Teaching and Learning Conference Session Descriptions

10:00-10:30 a.m. Poster Session Memorial Hall
Will We Be Ready? Julie Peterson and Julie Torelli, College of Design, Department of Design, Housing and Apparel, UMTC
The profile of the non-traditional student has changed and become increasingly diverse. As educators, we must reach out to the full-spectrum of this student population and now include the age 55+ and extend their life-long education opportunities. If we are to succeed in this challenge, we must identify their learning styles, biological changes, and learning environments.

A Study of Meta-Cognitive Learning Strategies Among Undergraduate Students and Between Courses Delivered Face to Face and Online Duane Millslagle, College of Education and Human Service Professions, UMD
Students seem to acquire metacognitive or learning strategies that will positively or negatively affect their academic success and level of achievement. The purpose of the study was to assess the undergraduate students’ metacognitive strategies in face-to-face versus WebCT online delivered courses. A total of 148 undergraduate students participated in the study. A two-part learning strategy inventory accessed the students’ metacognitive strategies. The results indicated differences between unsuccessful and successful student and by type of course delivery.

Evaluation of Problem-Based Learning in a Non-majors Course Mary Brakke and Kevin Smith, College of Food, Agricultural, and Environmental Sciences, UMTC
We adopted problem-based learning (PBL) in an undergraduate course for non-science majors which fulfills a liberal education life-science requirement. Our goals included enhancing student interest, motivating learning and achieving course objectives related to mastery of content and skill development. We will discuss a quasi-experimental approach to assessing the influence of PBL and group activities on student motivation and attitudes toward learning and report student responses to the Approaches to Studying Inventory (Entwhistle, 1981), and the Intrinsic Motivation Inventory (Ryan, 1982).

The Scholarship of Teaching and Learning and Transform Karen Zentner Bacig, Office of the Senior Vice President for Academic Affairs and Provost & Paul Baepler, Kate Martin, and David Wehner, Center for Teaching and Learning, UMTC
Transform is a new University-wide newsletter sponsored by the Academy of Distinguished Teachers and the Center for Teaching and Learning. It focuses on the Scholarship of Teaching and Learning both at the University of Minnesota and nationally. Share any thoughts about the newsletter or ask any questions about it with members of the editorial board.

Social Presence and Group Formation during Computer-Supported Collaborative Learning Caroline L. Hilk, College of Education and Human Development, UMTC
Computer-supported collaborative learning is an instructional method for engaging students and promoting higher level thinking within an online environment. This research examines the patterns of social interaction and group formation during asynchronous discussion within a semester-length online course. Discussion transcripts were coded for indicators of social presence and group development. Several suggestions for improving the sense of community within an online discussion are also presented.

Partnership in the Schools – Transitioning Away from the Traditional Jane A.K. Carlson, College of Education and Human Service Professions, UMD
Teacher preparation programs vary widely from university to university. At one end of the continuum is the traditional model and at the other end is the popular professional development school (PDS). How does a traditional teacher education program transition towards a PDS model? This presentation gives practical advice for creating a university and school partnership within a traditional model of teacher preparation.

Scheduling Sudoku: How To Get the Classroom You Need on the Twin Cities Campus Nancy Peterson, Office of Classroom Management, UMTC
Scheduling 17,000 class sections and 7,000 events in the Twin Cities 300 central classrooms each semester is a complex enterprise. The scheduling outcome clearly has significant impact on both the practice of teaching and on student learning. This faculty oriented session discusses recommendations and tips that help place your class in the optimum classroom with the technology, seating and location that you need to support your pedagogical requirements.
The Office of Classroom Management: Comprehensive Support for Faculty Teaching and Student Learning in UMTC Central Classrooms
Steve Fitzgerald and David Crane, Office of Classroom Management, UMTC
The University of Minnesota Twin Cities benefits from a comprehensive, 360-degree accountability-centered approach encompassing all aspects of faculty support in central classrooms. This includes the course data base and scheduling; classroom technology; classroom facilities coordination; faculty support; classroom standards, design and planning. This session discusses the Office of Classroom Management’s unique, best practice operations, and uses Balanced Scorecard methodology to demonstrate contributions to the practice of student learning in the University’s 300 central classrooms.

