646 students from 7 US universities in 2013. A latent profile analysis conducted by our collaborator Dr Fred Bryant from Loyola University found that the new survey has 3 valid and reliable subscales for ‘interacting’, ‘participating’ and ‘embracing’ with a total of 16 questions. Survey questions for the ‘observing’ subscale were not reliable. The new 16 items survey will be piloted in the 2014-15 academic year together with some new questions for the ‘observing’ subscale.


This project is a collaboration between Professor Tom Mason from the Department of Materials Science and the Searle Center. Students in Professor Mason’s Modern Materials and Society Course MatSci-101 were randomized to a) interview and shadow a graduate student in an on-campus lab or b) work in a small group lead by a graduate student to design/redesign an in-class demonstration or experiment. There were no statistically significant differences between the two groups in their attitudes towards, and understanding of the scientific method/engineering design method. Graduate students who participated in the project increased their level of comfort with communicating science to non-scientists and thought it was more important for scientists to engage with non-scientists regarding the excitement and enjoyment of doing science.

Grants Consulting

- NSF-SRN Sustainability Research Networks Competition, Aaron Packman, PI. (Evaluator, 5%)
- AT&T STEM Initiative, Mike Kennedy, PI (Instructional 10%)
- NIH Director’s Biomedical Research Workforce Innovation Award: Broadening Experiences in Scientific Training (BEST), Northwestern University Broadening Experiences in Scientific Training (NU-BEST), William Karpus, PI (Instructional, 7%)
- NSF- Research Training Groups in Mathematical Sciences (RGT), William Kath and Danny Abrams, PI (Instructional, 5%)
- 8 NSF Early Career

Grant Writing Assistance

The Center has assisted faculty with the preparation of proposals to external funders such as AHRQ, the Robert Wood Johnson Foundation, NSF and NIH. To enhance the grant writing
capacity of Northwestern faculty, the Center continues to offer yearly workshops on how to write the pedagogical and evaluation sections of grants.

**Focus Groups:**
The Searle Center conducted additional focus groups:

- Two focus groups were conducted for Northwestern’s Faculty Distance Learning Workgroup (FDCW). One was designed to capture the experience of Northwestern students who participated in the Semester Online courses. The other was designed to capture the experience of students who participated in Todd Murphey’s blended Engineering Analysis 2 course (which combined both in-class and online/MOOC resources).
- Focus group to acquire feedback from students (all PhDs and MDs) in a mentoring research program in Feinberg.
- A focus group was conducted of residents in Otalaryngology program (FSM) to capture their experiences being mentored and getting feedback.
- A focus group was conducted of students who were in the CTEC pilot study courses, to determine if they understood what the new CTEC learning objectives questions were asking.
III. SERVICES

The Searle Center has continued to develop the teaching and learning services it provides for faculty and graduate-student instructors across the University.

SERVICES FOR FACULTY & INSTRUCTORS

End-of-Term Focus Groups
Since the university does not administer Course and Teacher Evaluations to courses with fewer than 5 students, instructors may request a CTEC-style focus group from the Searle Center. A trained staff member will pose questions drawn from the university CTEC and from Searle’s Small Group Analysis questionnaire, noting points of agreement and disagreement. After grades have been submitted, the staff member will share the student responses with the instructor. This year, we completed 6 end-of-term-focus groups.

Individual Consultations
The Center provides individual consultations to faculty and other instructors at the University, from Evanston, Chicago and NU-Q campuses. These are often carried out in conjunction with either an SGA or structured observation, or in response to end-of-term course evaluations. They can also be stand-alone or ongoing meetings to engage in a variety of teaching, curriculum planning, and grantwriting activities, for individuals or in campus units. Searle Center senior staff worked individually with approximately 130 faculty members this year, consulting on issues of teaching, assessment, and grantwriting.

Innovative Grants for Teaching
The grants are designed to support faculty, staff, post-docs and graduate students who wish to experiment with new ways to help students learn. This year we worked respectively with Shannon Milikin and Chyi Chang in the Department of Spanish and Portuguese and Tom Mason in the Department of Materials Science on their mentoring project (which they received in 2012-2013)

Small Group Analysis (SGA)
During a Small group analysis, Center staff and trained graduate-student Teaching Consultants (TCs) conduct a structured focus group with students in a class, and provide instructors with detailed and candid feedback during a follow-up meeting. In 2013-2014, we conducted 99 SGAs for faculty and graduate instructors.
Structured Observations (SOs)
In structured observations, Center staff and Graduate Teaching Fellows observe an instructor’s teaching, taking detailed notes about key areas, including student engagement, critical thinking, and effectiveness of teaching approaches. Includes follow up consultation; sometimes combined with SGA. In 2013-2014, we conducted 25 structured observations for faculty and 18 for graduate students.

