I-Courses Up Close: An Interview
with Melissa Hayes-Gehrke
By Lisa Rhody, Editor

In Fall 2012, incoming undergraduate students will be required to take two courses from the I-Series to fulfill their General Education requirements. Forming the cornerstone of the new General Education curriculum, I-courses are designed to encourage innovative, imaginative thinking about big and as-yet-unanswered questions. I-courses present a unique opportunity for faculty to design a class that centers on current debates in a way that is approachable for first and second year non-majors. This article is the second of a two-part series that highlights the accomplishments and challenges of faculty who have helped to pioneer the I-Series at the University of Maryland.

In this issue of Teaching and Learning News, Dr. Melissa Hayes-Gehrke from the Department of Astronomy discusses the development and implementation of her course titled “Collisions in Space: The Threat of Asteroid Impacts.” Dr. Hayes-Gehrke’s work has been published in The Astronomic Journal and the Bulletin of the American Astronomical Society. She specializes in teaching non-science majors and has published articles on improving teaching and learning.

Lisa Rhody: Why did you want to develop an I-course?

Melissa Hayes-Gehrke: When I read the CFP, it looked like an opportunity to overhaul a course I teach regularly to make it more interesting, more focused, and more relevant to the students. Also, I thought it was a good chance for me professionally to have that experience, and it would bring a little bit of attention to the department. All those things came together.

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By now you have settled into your Spring semester classes, and much like last year, this semester started off with what seems to be the “new normal” for the semester’s first week, wrought with weather-related delays and cancellations. As annoying as delays and cancellations can be, they also remind us that most student learning takes place outside scheduled class meeting times, and when the University closes, student learning can still happen. Nearly all University of Maryland courses use of some type of technology-assisted learning network such as ELMS, wikis, blogs, or even class email lists, and with these tools students can usually access course materials and participate in learning activities even when classes are cancelled.

Over the last few years, increasingly useful technology tools designed to improve student engagement and learning have become widely available to faculty, and in response faculty are experimenting with applications of these tools and finding effective ways to extend learning beyond the classroom walls. In particular, Wimba and Panopto, software that captures video and audio for distribution through ELMS, are proving powerful tools.

Wimba, available through ELMS, provides audio and video capability, which allows instructors to hold classes and discussions online in real time. During Fall semester in addition to traditional face-to-face (F2F) exam review sessions, I began offering online review sessions through Wimba Live Classroom, which worked well for my large (~300 students) introductory science class. These online sessions occurred in the evening, and I archived the session for students who were not able to attend the online meeting. Students’ questions and interactions were similar to those in the F2F review sessions, but because students frequently chose to type their questions in the text-based “chat” box, questions tended to be more focused than when asked orally. Both teacher and students can use the video and text chat options and while students opted to type their questions, I could respond verbally using the video features, which I preferred because I don’t consider myself an efficient typist. Online review sessions offered my students and me additional freedoms. For example, I didn’t have to go through the usual protocols of finding classroom space. I could simply decide on a time that worked for my students and me, and I could do the review from home. Since my exams always fell on a Monday, I offered Sunday evening sessions, and students could access the review session wherever they had an Internet connection. Yes, they needed access to the Internet and a computer, and while this may have disadvantaged a few students, it probably affected no more students than the traditional F2F review sessions, which require adjusting schedules and frequently arranging transportation. Because sessions were recorded and archived, students unable to attend the review session in real time could still benefit from watching the recording.

Next, I experimented with Panopto, a tool that allows teachers to capture and disseminate audio, video, and slide presentations with ease. All University of Maryland technology equipped classrooms have classroom capture capabilities, though some are limited to audio without video. Furthermore, teachers can download and install the software on their personal computers that enables them to record, upload, and edit video from the comfort their own office or home. Last semester, I used Panopto for two purposes: to provide comments on exams and to provide instruction when class could not meet as regularly scheduled. Rather than using class time to debrief students on graded exams, I simply made a short video of my comments regard-
Book Review: Learning to Grade All Over Again

*Introduction to Rubrics*

by Dannelle Stevens and Antonia Levi

By Alison Bassi

In *Introduction to Rubrics: An Assessment Tool to Save Grading Time, Convey Effective Feedback, and Promote Student Learning*, Dannelle Stevens and Antonia Levi from Portland State University hope to convince readers of the benefits of using rubrics to assess student work and performance. Focusing on rubrics in higher education environments, they argue that rubrics benefit both instructors and students. Rubrics allow instructors to score and to provide efficient and effective feedback while clarifying expectations of student performance.

The book is broken into two sections. The first introduces the basics of rubrics, with three chapters dedicated to the components of a rubric, a justification for the use of rubrics, and a how-to of constructing a rubric. The second deals with rubrics in a variety of contexts, with four chapters exploring collaboration on rubric construction with students, colleagues, and teaching assistants, rubrics for specific disciplines and complex assignments, and grading with rubrics. Because the chapters are organized by topic area, the book is easy to navigate as a reference. The authors write in clear and direct language as they work through each topic, supporting points with examples from their own experiences or those of their colleagues. The book contains appendices with examples of blank rubric formats and detailed rubrics targeting student tasks from different disciplines. Stevens and Levi have also created a supplemental website with electronic versions of rubric resources: [http://styluspub.com/resources/introductiontorubrics.aspx](http://styluspub.com/resources/introductiontorubrics.aspx).