Teaching with Technology in UMTC Central Classrooms Using the UM Projection Capable Classroom Standard System
Toni Pangborn, Jim Gregory, Ray Troyer and John Knowles, Office of Classroom Management, UMTC
The University of Minnesota Twin Cities is a national leader in classroom technology. The Office of Classroom Management, in consultation with the University community, developed the Projection Capable Classroom system standard that today successfully serves the needs of faculty and students in more than 260 central classrooms, plus 125 installations in departmental spaces. This session provides detailed information on the Projection Capable Classroom technology suite, complete with a demo system for hands-on evaluation.

The Twin Cities SCALE-UP Classroom Pilot Project: A New Model for Activity-Based Instruction in UMTC Central Classrooms
Jeremy Todd, Office of Classroom Management, UMTC
OCM is building a SCALE-UP classroom pilot project for use by faculty members seeking an activity-based instructional model. “SCALE-UP” (Student-Centered Activities for Large Enrollment Undergraduate Programs) classrooms feature large round tables, multiple white boards, a centered teaching station and laptop based technology. Various institutions are experimenting with this new classroom design that promotes greater student interactivity. This session describes the background, design and use of the SCALE-UP room which will be available Fall semester, 2007.

Strengthening Learning through Internships
Mary Brakke, College of Food, Agricultural, and Natural Resource Sciences, UMTC
This program seeks to strengthen undergraduate internships by emphasizing two aspects of learning that are frequently neglected during these experiences: community and reflection. The program involves building a community of students, faculty and community professionals with similar goals and interests and structuring opportunities for interaction through meetings, online conferencing, and online course materials. Students are introduced to the role of reflection in learning and are engaged in thinking and writing reflectively about their internship experiences.

Systems Thinking as a Way to Engage Diverse Multicultural Adult Learners
Cynthia Digby, and Anne Conroy, College of Education and Human Development, UMTC
Our poster presentation brings to life adult learning concepts by allowing conference participants to immediately engage with existing scholarly blended learning models. Through this active engagement participants will be able to examine values and beliefs about teaching and learning, and be able to create and re-create their own models of blended learning.

The Graduate Online Lecture Project: A Graduate Student-Based Instructional Technology Project
Fritz Vandover, College of Education and Human Development, UMTC
The Graduate Online Lecture Project at Washington University in St. Louis is a workshop to create online teaching modules for introductory courses in the College of Arts & Sciences. Teaching assistants learn the basic concepts of Adobe Flash, select content with their faculty sponsor, and implement their learning module. The project has been very successful in helping undergraduates learn the basic concepts of introductory courses that are essential to more advanced courses in these majors.
Knowledge Gains and Continuous Quality Improvement in an Online Undergraduate Course on Common Prescription Medications

Amy Pittenger, Melissa Bumgardner, and Kristin Janke, College of Pharmacy, UMD and UMTC

In an online, undergraduate course on common prescription medications participants review online presentations, analyze Direct-to-Consumer advertisements and complete medication specific activities. During Fall 2005 and Spring 2006 offerings, learning was assessed by comparing pretest performance and performance on parallel, content matched exam questions. Course evaluations indicated general satisfaction with the course and a few areas of student concern, particularly DTC Ad Exercises. Results demonstrate successful facilitation of knowledge gains and areas for course improvement.

Student Knowledge Acquisition and Continuous Quality Improvement of an Online Pharmacotherapy Course

Melissa Bumgardner, Amy Pittenger, and Kristin Janke, College of Pharmacy, UMD and UMTC

In an online, professional course in pharmacotherapy, participants review online presentations, complete study guides, self tests, practice cases and take online quizzes and face-to-face exams. During Fall 2006, learning was assessed by comparing pretest performance and performance on parallel, content matched final exam questions. Results demonstrated successful facilitation of knowledge gains. However, analysis of performance subsets revealed content areas of continued student difficulty, suggesting areas for future teaching improvement.

Best Practices for high School Tutoring: Examples from the CEHD TRIO Upward Bound Program

Anna Resele, College of Education and Human Development, UMTC

What makes a most effective tutoring program? This action research and descriptive study examines high school grade improvement through a study skill instruction intervention within a tutoring program of the U of M Upward Bound high school program. The study explores the relationship between the study skills intervention and students’ grades and self-regulation in their academics and observes students demonstrating new ways to address homework completion and test preparation.

Teaching Psychology Beyond the Classroom: A Course to Train Undergraduates in Hands-On, Semi-Structured Clinical Interviewing

Nicholas R. Eaton, College of Liberal Arts, UMTC

Psychology is among the most popular undergraduate majors. Beyond basic data collection, however, few opportunities exist for psychology students to undertake hands-on clinically oriented experiences. In fact, most clinical work opportunities are thought to require a degree of professional acumen that undergraduates lack. We created a novel course that demonstrates undergraduates can develop, through diverse pedagogical methods, skills sufficient to conduct semi-structured diagnostic interviews at a statistical level commensurate with masters- and doctoral-level psychologists.