SERVICES TO THE UNIVERSITY AND BROADER COMMUNITY

Robert E. Menges Library
The Center continues to add to its holdings (books, articles, journals, and DVD/videos), providing faculty/staff and graduate students with easy access to the rich literature on teaching and learning. We have continued to donate materials to the University Archives (including video recordings of University Teaching Series events, foundational materials, professional correspondence, etc.), so that they may be archived properly. In addition, we have continued to use substantial new technologies to the library (cameras, interactive white board, and other specialized equipment), to communicate with our stakeholders and collaborators and to model effective integration of teaching and technology. We now have over 1000 holdings. northwestern.edu/searle/services_and_resources/center_library.html.

Twitter Account
“The Center’s twitter account (@searleteaching) promotes Center programs and events, disseminates news about our work, and links to compelling articles on teaching and learning in the media and scholarly publications. The Center tweets an average of 3-4 times a week and has garnered 536 followers. The Twitter account can be found at twitter.com/searleteaching.

Website
This year, we completed a major overhaul of our website with the help of the NU Web Communications team. The new site launched in November, with a visual and content change from the previous site. The new website highlights all facets of the Center’s work in advancing learning and teaching, from student learning to teacher development to research, as well as improve accessibility to our programs and provide clearer information on our ongoing work.
The website includes a teaching-and-learning-themed blog. Between December 3, 2013 and June 30, 2014, the Center site had 5,476 unique users and 47,687 page views.

**Additional communications:**
In addition to the website, we started three communications-related pieces in September: *a monthly e-newsletter, a Center Facebook page, and a Center blog* focusing on learning and teaching issues. Much like the new website, this new digital presence for the Center has allowed us to expand and improve upon our communication with the faculty, students, and staff about the many opportunities and activities at the Searle Center.
IV. DISSEMINATION

ACADEMIC PUBLICATIONS & PRESENTATIONS

In Press


Publications September 2013-August 2014


Talks & Paper Presentations

Presentations September 2013- August 2014


Light, G. (2014, March). Developing student research capacity and addressing private sector challenges through partnerships at the course level. Talk given at the National Round Table Exploring Partnerships for Research and National Development, AmidEast, Ramallah, West Bank.


Light, G. (2014, March). *In pursuit of learning: A framework for rethinking teaching in the sciences*. Talk given at the University of Minnesota, Minneapolis, MN.


Light, G. (2014, February). *The scholarship of teaching and learning: From small scale to large scale research*. Talk and workshop at the University College Dublin, Dublin, Ireland.


Lo, SM, Flores LC, Drane DL, Swarat SL, Beitel GJ, Light GJ. *Increased retention from a summer bridge program focused on academics, community, and leadership*. Experimental Biology 2014, San Diego CA (04/2014).


UNIVERSITY CONTRIBUTIONS/OUTREACH

Committee Work

Inside Northwestern

- Assessment Council (Susanna Calkins)
- Assessment Forum Subcommittee (Susanna Calkins, Muveddet Harris)
- Classroom Committee (Susanna Calkins)
- Consolidated Service Center (MOOCs) (Susanna Calkins)
- CTEC Committee (Greg Light; Susanna Calkins, redesign subcommittee)
- Educational Technologies Advisory Committee (Greg Light, chair; Stanley Lo; Susanna Calkins, Learning Outcomes subcommittee)
- Mellon Mays Undergraduate Fellowship review committee – (Marina Micari, Denise Drane)
- Prosthetic Orthotic Center Education Program (NUPOC) Advisory Board (Susanna Calkins)
- Semester Online Committee (Susanna Calkins)
- University Diversity Council (Greg Light (Co-Chair: Academics/ Education Working Group; Marina Micari, subcommittee)
- Undergraduate Research Assistant program Review Committee – Greg Light
- Supporting Transition of Admitted Students Committee – Greg Light, Marina Micari (subcommittee chair), Andy French, Luke Flores, Erica Maslanka
- Learning management systems committee (Stanley Lo)
- Teagle Foundation Grant Steering Committee (Denise Drane, Nancy Ruggeri)