*Introduction to Rubrics* is a useful tool for those who have never created their own rubrics or who have limited experience with rubrics. The authors devote ample time to explaining each step in the process of creating rubrics, alone or collaboratively. They walk the reader through various methods for grading an assignment and giving feedback with a rubric, including how a marked rubric connects to a numeric score and letter grade. These aspects of the book make it possible for those who have limited or no experience with rubrics to more confidently go through the process of creating and piloting a rubric.

Another strong area of the book is its range of tested rubric examples. Those who have already worked with rubrics may be familiar with their use in assessing research papers and oral presentations. Stevens and Levi move beyond that, working through examples of rubrics for laboratory work and portfolio projects. They also include rubrics that support their argument of rubrics for larger learning objectives and student tasks not typically associated with rubric use, such as classroom participation and critical thinking skills. All of the rubrics in the book have been used successfully at Portland State University.

Stevens and Levi’s work has value for those who perceive rubrics as simply a time saving device. Rubrics are more than an efficient grading mechanism, and the authors emphasize the way in which rubrics that assess student learning objectives for a particular task can be derived from the learning objectives for a particular course or discipline. Instructors can use learning objectives not only in the creation of the initial rubric, but to assess student learning after an assignment is completed. Student performance on elements of the assignment can show which learning goals were met. This helps instructors to determine what may or may not be working in classroom instruction as well as potential ways to tweak the rubric to make it an even more effective assessment tool for the future.
College of Arts & Humanities Launches Online Initiative

Under the direction of Dean James Harris, The University of Maryland’s College of Arts and Humanities recently launched an initiative to support the development of courses offered online that are designed and taught by regular faculty members from departments across the college. The goal is to provide the same quality of instruction and depth of student experience as the College’s campus-based classes. As Dean Harris explained, “Our primary resource is our faculty, whose expertise in their chosen fields and experienced, responsive teaching defines our university’s value in higher education. This is why our online initiative begins with a focus on educating our faculty about online teaching and learning and supporting them in their efforts to develop high quality online courses. At this point in time, we are establishing expertise in a new and dynamic area—not restructuring our basic delivery of courses.”

Online programming is a growing trend among institutions of higher learning. By some estimates, there will be nearly 4 million college students taking online courses by 2014 (Source: Babson Survey Research Group, cited in Chronicle for Higher Education, Section B, November 5, 2010). But the offerings of online education are deceptively diverse. Private and for-profit institutions, such as The University of Phoenix and Kaplan University, are most visible in the landscape of higher education at the moment. These types of online programs promote a model of education that is based on consistency of product and instruction. Under this model, the curriculum and teaching are pre-set by instructional design teams who produce courses that are taught by trained instructors. But many concerned about higher education reject the for-profit online university model as overly mechanized and unresponsive to diverse student interests and to the crucial role of individual faculty expertise and experience in high quality education.

The College of Arts & Humanities hired Dr. Margaret Foley McCabe, an independent consultant on teaching with technology, to work with ARHU’s Assistant Director of Academic Technology, Jennifer Patterson, to design a course development program that would transform faculty members’ current classroom–based teaching into effective online instruction. Dr. McCabe, who has worked with universities developing online programs since 1994, sees the current climate as a pivotal time in online education: “We are past the point of debating whether or not this is a good idea. Online communication simply is a part of our daily interaction and opens a vast realm of resources and possibilities for education. More sophisticated questions are now at the forefront: ‘Who do we believe are most qualified to make instructional decisions for students?’ ‘How do we support best efforts and assure that our standards for quality are being met?’ For those of us who believe that faculty members continue to be the experts in their fields of study and teaching, it becomes the institutions’ job to provide support and resources for them to make informed decisions and to collaborate with them in defining means to assess and improve efforts.”

Eleven ARHU faculty members were selected through an application process to participate in the online course development initiative. The program involved three stages: 1) an intensive workshop to explore best practices in online teaching and guide the online curriculum design process; 2) instructional design and development support to identify appropriate technologies and implement the plan; and 3) support during the teaching of the first iteration of the course. It is hoped that this process will create a network of collegial and institutional support for future online courses from across the college curriculum.

“ARHU” continued on next page...
The live workshop took place from January 10-14, 2011. “It was an intensive effort on everyone’s part,” reflected Dr. McCabe. The workshop gave faculty members an opportunity to observe a range of online courses, speak with instructors who have already taught online about their experiences, consider research in the field, experience learning in the UMD online environment, and apply their understandings to their own online courses. Elizabeth Bergmann Loizeaux, Associate Dean of The College of Arts & Humanities, and Kathleen Cavanaugh, Assistant Dean of the College, directed the planning and implementation of the initiative with assistance from Jennifer Patterson and Heather Rodriguez in ARHU’s Academic Technology unit. Professor Loizeaux summarized the immediate feedback from the participants: “Clearly the workshop was a huge success. The faculty found it informative, stimulating, and inspiring. One of the most exciting benefits was the opportunity for faculty to work across departments.”