Teaching a Clinical Laboratory: Comparison of a Traditional and Online Format

Peggy Root Kustritz, Veterinary Medicine, UMTC

A small animal theriogenology laboratory was offered to third year veterinary students. Traditionally this has been a demonstration laboratory, with completion of an assignment using prepared glass slides. Due to student demand for more laboratory offerings, an on-line version of the course, with video clips and an assignment completed based on images, was created. Subjective measures (student self-assessment) and objective measures (scores on required assignments) were used to compare efficacy of the two techniques.

A Model to Enhance Student Learning by Addressing Diverse Learning Styles/Preferences

Brady Alsaker, Student, Katherine A Benson, Psychology, Roger P Boleman, Media Services, Karen M Case, GenEdWeb Program, Pamela G Gades, Computing Services, Paul Z Myers, Biology, Pamela A Solvie, Elementary Education and Engin A Sungur, Statistics, UMM

We will discuss various innovative teaching tools and techniques to enhance student learning by addressing multiple learning styles/preferences. The model that will be presented aims to create diverse teaching/learning communities under a dynamic, responsive, and efficient support system. Examples will cover information and content delivery, interaction, communication, and assessment/evaluation components of the instructional process. The outcomes of the model on improving student learning, and initiating communication and teamwork across all academic units will be presented.
10:30 a.m.  **Roundtable Discussions (60 minutes)**  
*Disabilities and Foreign Language Learning: A Roundtable* Tammy Berberi, French, UMM  
Because disability is both universal and culturally conditioned, the foreign language classroom is an ideal space for exploring physical difference. As foreign language and literature teachers, we can transform stigma by reshaping our teaching methods, priorities, and curricula to better acknowledge disability in the world around us as well as in our classrooms. This session applies the theory and practice of Universal Design in Learning to the study of foreign languages and cultures.

**In Charge of Our Future: Enhancing Student Learning Through Undergraduate Student Learning Outcomes** Arlene E. Carney, Karen Zentner Bacig, and Robin Matross Helms, Office of the Vice Provost for Faculty and Academic Affairs, UMTC  
The Council for Enhancing Student Learning has developed a set of student learning outcomes that articulate what every undergraduate will be able to do when he or she received a bachelor’s degree from the University of Minnesota. These student learning outcomes (SLOs) are proposed as the foundation of curricular development across the University in both major areas of focus and in liberal education. The SLOs also provide areas to be assessed to determine what students have learned.

**Using Writing to Foster Critical Thinking in the Large Lecture Course** Jole Shackelford, School of Medicine and Valerie Ruhe, Center for Teaching and Learning, UMTC  
Discussion will focus on various ways to use writing as a teaching tool in the large undergraduate lecture class and the problems and challenges that arise in implementing writing assignments. Topics include making assignments that support the teaching goals, providing quality feedback on student writing assignments, the use of technology to facilitate the writing process, and discouraging plagiarism. Participants will be asked to share their ideas and experiences on teaching writing across the disciplines.

10:30 a.m.  **Presentations (30 minutes)**  
*Encouraging Self-Regulated and Reflective Learning Through Electronic Portfolio Use in Composition* Jill D. Jenson, College of Liberal Arts and Paul Treuer, Knowledge Management Center, UMD  
This session briefly reviews implementation of the University of Minnesota’s electronic portfolio on the Duluth campus as a freshman composition requirement and the initial lack of student reflection resulting from its use. A study undertaken to improve the students’ portfolios indicates that surveying students about their process of writing can lead to awareness of self-regulation techniques and intentionally prompting them to be more reflective thinkers can improve the quality of their portfolio reflection statements.

*Effective Use of Visuals to Enhance Learning* Susan Wolf and Louise Delagran, Academic Health Center, UMTC  
As instructors, we have good intentions to use graphics that enhance learning. However, we often see PowerPoint presentations where slides are simply a “wall of words” or where decorative visuals are included to “spice things up.” In both cases, the visuals may not promote understanding, and may even “depress” learning and motivation. If you use visuals in your course or presentation materials, this session will give you tips on maximizing the positive impact of your graphics on learning.