Outside Northwestern

- Committee on Institutional Cooperation (CIC) Teaching Center Directors group – Susanna Calkins, Greg Light, Nancy Ruggeri
- NSF External Advisory Committee for KEYSTONE Project, KEYs to Success Through year ONE (Elmhurst College) – Denise Drane
- NSF National Advisory Board: Collaborative Research: Integrating Cognition and Measurement with Conceptual Knowledge: Establishing the validity and diagnostic Capacity of Concept Inventories (Greg Light)
- NSF National Advisory Board: Critical Thinking Assessment (CAT) Tool (Greg Light)
- Professional Organizational Network (POD), History Committee (Susanna Calkins)
- Chicago Symposium on Excellence in Teaching Mathematics and Science: Research and Practice, planning committee and host organizer (Stanley Lo)
Teaching

- Susanna Calkins: MSHE 467 – History and Philosophy of Higher Education (SESP)
- Susanna Calkins: MSHE 405 – Learning and Teaching in Higher Education (SESP)
- Susanna Calkins: Hist 201-B – European Civilization II (SCS)
- Denise Drane: CSD 304 – Statistics in Communication Sciences and Disorders (SoC)
- Denise Drane: CSD 446 Evidence-Based Practice
- Stanley Lo: BiolSci 215 – Genetics and Molecular Biology (WCAS)
- Stanley Lo: BiolSci 241 – Biochemistry (WCAS)
- Greg Light: MSHE 405 – Learning and Teaching in Higher Education (SESP)
- Marina Micari: SESP 291 – Undergraduate Mentoring (SESP) (GSW Facilitator training course)
- Marina Micari: MSLOC Capstone Advising (SESP)
- Muveddet Harris: MED INF 403-DL – Introduction to Medical Informatics [Fall, Spring] (SCS -MMI)
- Muveddet Harris: MED INF 498-DL – Capstone Project [Fall, Winter, Spring, and Summer] (SCS -MMI)

Reviewing

- American Educational Research Association (Stanley Lo) American Journal of Evaluation (Marina Micari)
- CBE Life Sciences Education (Stanley Lo)
- Education Research Review (Greg Light)
- Higher Education (Greg Light)
- Higher Education Research & Development (Greg Light)
- International Journal of Academic Development (Greg Light, Susanna Calkins, Denise Drane)
- Journal of Engineering Education (Greg Light)
- International Journal of Science Education (Greg Light, Marina Micari)
- International Journal of Teaching and Learning in Higher Education (Susanna Calkins, Marina Micari)
- Journal of Engineering Education (Denise Drane, Greg Light)
- Journal of Research in Science Teaching (Greg Light)
- Journal of Women and Minorities in Science and Education (Marina Micari)
- Journal of AIDS Clinical Research and STDs (Rachael Baiduc)
- National Science Foundation Grant Review Panels (Greg Light)
- Nanotechnology Reviews (Denise Drane)
- Reports of the National Center for Science Education (Nancy Ruggeri)
- Science (Greg Light)
**Additional Outreach**

- Greg Light and Susanna Calkins held a skype session on “Higher Education and MOOCs” for German students at Humboldt University in Berlin, Germany.
- Susanna Calkins and Greg Light hosted ten University teachers from Central University in China, discussing key principles in learning & teaching in higher education.
- Stanley Lo Presented talk with John Mordacq on “Assessing student learning in inquiry-based biology laboratory courses” at NU Assessment Forum (10/2013)
- Stanley Lo Facilitated curriculum revision meetings for Department of Biology, Illinois College (Stanley Lo)

**PROFESSIONAL DEVELOPMENT ACTIVITIES**

**External**

- National Academies Mountains West Summer Institute on Undergraduate Education in Biology (July 2014) (Stanley Lo, Facilitator)