The College will track and support the faculty’s progress as they develop their online courses from now until the Summer 2011 semester, when some will be taught for the first time.

Watch Clips from the Workshop

Using the following URLs, you can watch segments of the ARHU workshop and see first-hand the issues faculty are grappling with as they consider how best to utilize technology in their online courses.

 зр Workshop participants discuss how the arts and humanities are uniquely positioned to help students become critical consumers in an age of information overload.
http://streaming.umd.edu/academic/hrodrig/facultyworkshop12.mov

 зр Dr. Sangeeta Ray from the Department of English discusses assigning students the task of establishing criteria for evaluating information and research sources in her online course.
http://streaming.umd.edu/academic/hrodrig/facultyworkshop3.mov

 зр Dr. Allen Stairs from the Department of Philosophy presents his method of using discussion boards in order to encourage students to think like philosophers.
http://streaming.umd.edu/academic/hrodrig/facultyworkshop4.mov

ARHU Online Initiative Participants
Sheri L. Parks, “New Media and Emerging Strategies for Social Activism”
Audra K. Buck-Coleman, “Issue-based Information Design”
Trevor S. Parry-Giles, “Political Campaign Communication”
Leah Waks and Jianmei Liu, “Essentials of Intercultural Communication”
Kimberly Anne Coles, “Introduction to Shakespeare: ‘Mr. Shakespeare Goes to Hollywood’”
Sangeeta Ray, “Global Literature and Social Change”
Bernard D. Cooperman, “Toleration in Religious Societies”
Mathias F. Frisch, “Heated Debates: Philosophical Issues concerning Climate Change”
Michael P. Hewitt, “Assessment in Music Education”
Each semester, the Center for Teaching Excellence offers workshops for faculty, lecturers, administrators, and graduate teaching assistants in the effort to promote improvements in undergraduate education. This semester, CTE and Undergraduate Studies will collaborate to offer workshops about the emerging General Education Program, which will go into effect Fall 2012. Even more detailed descriptions of each workshop are available at the CTE website: http://www.cte.umd.edu/teaching/workshops/index.html. Information regarding the General Education learning outcomes for each course category is available at http://www.ugst.umd.edu/GeneralEducation-LearningOutcomes.pdf. All are invited. Lunch will be served. RSVPs on the CTE website or through the CTE’s Facebook page are appreciated.

CTE-UGST Workshop: “I-Course Development”  
Wednesday, February 16, 2011 in the Maryland Room, Marie Mount Hall

In this hands-on workshop, faculty will work on developing/enhancing their I-Course proposals. Faculty experts will be present to help faculty deal with questions such as what pedagogies work for I-Courses, how one uses technology to facilitate student learning and course delivery, and how one addresses the I-Course learning outcomes. More information is available at http://www.cte.umd.edu/teaching/workshops/Spring2011/Feb16.html.

CTE-UGST Workshop: “Understanding Plural Societies and Cultural Competence”  
Thursday, February 24, 2011 in the Maryland Room, Marie Mount Hall

In this workshop faculty will be provided with an overview of what constitutes Understanding Plural Societies and Cultural Competence and with answers to questions regarding learning outcomes/expectations for the GenEd Diversity Requirement. Much of the workshop will focus on faculty conversation addressing what courses in these two GenEd areas might look like. More information is available at http://www.cte.umd.edu/teaching/workshops/Spring2011/Feb24.html.

UTLP Workshop: “Graduate Teaching Assistant Refresher”  
Tuesday, March 8, 2011 in 3121 Symons Hall

If you have been teaching for a while, you probably have picked up some tips and pedagogical skills that you wish you had known about when you started teaching. If you’re getting started, you might wish you could bounce some of your ideas (and frustrations) off of other GTAs with more experience. This workshop will bring together GTAs of various backgrounds to refresh our pedagogical focus and revamp our semesters. Teaching tips and resources will be shared by graduate facilitators and participants, and lunch will be served. More information is available at http://www.cte.umd.edu/teaching/workshops/Spring2011/March8.html.

CTE-UGST Workshop: “Scholarship in Practice”  
Thursday, March 10, 2011 in the Maryland Room, Marie Mount Hall

Scholarship in Practice is a new GenEd area in which students learn how to assess and to apply a body of knowledge to a creative, scholarly, or practical purpose. The resulting application reflects an understanding of how underlying core disciplines can be brought to bear on a subject. In this workshop faculty will be provided with an overview of what constitutes scholarship in practice and answer to questions regarding learning outcomes/expectations for this GenEd area. Much of the workshop will focus on faculty conversation addressing how one integrates scholarship in practice into a course or student learning experiences. More information is available at http://www.cte.umd.edu/teaching/workshops/Spring2011/March10.html.
CTE-UGST: “Big Idea Pedagogies: The I-Courses”  
*Wednesday, March 16, 2011 in the Maryland Room, Marie Mount Hall*

In this workshop a panel of I-course faculty will address how they have tackled the many pedagogical challenges of teaching complex issues where there are no single answers or textbooks and for which they may not have deep expertise. Come join in a stimulating conversation with peers about cutting edge pedagogies that can be adapted to many courses. For more information on I-Series Courses visit the New General Education web site: http://www.ugst.umd.edu/gened-info.html. More information about the workshop can be found at http://www.cte.umd.edu/teaching/workshops/Spring2011/March16.html.

