

# Tech Topics

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Michigan Tech's Faculty/Staff Newsletter

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## Board of Control meets Friday

The Michigan Tech Board of Control will meet on Friday, January 21, at 10:00 a.m. in Memorial Union Ballroom. The meeting is open to the public.

Among the agenda items are the 2000-01 room-and-board and apartment-rental rates.

## Teaching colloquium Jan. 21

**Christa Albrecht-Crane, Michael Moore,** and **Peter Remali** are the featured speakers in "Negotiating Classroom Authority with Our Students," on Friday, January 21, at 3:30 p.m. in the Petersen Library, Walker 318.

The event is part of the Department of Humanities' Teaching Effectiveness Colloquia Series. Everyone is invited to attend.

## Census seeking workers

Local Census 2000 organizers are recruiting 150 people to work on the Census this spring. The wages are \$10 to \$11.50 per hour, with mileage payments of 32.5 cents per mile. If you know students or family members who are interested in working 20 to 40 hours per week, daytime, evenings, weekends, or weekdays, you are encouraged to let them know about this opportunity.

Because many state and federal government appropriations are determined by population, over the next ten years, about \$10,000 per person will come to the local area. Thus, for the betterment of the community, it's critical that everyone be counted, including Michigan Tech students. The number of Michigan's congressmen is also determined by the census, so counting every person can assure that the state is not under-represented at the national level. By law, students are counted where they are living, not where their parents live, unless they are living at home.

Census workers take a test of basic arithmetic and literacy skills. For more information or to arrange for a test, call 1-888-325-7733 or 906-485-0111.

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*Conscience is thoroughly well-bred  
and soon leaves off talking to  
those who do not wish to hear it.*

—SAMUEL BUTLER

## New gen ed course offers new perspectives on teaching

Those teaching the new Perspectives on Inquiry course find themselves breaking new ground in fallow young mind fields. They never know what they are going to plow up.

"It's been pretty exciting," said Professor **Diana George** (Humanities), who is teaching a pilot Perspectives section on "Focus on the Visual."

"They come to us with so many different experiences that can add to what were doing in classroom," she said. "And it's an opportunity to engage first-year students in a topic they might not have thought about, on a level they wouldn't encounter in their first year."

Not to say that teaching Perspectives (or any brand-new course, for that matter) is a romp in the park. "I've never worked so hard putting a course together, but it's given me a tremendous opportunity to rethink things and organize the material in a different way," said **Bill Kennedy**, director of the Center for Teaching, Learning, and Faculty Development, who is teaching the section "Understanding Human Conflict."

The one-semester course, part of the new general education curriculum, officially goes

on line in fall 2000, and the Perspectives on Inquiry Committee is looking for several more teachers to lead sections. A number of events have conspired to create the shortage.

Curriculum changes throughout the University, coupled with the loss of two faculty positions in the humanities department, have increased departmental teaching loads. Plus, undergraduate recruiting efforts may bring in more first-year students than anticipated.

It's not that departments don't want to teach Perspectives.

"Three chairs told me they would like to teach the course themselves," Vice Provost for Instruction **Stephen Bowen** said. "But their first priority has to be their disciplinary courses."

Thus, to ease the burden, the University will be giving most departments \$4,500 in SS&E funding for every Perspectives session they teach. The Department of Humanities, as the primary service department for the course, will receive \$4,500 for each section taught over and above its sixteen-section commitment. "From discussions with a few chairs, it appears that this is adequate to cre-

(Continued on page 3)

## Diary of Anne Frank to be presented at Michigan Tech

Submitted by the Department of Fine Arts

One of the most honored plays of our time, *The Diary of Anne Frank*, will be staged by the Department of Fine Arts January 27–29 and February 3–6 in the University Theatre.

The play is directed by Associate Professor **Richard M. Goldstein** (Fine Arts) and stars Hancock Central High School student Emily Vitton (daughter of Assistant Professor Stan Vitton) in the title role, with a cast of MTU students and community members. Performances begin at 8:00 p.m. on Thursdays, Fridays, and Saturdays, with a 3:00 p.m. matinee on Sunday, February 6.

*The Diary of Anne Frank* won the Pulitzer Prize, Tony Award, Critics' Circle Award, and virtually every other coveted prize of the theater in 1995, when it was first presented in New York and starred Susan Strasberg. Written by Frances Goodrich and Albert Hackett, the play was universally praised by critics. The play is based on the true story of a Jewish family who spent years hiding from Nazi persecution in World War II Amsterdam. Teenager Anne Frank's diary of the years in hiding, which friends preserved after the Franks were arrested and deported to concentration camps, was published by Anne's father, the

family's sole survivor after the war.

The book is an often-joyful celebration of life and youth by a gifted young writer, and also dramatizes the fascinating story of the family's day-to-day efforts to survive with the help of friends. This vivid account quickly came to be considered one of the most beautiful, moving, and essential documents of our century, as well as a memorial to the war's victims.

Michigan Tech's production features set design by **Paul Aneshansel** and lighting and costumes by **Mary Carol Friedrich**, with assistance from crews of Michigan Tech students. In addition to Vitton, cast members include MTU students **Nick Bateman, Jayme Rusk, Martin Roschmann, Amanda Sproule, Tony Locatelli,** and **Michael Miller**, with community members **Claudia Stadius**, retired electrical engineering faculty member **Ralph Horvath**, and **Rebekah Stadius**.