**Internal**

- All staff: Searle Center annual staff retreat (February 2014)
- All staff: Rick McGee Talk - Drowning in Data: Understanding and Guiding the Career Trajectories of Biomedical PhD Students with Attention to Race, Ethnicity and Gender April 10, 2014
- The Women’s Center: Cultural Competence & Courageous Pedagogy: Teaching for Inclusion, Equity, and Excellence Workshop (May 2014) (Muveddet Harris)
- AHEAD Discussion by Jake Julia: Northwestern’s Culture of Decentralization: How to successfully navigate it, and use it to your advantage (Muveddet Harris)
- Canvas Training (Susanna Calkins, Muveddet Harris)
- Team Content: User-driven content strategy. Office of Web Communications (2014) (Muveddet Harris, Erica Maslanka)
- Northwestern University Assessment Forum (October 2013) (Participants: Susanna Calkins, Denise Drane, Muveddet Harris, Nancy Ruggeri)
- Northwestern Workshop: First-Generation Students and Study Abroad (Erica Maslanka)
- Attended Northwestern Cascade Training (2013) (Erica Maslanka, Muveddet Harris, Nancy Ruggeri, Marina Micari)
- Northwestern Registrar’s Office Training (Erica Maslanka)
• 4 day (1/2 days) seminar “Research Administration Training Seminar” (September 2013) (Dreana Rubel).
• 3 training classes for NuPlans Forecasting (April 2014) (Dreana Rubel).
• Depaul Assessment of Learning Conference (March 2014) (Susanna Calkins).
• Higher Learning Commission (Susanna Calkins).
V. PEOPLE

SEARLE CENTER STAFF 2013-2014

Principal Staff

- Oluremi Akinyemi, Project Coordinator
- Rachael Rebecca Baiduc, Associate Evaluator*
- Susanna Calkins, Associate Director
- Denise Drane, Associate Director
- Louise Edwards Newman, Graduate Assistant
- Andrew French, Program Coordinator
- Luke Flores - Senior Associate: SRW, BioExcel & NU BioScientist programs
- Clare Forstie, Graduate Assistant
- Muveddet Harris, Program Associate*
- Greg Light, Director
- Stanley Lo - Senior Associate: STEM projects
- Erica Maslanka, Program Coordinator*
- Marina Micari, Associate Director
- Jennifer Pickard-Criswell, Research/Program Coordinator**
- Theresa Pfister, Program Associate*
- Dreana Rubel, Center Manager
- Nancy Ruggeri, Associate Director

*Joined during 2013–2014
**Left during 2013–2014

Work-Study Students

- Liliana Bonilla
- Cindy Chen
- Ayo Olagbegi

Interns

- Charles Gaber
- Melissa Hayne
- Sheldon Walcher
- Ken Woo
- Megan Kalata
- Andrew Donaldson

External Associates of the Center

- Bernhard Streitwieser - International Research Associate
- Su Swarat – Research Associate
- Sara Woods – Project Consultant
<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>James Edward Colgate</td>
<td>Professor, Mechanical Engineering, McCormick School of Engineering &amp; Applied Science</td>
</tr>
<tr>
<td>Robert Linsenmeier</td>
<td>Professor, Neurobiology &amp; Physiology, Weinberg College of Arts &amp; Science</td>
</tr>
<tr>
<td>Franziska Lys</td>
<td>Associate Professor, German, Weinberg College of Arts &amp; Sciences</td>
</tr>
<tr>
<td>Lawrence Pinto</td>
<td>Professor, Neurobiology &amp; Physiology, Feinberg School of Medicine</td>
</tr>
<tr>
<td>Chris Riesbeck</td>
<td>Associate Professor, Electrical Engineering &amp; Computer Science, McCormick School of Engineering &amp; Applied Science</td>
</tr>
</tbody>
</table>
Searle Fellows

Koray Aydin
Engineering and Computer Science
Mentor: Seda Memik

Amy Shirong Lu
Communication Studies
Mentor: Steven Zecker

Neda Bagheri
Chemical and Biological Engineering
Mentor: Lonnie Shea

Eric Masanet
Mechanical, Chemical and Biological Engineering
Mentor: Wesley Burghardt

John Brinkmann
Physical Medicine and Rehabilitation/NUPOC
Mentor: Babette Seligmann Sanders

R. Kannan Mutharasan
Medicine - Cardiology
Mentor: Tom Corbridge

Erin F. Delaney
Law
Mentor: Leonard S Rubinowitz

Anna M. Parkinson
German
Mentor: Peter Fenves

Mesmin Destin
Human Development and Social Policy/Psychology
Mentor: Douglas L. Medin

James W. Schroeder, Jr.
Pediatric Otolaryngology - Head & Neck Surgery
Mentor: Mary Nevin

Marcela Fuentes
Performance Studies
Mentor: Ramón Rivera-Servera

Aaron Shaw
Communication Studies
Mentor: Noshir Contractor

Kyle Henry
Radio, Television, and Film
Mentor: Eric Patrick

Jennifer Armstrong Strople
Pediatric Gastroenterology, Hepatology and Nutrition
Mentor: Estella M. Alonso