**Education Abroad**  
*Thursday, April 7, 2011 in Biosciences Research Building (BRB 1103)*

In this hands-on workshop faculty will discuss how to ensure academic rigor and deeper learning in short team study abroad courses, how technology can be used to create community, and what works and things to avoid. Experienced study abroad faculty will be present to share advice and insights. Staff from the Study Abroad office will be available to answer questions and provide guidance for faculty who would like to establish or restructure a study abroad course. For more information on Education Abroad visit their web site http://www.international.umd.edu/studyabroad/.

**The Graduate Lilly Fellowship Project:**  
*Defining and Evaluating Pedagogies for Active Learning at the University of Maryland*

*Thursday, April 21, 2011 from 3-5 in the Maryland Room, Marie Mount Hall*

There is an emerging trend in academia to move “outside the classroom” and incorporate civic engagement, service learning, and scholarship in practice (SIP) into curricula. The University of Maryland has followed this progression by recently implementing a change to its general education curriculum that incorporates the latter two into distributive studies requirements. The CTE-Lilly Graduate Teaching Fellows have designed an assessment to help identify both the current state of these practices as well as determine the characteristics that instructors attribute to these terms. By doing so, we aim to elucidate “definitions” of these terms which would, in turn, help universities understand how to identify or create courses that match these classifications.

*Save the Date*

**2011 SENCER Washington Symposium and Capitol Hill Poster Session**  
http://www.ncsce.net/EventsandProducts/dc2011.cfm  
March 27-29, 2011

**Fifth Annual Innovations in Teaching and Learning Conference**  
*Friday, April 29, 2011 in Stamp Student Union*

**Distinguished Teaching Assistant Award Ceremony and Reception**  
*Wednesday, May 11, 2011*

**Lilly-DC Conference on University Teaching and Learning**  
*June 2-5, 2011 @ the Bethesda Hilton in Bethesda, MD*

**Teaching with New(er) Technologies Summer Institute**  
*May 25-27 & June 6-8*
An end-of-the-semester survey indicated that most students found Panopto either “useful” or “very useful” when learning the material.

Technology enhanced learning is changing the way universities operate, deliver courses, and market themselves. Increasingly course content and pedagogy involves computers, technology, networks, and content or course management software. This fundamental change in how we deliver education has progressed beyond its perception as “fad” and, increasingly, shapes the new landscape of a higher education that includes distance education and fully online degree programs. Numerous campus initiatives tackle the complex issue of integrating newer technologies and pedagogies into traditional F2F classes, blended classes where a significant part of the class time is dedicated to on-line interactions, and fully online courses where all course materials are delivered and collected via the internet.

Currently, three important campus initiatives regarding technology’s role in undergraduate education at the University of Maryland are underway: the ELMS review initiative, the blended learning initiative, and College of Arts and Humanities (ARHU) online course initiative. During the Spring semester, more than 20 faculty from across campus are piloting five different learning management systems (LMS) to help determine which LMS will become the campus standard when the current ELMS contract runs out in 2013. Another small committee of faculty is looking at what role blended learning should play in the repertoire of courses we offer at the University of Maryland. The College of Arts and Humanities online learning initiative recruited a small faculty group to develop fully online courses, for the non-traditional semesters. This issue of Teaching and Learning News includes an article about the workshop ARHU conducted to support that group. In addition to these three initiatives, other technology projects are investigating the use of smart devices, such as the I-pad and I-pod touch, for anytime, anyplace learning.

How can you learn more about using these technologies? Many opportunities are available to interested faculty. You could attend and participate in the one-day Innovation in Teaching Conference (ITC) on Friday April 29, during which our colleagues will present some of their work using technology to enhancing student engagement and learning. Another possibility is to participate in the CTE workshop on Teaching with New(er) Technologies in May. During this annual 3-day workshop 12-14 faculty come together to work together to address pedagogical challenges using technology solutions. Information on exact dates and application procedures will be release later this semester. Watch for it on the CTE website.
LR: Your course is titled, “Collisions in Space: The Threat of Asteroid Impacts,” which has a very blockbuster sound to it, much like *Armageddon* or *Deep Impact*. Do you feel the playfulness of the title takes away from the seriousness of the course?

MHG: No, I don’t think that it takes away from the seriousness of the course. Students realize that the title is designed to be catchy, but it really is what the course is about. “Collisions in Space” could happen, and while I emphasize throughout the course that the chances are slim, it is not a zero-chance. In some senses, it should be a little dramatic. The title impresses the potential seriousness of the consequences of such an event.