*Measuring Achievement and Attitude in Large Lecture Classes: Lessons Learned from the Bush Grant* Steven C. Huchendorf, Carlson School of Management, UMTC  
How do we improve educational outcomes? How do we improve our teaching? An experimental section and a control section were compared to determine the efficacy of a difference in pedagogy. One section of Business Statistics utilized collaborative learning in Active Learning Techniques – Classroom Assessment Technique (ALT-CAT) groups. The other section utilized the same problem based learning but not in collaborative groups. What is the impact on educational outcomes of student achievement and student attitudes? Instruments measuring each were designed and data collected for analysis.
Understanding the Resiliency and Academic Success of Three Refugees from Limited/Interrupted Formal Schooling Backgrounds

Letitia Basford and Anne Dahlman, College of Education and Human Development, UTMC

This study examines the academic and social experiences of three African refugees from limited formal schooling backgrounds who graduated from American high schools and are currently attending university. The data generated from this study sheds light on a) what lies behind the resiliency of students facing enormous challenges in school; b) how schools can decrease these barriers; and c) what schools can do to accommodate and honor the cultural and religious identity of refugee youth.

Strategies for Success in Service-Learning Courses

Ann Linde, College of Liberal Arts, UMTC

Service learning has the potential to enhance student learning and motivation. Drawing on my experiences as a community partner, instructor, and former longtime service-learning student, I present strategies for success in service-learning courses. These strategies for furthering course objectives, engaging students and benefiting community partners are aimed at instructors who would like to develop service-learning courses or reevaluate how community work fits into their courses. Writing, a tool for reflection and interpretation, is integral to these strategies.

11:05 a.m. Presentations (30 minutes)

Preparing Civic Professional in Environmental Science: An Experimental and Experiential Approach

Nicholas R. Jordan, Professor, College of Food, Agricultural, and Natural Resource Sciences, UMTC and Richard Bawden, Visiting Distinguished University Professor at Michigan State University

Civic professionals “…deploy technical expertise and judgment not only skillfully but also for public-regarding ends and in a public-regarding way”, to quote William Sullivan. In natural science, pedagogy for civic professionalism is little explored, despite strong interest among students. We report experiences with a course for graduate students and advanced undergraduates interested in pursuing civic professionalism by engaging their future work in the creation of civic and public value. The course emphasized an experiential and practice-based approach, with theory/practice and reflection/action inter-twined.

Geriatric Therapeutics: An Interactive, Multidisciplinary Learning Program on CD-Rom

Richard Eisenberg, School of Medicine, UMD

The aim of this project was to create a sophisticated computer-assisted teaching program dealing with the proper use of therapeutic agents in our elderly population and to test its effectiveness as a learning tool for health care professionals. The format used in the design of this educational program includes patient/case video vignettes and interactive learning methodology.

A Language Class as a Learning Community

Friederike Weiss, College of Liberal Arts, UMTC

Research has shown that students learn better when they are comfortable with one another and more willing to take risks. Small language classes lend themselves to a sense of community. However, foreign language instructors tend to focus on materials and methodology, i.e., the cognitive aspects of language learning, while neglecting its affective side. The presentation will describe the attributes and benefits of a learning community with illustrative examples of activities that can be used in the language classroom to encourage the development of a community of learners.

Seven Years of Teaching Online: Fact and Fantasy

Trisha Swanson, College of Continuing Education, UMTC

Drawing from seven years of online teaching, Trisha will share her experiences in course development, group interaction and student evaluation. This session will highlight the techniques and technologies that have been successful in a real life online environment. Participants will explore class management, student connectivity and a wide range of online tools such as chat sessions, movies, and web page presentations. Trisha will also talk about online activities that didn't quite go as planned.

11:35 a.m. Lunch and Poster Session

Memorial Hall
12:30 p.m. Workshops (75 minutes)

*Peer Instruction* Eric Mazur – Keynote Speaker
The basic goals of Peer Instruction are to encourage and make use of student interaction during lectures, while focusing students' attention on underlying concepts and techniques. The method has been assessed in many studies using standardized, diagnostic tests and shown to be considerably more effective than the conventional lecture approach to teaching. Peer Instruction is now used in a wide range of science and math courses at the college and secondary level. In this workshop, participants will learn about Peer Instruction, serve as the “class” in which Peer Instruction is demonstrated, discuss several models for implementing the technique into the classroom, and learn about available teaching resources.

*Creating Cooperative Competition: Learning Games for the Classroom* Maria Gini and John Chilton, Institute of Technology & Murray Jensen, College of Education and Human Development, UMTC
We are investigating how students can cooperate in small groups to work on joint projects or learn essential knowledge and then assess their own progress through competitions. This session will involve participants in actual games as well as a discussion of the games’ efficacy in a cooperative learning setting. How do we take advantage of the constructive tension between competition and cooperation?