Alanna Higgins Joyce
Pediatrics/Division of Hospital-Based Medicine
Mentor: Heather Heiman

Emily Withrow
Journalism
Mentor: Patti Wolter

Sinan Keten
Mechanical Engineering/Civil & Environmental Engineering
Mentor: David Corr
Teaching Consultants, 2013-14

- Mirian Diop, Chemical and Biological Engineering
- Tracy Dobie, Learning Sciences
- Kate Dugan, Religious Studies
- Clare Forstie, Sociology
- Jennifer Hobbs, Physics
- Lindsey Madison, Chemistry
- Rebecca Marchiel, History
- David Molina, Rhetoric and Public Culture
- Garrett Morrison, English
- Sarah Roth, English
- Emil Temnyalov, Economics
- Desiree Weber, Political Science

Graduate Teaching Mentors, 2013-14

- Christy Simonian Bean, Interdisciplinary PhD in Theatre and Drama
- Daphne Demetry, Sociology
- Madison Fitzpatrick, Civil and Environmental Engineering
- Natalie Gruenke, Chemistry
- Matt June, History
- Taylor Page, Chemistry

NTAC Workshop Leaders, 2013-14

- Miguel Bessa, Mechanical Engineering
- Stephanie Brehm, Religious Studies
- Tracy Dobie, Learning Sciences
- Jeremy Gouldey, Earth and Planetary Sciences
- Catherine Harrington, Radio, Television and Film
- Elias Krell, Performance Studies
- Esther Liu, Communication Studies
- Lindsey Madison, Chemistry
- Rebecca Marchiel, History
- David Molina, Rhetoric and Public Culture
- Louise Edwards Neiman, Interdisciplinary PhD in Theatre and Drama
- Cora Palfy, Music
- Sarah Roth, English
- Jennifer Schoborg, Chemical and Biological Engineering
- Abigail Stahl, French and Italian
• Kati Sweaney, Interdisciplinary PhD in Theatre and Drama
• Emil Temnyalov, Economics
• Greg Tyson, Biological Sciences/NUIN

Graduate Teaching Certificate Program participants, 2013-14

• Michael Anderson, Interdisciplinary PhD in Theatre and Drama
• Deepika Anand, Psychology
• Rebecca Barrett, Theatrical Design
• Irina Bobkova, Mathematics
• Janet Bourne, Music Studies
• Annie Bruns, Interdepartmental Biological Sciences
• Derek Burk, Sociology
• Jennifer Callaghan, Religious Studies
• Mark Ciaccio, Chemical and Biological Engineering
• Colleen Daniher, Performance Studies
• Rachel Dudek, Chemical and Biological Engineering
• Annalese Duprey, English
• Megan Geigner, Interdisciplinary PhD in Theatre and Drama
• Dawna Goens, Sociology
• Guillermo Ivan Guerrero Garcia, Materials Research Science and Engineering Center
• Paul Hartzog, Plant Biology and Conservation
• Alyssa Haynes, Chemistry
• Beth Healey, History
• Kaitlin Hill, Engineering Sciences and Applied Mathematics
• AbigailHogan-Brown, Communication Sciences & Disorders
• Reva Johnson, Biomedical Engineering
• Ashley Johnson, History
• Ena Jung, Music Studies, German
• Woosook Jung, Management and Organizations
• Matthew Kahn, History
• Lauren Keenan-Devlin, Anthropology
• Mark Kim, Accounting Information and Management Department
• Samuel Kling, History
• Candace Kohli, Religious Studies
• Assata Kokayi, African American Studies
• Elias Krell, Performance Studies
• Hosanna Krienke, English
• Jisun Lee Song, Chemical and Biological Engineering
• Lizzie Leopold, Interdisciplinary PhD in Theatre and Drama
• David Lipps, Biomedical Engineering
• Esther Liu, Communication Studies
• Lindsey Madison, Chemistry
• David Cesar Malaspina, Biomedical Engineering
• Heather Mayes, Chemical and Biological Engineering
• Alissa Mrazek, Psychology
• Jessica Neushwander, French and Italian
• Jennifer Nichols, Biomedical Engineering
• David Ovadia, Economics
• Cora Palfy, Music Studies
• Bradley Phillippi, Anthropology
• Chris Pike, Slavic Languages and Literatures
• Polina Pine, Biomedical Engineering
• Azucena Rodriguez, NUSTART/Northeastern Collaboration
• Lindsey Sankin, Psychiatry & Behavioral Sciences/Clinical Psychology Program
• John Savaryn, Proteomics Center of Excellence
• Ian Saxine, History
• Madeline Smith, Technology & Social Behavior
• Monica So, Chemistry
• Rory Sykes, Art History
• Alireza Talebpour, Civil and Environmental Engineering
• Rachel Taylor, History
• Rebecca Tonietto, Plant Biology and Conservation
• Tanushree Vachharajani, English
• Nengding (Julie) Wang, Microbiology/Immunology
• Noah Weiss, Engineering Sciences and Applied Mathematics
• Daniel Wells, Engineering Sciences and Applied Mathematics
• Leah Witus, Chemistry
• Stephanie Wolfe, Religious Studies