LR: I-courses are designed for non-majors and address “unanswerable or as-yet-unanswered questions.” How do you address students’ disparate knowledge bases and get them to a place where they can really engage with the complicated, serious questions and science of the course?

MHG: That’s a challenge. One of the things that I enjoy about the I-course is the focus on one problem. As a course about collisions in space, it is focused primarily on the solar system, which means I introduce what the solar system is, how gravity works, how orbits work, how the solar system formed, and then about the properties of asteroids. So we have to build up this base knowledge. As an astronomer, I would love for students to know more because asteroids and the solar system are a small part of astronomy. However, I really forced myself to pare away everything that wasn’t essential to get to the problem of asteroid impacts. That was tough but extremely important.

I also try to present my motivation to the students so they understand that they need to know the basics of the solar system in order to get to the “big question.” Initially, there’s no problem with that, but when you start to get into the formation of the solar system, they wonder, “It’s not forming now, so why do we have to know that?” Therefore, it is critical to connect each topic back to asteroids or asteroid impacts. In the case of the formation of the solar system, asteroids are leftover parts from the formation of the solar system.

From a personal standpoint, the I-course gives me a chance to talk a little bit about the formation of the solar system, which I don’t get to talk about in Astronomy 100. Orbital changes occurred during the formation of the solar system, which is an area that is not usually covered in a survey course. In the I-course, understanding orbital changes becomes more relevant because if an orbit could be changed by natural processes, it could still be happening today. Then, by extension asteroids that were not a threat could become a threat later on. Introducing this idea provides a means for thinking about how we could change an orbit to protect ourselves. So, I try to always connect these discussions back to where we are headed with the course.

LR: I bet that’s hard, especially when there is so much you want to get done and to tell students…

MHG: Exactly. Sometimes I think as an instructor that you have to make connections more explicit than you think you need to. You might think it is obvious that one concept is connected to another and that they build on each other, but students, who are inundated with information, don’t necessarily draw those connections. So, you have to make the connections very explicit when you put the syllabus together. I see all these deeper connections, but students are not necessarily going to do that unless you draw them out.

LR: What other ways is this course different from teaching a 100-level survey course?

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MHG: Well, because it is focused, I can get into a lot more detail on one subject than you can in Astronomy 100. In Astronomy 100, you touch lightly on a bunch of different topics. Here, we go into depth about just asteroids. For example, we’re going to spend three lectures talking about asteroid properties, and we will get into a lot of detail about how astronomers figure them out, about how they calculate different properties of the asteroid—way more detail than you would be able to get into in an introductory class. On the other hand, we’re not going to talk about most of the universe because it is very focused on one question.

LR: Has your method of assessing student work changed between teaching another course and this course?

MHG: Yes. I still have exams, although they include more essay questions, which I don’t have time to do in an introductory course because the grading would just be too much. I ask students to interpret evidence and to have them articulate their ideas rather than asking simply short answer and multiple choice questions. However, I also have a lot of group work, projects, and oral presentations. Those types of assignments lead to grading that is not usually done in an Astronomy course. How I assess students in much of my course this semester is based on group projects and not as heavily, necessarily, on the exams. Shifting the emphasis demonstrates to students that they need to be able to work together to complete a task, which is one of the I-course learning outcomes.

I also started to assess how much students learn from the beginning of the semester compared to the end of the semester. The first day of the class, I give them a short Wikipedia article on a near-Earth asteroid, which when it was originally discovered was thought to have a relatively high risk of hitting the earth, but we quickly learned it wouldn’t. The article discusses the asteroid and its possible impact. When I give students that quick article, I also give them some questions starting with something simple like, “How is the solar system laid out, and where is this asteroid in the solar system?” And the questions build to, for example, “In the article, it says the size of the asteroid is maybe 100 meters. How did scientists figure that out?” I don’t expect students to know how to answer these questions. They may know basic things at the beginning, but later questions they won’t know how to answer. Then on the last day of class, I hand the article back out and I give them their answers back and ask them to correct themselves. My goal is to points out to them how much they have learned throughout the course. I don’t grade it as in points, but it is part of their participation grade.

Assessing the group projects is something that was slightly beyond my personal experience. I needed to learn how to do that effectively in order to differentiate between students’ performance. I assign two different oral projects during the semester, and I had to learn how to take notes while students were speaking—enough that I could assign meaningful grades later on. That is hard, and I have worked hard on that to try to provide my students with a lot of feedback. I think I’m doing ok, but I’d like to improve even more.

LR: What is something that you have done to help yourself along in that process?

MHG: I made myself a grading rubric. So, for oral presentations I tell students in advance that I’m going to give five points to the organization of the presentation; five points to the visual nature; maybe five points to how the students spoke—so they know that I am paying attention to clarity or if they rushed. Creating the rubric ahead of time helps me to have consistent ideas about what I’m looking for when I start. I also have...
a different rubric for oral presentations, which I can hand out to my students in advance to explain what I am looking for. I keep the rubric with me during presentations so that after each one I can glance over it and make notes to refer back to when I write my feedback.