*Do Learning Styles Make a Difference?* James Allert, College of Science and Engineering, UMD
This workshop introduces participants to use of the Solomons-Felder Index of Learning Styles (ILS) and shows how it can be easily utilized to provide students with an opportunity to develop meaningful and effective study strategies. Participants will chart the learning style landscape of a class and see how this information can be integrated into course outcome assessment to identify weaknesses and suggest appropriate changes.

Clickers (personal response systems) promote active learning by directly engaging students with course content, providing immediate learning feedback to students, and allowing instructors to check on mastery of both content and concepts. But the system is only as good as the questions it poses to students. In this engaging session, participants will use PRS units to answer the question: Can clicker technology be used to lead students to critical thinking through using Bloom’s Taxonomy?

*PAL: Peer-Assisted Learning at the University of Minnesota* David Arendale and Kari-Ann Ediger, College of Education and Human Development, Cathy Kipper, College of Biological Sciences, Connie Tzenis, Center for Teaching and Learning, and Undergraduate PAL facilitators and undergraduate participants, UMTC
In fall semester, 2006, SMART Commons piloted the ‘Minnesota model’ of supplemental instruction: PAL (Peer-Assisted Learning). Approximately 160 freshmen participated in weekly sessions to support challenging math and science classes. In this session you will learn the outcomes of the pilot and hear about the experience from the point of view of the PAL facilitator and the freshman participant. You will also experience a mock Pal session and help generate ideas for the future of PAL at the University of Minnesota.

*Educating Globally Competent Citizens* Dennis R. Falk, College of Education and Human Service Professions, UMD
This session will examine the knowledge, skills, and attitudes that a university student would need to acquire to be a “globally competent” citizen upon graduation. The possibilities of assessing global competence and methods for developing global competence in courses will also be explored. This session will build upon the professional literature, the presenter’s current research, and the views of participants.

*Changing Minds: Identifying, Challenging, and Correcting Misconceptions* Sehoya Cotner, Bruce Fall, and Sue Wick, College of Biological Sciences & Kent Kirkby and Amy Pagen Chen, Institute of Technology, UMTC
Misconceptions pose significant hurdles to student learning in any field, and are particularly important in introductory science courses. A combination of unfamiliar subject matter, mythical interpretations, and an immense gap between faculty and student backgrounds provides fertile ground for maintaining naïve conceptions. This workshop will examine ways to identify, challenge and correct student misconceptions. Although workshop examples will focus on the earth and life sciences, the methods presented can be used in any discipline.
Conversations about Essential Components: A Crucial Step for Implementing Universal Instructional Design in College Science and Math Courses

Irene Duranczyk, Annia Fayon and Jay Hatch, College of Education and Human Development, UMTC

Through guided small-group discussions, participants in this session will develop a clear understanding of the Universal Instructional Design (UID) concept of essential components, and how it can be used to develop college science and math courses that maximize the potential for learning for all students, including those with disabilities. The session will begin with a review of the principles of UID, making familiarity with UID unnecessary.

Break

2:00 p.m. Roundtable Discussions (60 minutes)

Teaching with Technology: Where Students Actually are on the Learning Curve

David Arendale and Brian Fredrickson, College of Education and Human Development, UMTC

This session focuses on challenges with implementing new learning technologies into the classroom. Although assumed that students are tech savvy and “plugged in”, many educators are facing the reality that the technologies they are encouraged to use in the classroom are not only unfamiliar to some students, but may be a gatekeeper to academic success. Data from a pilot study is shared that will provide an opportunity for group discussion and solutions to the challenges.

Research and the Teaching of Composition: New Beginnings on the Twin Cities Campus

Lee-Ann Kastman Breuch, College of Food, Agricultural, and Natural Resource Sciences, Patrick Bruch and Thomas Reynolds, College of Education and Human Development, & Tim Gustafson and Donald Ross, College of Liberal Arts, UMTC

This session places recent developments in University of Minnesota composition instruction into conversation with the University community. Presenters will briefly comment on how recent research in the area of Writing Studies figures into the instructional design of and overall approach to the newly centralized program of first-year writing. Audience members are invited to discuss and contribute to an understanding of local conditions for writing instruction.