Graduate Teaching Fellows, 2013-2014
• Mirian Diop, Chemical and Biological Engineering
• Kate Dugan, Religious Studies
• Faye Gleisser, Art History
• Jennifer Hobbs, Physics
• Joshua Kaiser, Sociology
• Garrett Morrison, English
• Matilda Stubbs, Anthropology
• Desiree Weber, Political Science
• Tyler Zimmer, Philosophy
### VI. APPENDIX

**FACULTY PROGRAMS DATA**

Faculty Workshop Series

<table>
<thead>
<tr>
<th>Workshop Title</th>
<th>Date</th>
<th>Attendance</th>
<th>Average Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beyond CTECs: Developing Meaningful Course Evaluation 2013</td>
<td>10.16.13</td>
<td>4</td>
<td>4.7</td>
</tr>
<tr>
<td>Diversity Series: Enhancing Your Teaching for Students with Disabilities</td>
<td>10.21.13</td>
<td>9</td>
<td>4.7</td>
</tr>
<tr>
<td>Critical Thinking (Faculty &amp; Grad Students/Post docs)</td>
<td>10.23.13</td>
<td>20</td>
<td>NA</td>
</tr>
<tr>
<td>Setting Your Students Up to Succeed: Designing a Learner-Centered Course</td>
<td>11.04.13</td>
<td>8</td>
<td>4.3</td>
</tr>
<tr>
<td>Developing an Effective Pedagogical Component for Your Grant Proposal</td>
<td>12.03.13</td>
<td>4</td>
<td>4.0</td>
</tr>
<tr>
<td>Connecting with the Crowd: Lecturing Effectively in Large Classes</td>
<td>01.23.14</td>
<td>10</td>
<td>4.4</td>
</tr>
<tr>
<td>Focus on Assessment: Grading with Intent - Designing Effective Assessments to Improve Student Learning</td>
<td>02.12.14</td>
<td>8</td>
<td>4.2</td>
</tr>
<tr>
<td>Playing with ideas: creativity inside and outside the classroom</td>
<td>02.19.14</td>
<td>13</td>
<td>NA</td>
</tr>
<tr>
<td>Writing to Learn: Developing and Evaluating Writing Assignments within the Disciplines</td>
<td>03.05.14</td>
<td>6</td>
<td>4.0</td>
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<tr>
<td>Developing an Effective Pedagogical Component for Your Grant Proposal</td>
<td>03.10.14</td>
<td>13</td>
<td>4.8</td>
</tr>
<tr>
<td>Developing Effective Learning Objectives (Online)</td>
<td>03.11.14</td>
<td>5</td>
<td>4.5</td>
</tr>
<tr>
<td>Leading Small Group Discussion (Chicago Campus)</td>
<td>04.03.14</td>
<td>4</td>
<td>NA</td>
</tr>
<tr>
<td>Considering Student Diversity in STEM: Creating an Inclusive Environment (Faculty &amp; Grad Students/Post docs)</td>
<td>04.11.14</td>
<td>20</td>
<td>4.5</td>
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<tr>
<td>Infusing Critical Thinking into Your Course Design</td>
<td>06.04.14</td>
<td>11</td>
<td>4.3</td>
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</tbody>
</table>

*Rating: Overall, the workshop benefited me. (1 Strongly Disagree – 5 Strongly Agree)
## University Teaching Roundtable Series