**LR:** What do you hope students take away from the course?

**MHG:** One goal that I tell the students explicitly is that I hope that they will become knowledgeable on this specific topic because I think it is going to be a big policy issue in years to come. As we find more and more asteroids, we find that an asteroid impact is a threat for which we will have to prepare. My students are going to be really informed, so at least a few of them might be in key places where they can really make a difference on that, and if not, they will be voting on related issues. I do emphasize to my students that by the time they get done with the course they are going to be experts on the subject compared to more than 99% of the country, perhaps more than their congress people or whoever is making the decision so that I hope the specific problem they understand better.

I hope that by following this one problem students are going to have a better idea of how scientists approach complex problems in general and will keep the different kinds of scientific processes in mind when they think about global warming or the energy crisis, for example. Students will know more about the process that goes into generating scientific results and the complexities of that process because they have experience with this complicated issue. Then, another goal for the teamwork projects is for students to learn how to work productively with others, which is a useful skill for many careers, particularly in the sciences. Students have to think about their team dynamics, about how are they meeting deadlines, about how are they organizing and getting things done, which will be useful for them later on. Everybody has to deal with getting along with difficult personalities in order to complete a team or group task.

**LR:** What is the biggest challenge teaching this particular course?

**MHG:** One challenge is that the backgrounds are so different. The course is supposed to be for non science majors; however, it is an Astronomy minor course. While it does tend to attract non-majors, astronomy minors have to take it. However, the course does tend to attract people with a more scientific bent. Astronomy majors can’t take it but we can get physicists, and computer science, and biology, who have a lot more of the technical and the math background than students from other majors. As a result, sometimes science discipline students get a little impatient with how we start it out with basics in the course. We start with some of the building blocks. Although the course doesn’t require you to have Astronomy 100, a lot of minors take it, and most of them do have Astronomy 100. Otherwise, other more practical challenges are that if you want to do a lot of team work and group projects that the I-courses encourages, that requires a whole other organization and preparation approach. You really need to be organized and have excellent time management skills in order to get that all done. That’s hard. I have striven to improve that now in my second semester. It takes effort.

**LR:** So, what do you get out of teaching this course?
MHG: I enjoy it a lot. Students are very enthusiastic, because it is an interesting topic so they respond enthusiastically. They expand their horizons a bit, and I can see that in some of them.

LR: As new faculty begin their own I-courses, what advice do you have about developing courses for non-majors that necessarily furthers their scientific and mathematical knowledge at the same time as letting them participate in these “big questions”?

MHG: Think seriously about which material you have to keep and which material you can leave out. Always stick to your goal, and each addition to the syllabus should relate directly to your goal. Experts in their field will see all of these interconnected concepts and think, “Oh, this is really cool! I could include this because it’s loosely related to the topic.” Students won’t appreciate it if you can’t keep your focus. To keep students engaged, you must make everything relate to that “big question.”

Second, when we teach non-science majors, I think a lot of times, we faculty don’t appreciate how much students have forgotten or maybe didn’t learn in the first place, especially if the faculty member has not taught an introductory course in a while. We, naturally, will see things like the basic concept that algebraic equations are proportional, for example. So, it is a good idea, I think, to give many examples or to provide resources where students can find extra demonstrations and examples of a concept. Clickers and flash cards are useful because you can get into these kinds of problems relatively efficiently and keep the students maybe a little more active, as well. For example, I use flash cards. I’ll introduce an equation, talk about what it means, and then I will do a clicker question. Students flip to their answer (A, B, C, D). This way, I get students to think about concepts right there and process the concept before they forget it.

LR: How do you use your TA for the course?

MHG: He teaches a discussion section, which is very good. He also grades. I don’t grade homework. That’s something that I changed this semester for both of my courses. I do some quizzes online on ELMS after class, and some of the quizzes have open-ended questions, which the TA grades. Some of the open-ended questions offer students a chance to ask questions about what they still don’t understand. My TA will compile and answer those student questions and make them available for the whole class. He also helps me with grading the projects and the exams. I haven’t worked out exactly how that is going to happen this semester. Last semester since the projects were all new, I just did that all myself. That was really a lot of grading and a lot of time. And so, I need to split that up somehow. I haven’t quite decided how because the same issues I’m going to have with the difficulty of grading the oral presentations and the projects, the TA is going to have as well. Plus, we’d have to be grading consistently. And so I’m going to have to expand my rubric or be more specific in my rubric so that we can be consistent between us on the grading of that. It may be that since I’ve got two projects, I’ll just have him do one, and I will do one.

LR: Is there anything that I haven’t touched on that you’d like to talk about?

MHG: One of the things that I really like about the I-course that they have encouraged us to have more
projects and oral presentations. This is important for students because students learn how to work in groups and in teams. Also, students get more experience doing public speaking, and while not all careers require it, most people will have to present group work publicly, for example at a sales meeting or a board. I’ve also tried to push students beyond simply speaking. Collisions in Space has two oral projects. In the first, students present results from a research paper, which is fairly straightforward. During classmates’ presentations, I ask students in the audience to write constructive criticism and comments for the presenters. Comments are anonymous, because I cut off the top of the page before turning the comments over to presenters. Student feedback is part of their project grade, too. When I pass student comments back to presenters, they see my comments, which they might feel are too hard or biased, and they see what the other students thought, as well. This activity gets students accustomed to writing constructive critiques, to thinking about their own presentations, and to being aware of their audience.