2:00 p.m. Presentations (30 minutes)

The Ergonomics of Learning: Educational Design and Learning Performance

Thomas J. Smith, College of Education and Human Development, UMTC

Evidence from a century of differential learning research indicates that variability in learning performance is largely attributable to the design—the ergonomics—of the learning environment. Learning ergonomics addresses the basic question of which design factors have the greatest influence on variability in learning performance? This presentation will discuss the origins, scope and supporting evidence for learning ergonomics, differing perspectives on the nature of learning, and conclusions and research implications regarding the ergonomics of learning.

Planning and Implementing a Successful Service-Leaning Course (in the Social Sciences)

Pareena G. Lawrence, Economics, UMM

Service learning is a pedagogy that utilizes Community-based research, or other civic engagement activities along with regular reflection to meet course goals and community needs. Service learning acts as a tool to engage young minds in our colleges and universities with our local and regional community within the context of the course goals and objectives. This session will explore how this pedagogy can be successfully used to reinforce student learning and engage students with local communities.

Peer Tutoring Across Culture: A Case Study of SMART Learning Commons

Sukhoe Choe, College of Education and Human Development and Bosu Seo, College of Food, Agricultural, and Natural Resource Sciences, UMTC

SMART Learning Commons users (tutees) consist of diverse populations, including racial minority group and international students. Peer tutors also have diverse cultural backgrounds. This paper utilizes case study methodology with interviews to critically investigate common issues and strategies of a cross-cultural tutoring for culturally different students (2 peer tutors and 2 tutees). The stories of peer tutors and tutees will be presented in an effort to better understand and identify cultural dynamics between them and various aspects of the tutoring process.
Expert Teachers' Experience of Countertransference in the College Classroom  
Rachel Slater, College of Education and Human Development, UMTC
The quality of the relationship between teacher and student contributes to effective teaching, yet college teachers typically are not trained to understand and manage the emotional dynamics of their relationships with students. This study uses interviews with expert college teachers to explore how countertransference, or those reactions that we all have to others that stem from our own areas of personal conflict, is manifested and managed in the college classroom.

Knowing Our Place and Time: Memoir As Pedagogy  
Steve R. Simmons, College of Food, Agricultural, and Natural Resource Sciences, UMTC
This session is based on three prior course experiences in which the presenter has used memoir writing by undergraduate students as a means to foster deeper reflection and understanding about the significance of place and time in students’ lives. In addition to describing specifics of these courses, the session features selected readings from student memoirs, as well as their reflections regarding the benefits of memoir writing within an undergraduate education.

2:35 p.m.  
Presentations (30 minutes)
Facilitating Classroom Experiments in Social Sciences with an Emerging Technology  
Donald J. Liu, College of Food, Agricultural, and Natural Resource Sciences, J.D. Walker, Digital Media Center, & Theresa A. Bauer and Meng Zhao, College of Food, Agricultural, and Natural Resource Sciences, UMTC
A new method of using the personal response system to college and compile data from social science classroom experiments will be presented. Using the PRS to facilitate active learning of engaging students in experiments represents an added advantage on top of such conventional functions as taking attendance and administering quizzes, of this increasingly popular classroom technology, and has the advantages over the labor-intensive approach of pencil-and-paper and the capital-intensive route of relying on networked and on-line computer labs.

The Use of Concept Maps and Graphs in the Instructional Process  
Pamela A. Solvie, Elementary Education and Engin A. Sungur, Statistics, UMM
The use of concept maps in the instructional process, as described in current literature, will be discussed and then extended to concept graphs using tools and methods of graph theory. An approach that incorporates an instructor’s prior knowledge on overall concept structure and relationship between concepts will be introduced. Updating concept graphs using the Bayesian approach will be discussed. An algorithm for constructing graphs and an example for an introductory statistics course will be provided.

The Elephant in the Virtual Classroom  
James Rothenberger and Tayne DeNeui, School of Public Health & Chris Scruton, Academic and Distributed Computing Services, UMTC
In an environment of continually evolving online technology, how do we stay relevant to the student population while addressing student learning styles? This presentation will focus on a new open-source technology that will soon become available to online courses at the U of M. Our Pachyderm course template provides students the option of interacting with the content onscreen, printing off the content or downloading the content to an mp3 player.

Using Student Learning Data to Redesign Computer Science I  
James Allert, College of Science and Engineering, UMD
This presentation demonstrates ways in which an entire, introductory level, large enrollment, computer science, course was successfully redesigned in response to data gathered from its students over the course of several years. Various instruments were used to assess and stimulate thought on learning style, study strategies and exam performance.