<table>
<thead>
<tr>
<th>Roundtable Titles</th>
<th>Date</th>
<th>Attendance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching as Leadership: Emotional Intelligence and Course Objectives</td>
<td>02.10.14</td>
<td>18</td>
</tr>
<tr>
<td>Teaching in a Controlled Environment: Lessons from Qatar and the West Bank</td>
<td>04.21.14</td>
<td>16</td>
</tr>
<tr>
<td>A Discussion of the First-Generation Student Experience in the Northwestern Classroom</td>
<td>04.23.14</td>
<td>10</td>
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<tr>
<td>Teaching the Unteachable: Pedagogies for Teaching Disturbing Topics in the Classroom</td>
<td>05.19.14</td>
<td>23</td>
</tr>
<tr>
<td>The Challenge of Assessment in Large Classes: Faculty and student perspectives (brownbag discussion)</td>
<td>05.28.14</td>
<td>8</td>
</tr>
</tbody>
</table>

Searle Fellows: 17
New Faculty Workshop: 30
New TA Conference, 2013

Total Attendance: 267
Total Registered: 312

Average Rating: 4.59 (Department-Specific Workshops); 4.03 (Cross-Disciplinary Workshops 1); 4.04 (Cross-Disciplinary Workshops 2)

Participation by Disciplines:

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>STEM (Science, Technology, Engineering, Math)</td>
<td>48%</td>
</tr>
<tr>
<td>Humanities</td>
<td>27%</td>
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<tr>
<td>Social Sciences</td>
<td>25%</td>
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</tbody>
</table>

2013-2014 Graduate Teaching Certificate Program participation:

Total participants: 63

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>STEM (Science, Technology, Engineering, Math)</td>
<td>41%</td>
</tr>
<tr>
<td>Humanities</td>
<td>43%</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>16%</td>
</tr>
</tbody>
</table>
## Graduate Workshops

<table>
<thead>
<tr>
<th>DATE</th>
<th>TITLE</th>
<th>ATTENDANCE</th>
<th>AVG. RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/3/13</td>
<td>Developing an Effective Teaching Philosophy and Portfolio</td>
<td>27</td>
<td>4.2</td>
</tr>
<tr>
<td>10/10/13</td>
<td>Engaged Lecturing</td>
<td>8</td>
<td>4.5</td>
</tr>
<tr>
<td>11/4/13</td>
<td>Critical Thinking the Humanities</td>
<td>7</td>
<td>4.4</td>
</tr>
<tr>
<td>11/26/13</td>
<td>Online Teaching and Learning</td>
<td>19</td>
<td>3.6</td>
</tr>
<tr>
<td>1/29/14</td>
<td>In-Class Problem Solving: an Approach to Effective Learning in STEM</td>
<td>11</td>
<td>4.4</td>
</tr>
<tr>
<td>2/24/14</td>
<td>Managing Academic Integrity for You and Your Students</td>
<td>11</td>
<td>4.4</td>
</tr>
<tr>
<td>2/27/14</td>
<td>Getting Out of the Classroom: Teaching through Civic Engagement and Service Learning</td>
<td>9</td>
<td>4.1</td>
</tr>
<tr>
<td>3/6/14</td>
<td>Building Bridges: Fostering Community in the Classroom</td>
<td>13</td>
<td>4.7</td>
</tr>
<tr>
<td>4/2/14</td>
<td>Developing an Effective Teaching Philosophy and Portfolio</td>
<td>45</td>
<td>4.5</td>
</tr>
<tr>
<td>4/7/14</td>
<td>Facilitating Classroom Discussion</td>
<td>8</td>
<td>4.2</td>
</tr>
<tr>
<td>4/11/14</td>
<td>Considering Diversity in STEM*</td>
<td>11</td>
<td>4.4</td>
</tr>
<tr>
<td>5/6/14</td>
<td>Working with Student Writing</td>
<td>6</td>
<td>4.5</td>
</tr>
<tr>
<td>5/14/14</td>
<td>Designing and Teaching a Freshman Seminar: Lessons Learned</td>
<td>11</td>
<td>3.0</td>
</tr>
<tr>
<td>5/27/14</td>
<td>Teaching with CATs: Classroom Assessment Techniques in STEM</td>
<td>7</td>
<td>3.8</td>
</tr>
<tr>
<td>5/29/14</td>
<td>Beyond the CTEC: Techniques for Evaluating Your Teaching</td>
<td>3</td>
<td>4.66</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>196</td>
<td></td>
</tr>
</tbody>
</table>

*Joint Faculty/Graduate Program*