The second assignment I really wanted to do in the old version of the class, but I didn’t have the time or justification for it. We have what I call “arguments.” Students are given different sides of an issue; for example, the asteroid “Apophis” right now is the biggest threat to hit the Earth, potentially, in 2036. This assignment sets up a possible impact scenario, and students argue for different responses or actions to take in response. This semester I posed this question: “Suppose with our updated knowledge, we find out that Apophis has a 10% chance of hitting the earth in 2036, and if it hits in 2036, it’ll hit Panama. Should we prevent the impact from happening?” Students are divided into groups for and against taking direct action and must present their reasons. Groups perform research ahead of time, and each team will write up an argument. Arguments must be concise and in writing. The written arguments are turned in ahead of time, and then the groups present their arguments verbally in class. The results are extremely interesting. The students last semester had some great arguments. We had talked about in class that one of the things you can do before an impact is evacuate. So, the students who said no, we shouldn’t try to prevent it argued, “It’s going to be cheaper to evacuate, so let’s evacuate.” Of course as the other side pointed out during the question and answer period, “How are you going to evacuate Panama?” The activity is productive because students get passionate about their arguments, and it got them to realize that there isn’t necessarily a “right” answer. I was actually lucky last semester because I had two teams judging each argument for each issue. For most of the arguments, the judges were equally split. Sometimes morally there’s a right answer but what we talk about in the class is that there are also financial and political issues involved. We might come up with scientific solutions, but without funding, they won’t happen. This activity makes that point clear. I love that we get the chance to do that in this GenEd class. Because this is the nature of today’s true issues.
A unique aspect of this book is the authors’ well reasoned justification for involving students in creating and tweaking rubrics. While professors are typically open to rubric collaboration with colleagues and teaching assistants to ensure grading consistency, they may be hesitant when it comes to involving students in the creation of grading tools. Stevens and Levi believe that student participation in the creation of rubrics has three main benefits: First, it prevents students misunderstanding or misinterpreting the expectations of instructor. Second, they believe student work displays increased creativity and professionalism when students have a stake in the assignment and in their own learning process. This stake can be created through student involvement in creating assessment tools. Finally, it decreases the instructor’s workload in creating assessment tools. For instructors uncertain as to the degree students should have a hand in their own assessment, Stevens and Levi describe five models for student collaboration on rubrics. All the models keep the instructor in control of the construction process but have varying levels of student involvement at each stage of creation.

Stevens and Levi are currently working on a new edition of the book for publication in July 2011. Reader feedback from the first edition has resulted in an extended discussion of already existing topics, such as grading with rubrics and using rubrics to improve teaching. The second edition will include an updated literature review and a wider range of rubric examples. The authors will also tackle some new topics, including the use of rubrics in areas ranging from online grading to program assessment to working with ready-made rubrics.

While those who are fairly experienced with rubrics may find less surface value in this book, Introduction to Rubrics is a resource that can support a range of instructors, from those just beginning to explore rubrics to those who want to take their use rubrics to the next level.


Alison Bassi is an MA student in the Department of Communication. She teaches Oral Communication, Principles and Practices, is a TA for UNIV 269, an online course for Maryland Abroad students, and is participating in the UTLP program.
The University Teaching and Learning Program (UTLP)

The University Teaching and Learning Program (UTLP) assists graduate teaching assistants (GTAs) in their professional development as college teachers. At the heart of the UTLP is the philosophy that teaching, like research, is a scholarly activity that requires intellectual engagement and public conversation. ULTPers thus fulfill a set of requirements that asks them to discuss teaching and learning in higher education, to be mentored by a faculty member, to develop a larger teaching and learning project, and to craft a teaching portfolio. ULTPers have a common commitment to improving undergraduate education and an eagerness to make their classes the best they can. When ULTPers complete the program they are recognized at an annual reception and receive both transcript notation and a certificate acknowledging their participation in the program, tangible evidence of their thoughtful engagement with issues central to college teaching. Supported by the Graduate School, the UTLP is administered by the Center for Teaching Excellence. For more information, please contact UTLP coordinator Alexis Williams at ayw@umd.edu or call (301) 314-1287.

Spring Marquee Lecture Series in Science & Technology

All talks will be held from 7:00 - 8:00 PM in Ulrich Recital Hall, Tawes Fine Arts Building.

Materials of Civilization: The Role of Materials in Our Worlds
Presented by Robert Briber
Tuesday, March 15, 2011

The Future of Global Energy and Climate
Presented by Jordan Goodman and Steven Rolston
Tuesday, April 12, 2011

Pollinators in Crisis: Challenges and Opportunities
Presented by David Hawthorne
Thursday, May 12, 2011

Clicker Loaner Program

For those who may want to try student response devices, “clickers,” a limited number of loaner sets are available for temporary checkout from the OIT Classroom Support office in Hornbake 0125, x48522, courtesy of the Center for Teaching Excellence.
Innovations in Teaching and Learning Conference

The Center for Teaching Excellence and the Office of Information Technology are co-sponsoring the fifth annual Innovations in Teaching and Learning (ITL) Conference to showcase and celebrate the creativity and dedication of University of Maryland instructors who have demonstrated excellence in their teaching endeavors. The conference will be held on Friday, April 29, 2011 at the Adele H. Stamp Student Union and is part of President Wallace Loh’s inauguration week celebration.

The ITL program committee invites you to submit proposals to present by February 25, 2011. Presentations, for which no formal paper will be required, can elaborate on contributions made in the following areas, to name a few:

- Innovative use of a learning technique or methodology
- Novel use or adaptation of contemporary technologies
- Innovation in group learning or problem solving
- Original case studies or course content designed by an instructor to meet clearly defined learning objectives
- New paradigm on which the organization of a course is based
- Unusual developments in computer-based learning and assessment

Please visit the ITL proposal Web site at www.oit.umd.edu/ITL for proposal format options and a submittal form. For more details, please contact the conference coordinator at 301.405.2945 or zdeb@umd.edu.

I-Series Courses:

Issues, Imagination, Intellect, Inspiration, Innovation, Implementation

Request for I-Series Proposals: Due March 1, 2011

The Office of Undergraduate Studies welcomes proposals for the new I-Series Courses for the University’s General Education Program at this time. Proposals for this round of submissions are due no later than March 1, 2011. A “completed” proposal is one that has been entered in the on-line system and signed-off by the department and college. Decisions for this round will be released on April 1. Approved courses may be offered as early as Spring 2012. For more information, see the General Education web site at http://www.ugst.umd.edu/I-SeriesCallForProposals_1_21_11.pdf. The next round of proposal submissions will occur in early Fall 2011.

Lilly-DC Poster Presentations

The Lilly-DC Conference is still accepting some poster presentation proposals. If you are interested in presenting at this lively, dynamic conference, you can submit a proposal at the Lilly-DC website: http://lillyconferences.com/dc/default.shtml. Graduate students who present at this conference receive support from the Center for Teaching Excellence in order to attend the conference.
Faculty Handbook of Policies and Resources

- Can I reschedule a final exam?
- What are the University’s guidelines for attendance policies?
- In what cases am I required to submit early warning grades?
- What must be included in my course syllabi?
- Do I need approval to sell my own textbook to students taking my course?

This guide offers a brief introduction to the University’s policies, procedures, and resources related to teaching, advising and mentoring. It is available at the following address:

http://www.faculty.umd.edu/teach/InstructionalGuide.htm

Subscribe to Teaching & Learning News

~ http://www.cte.umd.edu/contactus/TLNMailingList.html ~

For more than fifteen years TLN has included articles, notes, and schedules to keep the campus informed about new technologies, available grants, fellowship notices, workshops and roundtables, distinguished lectures, assessment, learning outcomes, classroom management strategies, consultation programs, new conferences, established programs, award winners, grant recipients, University policies on teaching, and other valuable information for faculty and graduate teaching assistants. Most important, it always suggests ways to enhance teaching for better learning. Subscribing to the TLN list-serv list takes about twenty seconds and means that you will receive approximately five emails a year, notifying you that a new issue of the only regular campus-wide publication on teaching and learning has arrived.
## SPRING CALENDAR OF EVENTS

### February
- **16, Wednesday** 12 PM  CTE-UGST Workshop: “I-Course Development”
- **24, Thursday** 12 PM  CTE-UGST Workshop: “Understanding Plural Societies and Cultural Competence”

### March
- **8, Tuesday** 12 PM  UTLP Workshop: “GTA Refresher”
- **10, Thursday** 12 PM  CTE-UGST: “Scholarship in Practice”
- **15, Tuesday** 7 PM  Marquee Lecture Series: “Materials of Civilization: The Role of Materials in our Worlds”
- **16, Wednesday** 12 PM  CTE-UGST: “Big Idea Pedagogies: The I-Courses”

### April
- **7, Thursday** 12 PM  Workshop: “Education Abroad”
- **12, Tuesday** 7 PM  Marquee Lecture Series: “The Future of Global Energy and Climate”
- **21, Thursday** 3 PM  Graduate Lilly Fellows Project: “Defining and Evaluating Pedagogies for Active Learning at the University of Maryland”
- **29, Friday** all day  5th Annual Innovations in Teaching and Learning Conference

### May
- **11, Wednesday** 3 PM  Distinguished Teaching Assistant Award Ceremony
- **12, Thursday** 7 PM  Marquee Lecture Series: “Pollinators in Crisis: Challenges and Opportunities”

### June
- **2-5** all day  Lilly-DC Conference on University Teaching and Learning

*Follow the latest news and upcoming events by checking our website: [http://www.cte.umd.edu](http://www.cte.umd.edu)*

*You can also follow us on Twitter ([CTE_UMD](https://twitter.com/CTE_UMD)) or find us on Facebook!*