Tickets are available by calling 487-3200, visiting the Memorial Union Box Office, SDC Central Ticket Office, or Calumet Theatre, or on the Web at <http://www.tickets.mtu.edu>. Prices are \$8 general, \$4 students (\$1 more at the door).

## Tech Tea: a superhighway to the South Pole

Submitted by University Cultural Enrichment

If you can't imagine anywhere colder than the U.P. in winter, come to Tech Tea Time on Wednesday, January 26, at 4:00 p.m. in the Memorial Union Alumni Lounge. Tea Time guest **Russ Alger** took a 1,200-mile expedition to study potential routes for heavy tractor trains to reach the South Pole. Alger, the lead scientist on the project, and three other researchers took the historic route from the McMurdo base across Antarctica, traversing two glaciers through the Trans-Antarctic Mountains to the Pole. He'll describe the two months the team spent in this extreme environment, travelling on snowmobiles and camping along the trail.

Alger's slide presentation will illustrate hardships and dangers, as well as the region's beauty. The four team members faced many challenges, not the least of which was living together for two months. "It was like being married," says Alger. "You had to get used to each other's irritating habits." And they had to trust and rely on each other as they faced the dangers of one of the most inhospitable regions on Earth. Crevasses were among the greatest threats. Although these perilous fissures, sometimes hundreds of feet deep, show up on ground penetrating radar, there is no way of knowing how much weight the snow bridges that traverse them will support. Although equipment, men, and machines were all roped together for safety, Alger says he had a constant sense of "things waiting to swallow you up." They also endured severe storms and bone-chilling cold.

Once safe routes to the Pole are established, tractor trains will transport construction materials and equipment to rebuild the obsolete Amundsen-Scott South Pole research station.

Alger's expedition was funded through the U.S. Army Cold Regions Research and Engineering Laboratory and the National

Science Foundation. Alger, a senior research engineer, is the head of the Institute of Snow Research at the Keweenaw Research Center. His work has included projects ranging from snowmobile trail studies to the mobility of M1 tanks in snow.

Tech Tea Time is coordinated by the University Cultural Enrichment Department (487-2844) and is free and open to the public.

## Psychological insights and college teaching

Center for Teaching, Learning,  
and Faculty Development



By William Kennedy, director

In an article in the Winter 1999 edition of the *New Directions for Teaching and Learning Series*,

"Teaching and Learning on the Edge of the Millennium: Building on What We Have Learned," Marilla Svinicki surveys the psychological underpinnings of some of the instructional approaches that have emerged in the last forty years.

The 1960s and '70s saw behaviorism as the dominant psychological model applied to instruction. The instructor's job, in this model, was to orchestrate instruction to increase the frequency of positive learning experiences for students and then to see that students were rewarded for their role in those experiences. Behaviorists' views gave rise to schemes like self-paced instruction, dividing up course material into small units with distinct learning objectives described in behavioral terms. Other spin-offs included criterion-referenced grading, with students evaluated on their progress in mastering behavioral objectives rather than being graded against the progress of other students. Critics suggest that this sort of instruction overlooks the complexities of thinking processes actually involved in learning.

The focus on learning as a restructuring of thinking processes was emphasized in the first phase of cognitive models of the 1970s and '80s. Cognitive models viewed learning as the reception of new ideas and the subsequent restructuring of a student's memory banks. Teaching strategies relied on structuring learning to complement the ways students actually process and then store incoming information. Teachers were encouraged to highlight key ideas, provide analogies, tables, charts, conceptual previews, and similar devices to assist students in storing new ideas while relating them to existing conceptions. Teachers were encouraged to carefully assess students' understandings to make new material relevant and engaging. Proponents stressed active learning, frequent understand-

## New staff

**Margaret Landsparger** has joined the ME-EM department as CAEL coordinator and Web designer. She was previously employed by MFC First National Bank as area supervisor for operations and at JoAnn Fabrics as a sales associate. She also worked for MTU in 1996 in the Summer Youth Program. Landsparger has a BS in Recreation from Northern Michigan University, is married to Robert Landsparger, and lives in Stanton Township.

ing checks (one-minute papers), and suggested that instructors recognize limits in short-term memory capacity in determining the quantity of material to be learned in a given period of time.

A second wave of cognitive models, according to Svinicki, emphasized "metacognition," or the importance of helping students realize that their own intentions are the real driving forces in the learning process. In this view, effective teaching is really about modeling thinking. Our students become our cognitive apprentices. Students write journals, talk through and write about solving problems rather than simply memorizing and regurgitating what they have heard or read. Students master new ways of thinking to overcome subsequent challenges as they progress in the learning process. This type of teaching emphasizes the how and the why over the what.

In the mid-1980s, the third wave of cognitive models further emphasized the importance of the learner's experience. In these views, the viability of the learning process is seen as being nearly exclusively in the control of the learner. Learning is seen as the process of students actively constructing a new reality in their own minds. These views stress student buy-in and active participation in determining instructional goals and methods. To be useful, proponents hold that learning experiences must be realistic and engaging, should include many opportunities for discovery learning rather than the passive reception of others' knowledge, and should give students opportunities to solve real problems facing real people in real time. These perspectives gave rise to movements in higher education like service learning, where student apprentices discover the skills and information they need to actually help community agencies or local groups to solve real-world problems. The teacher becomes the consultant, the resource, and the coordinator of learning experiences.

Next week, we'll consider more closely how these various approaches to instruction might impact student motivation.

## MichiganTech

Bill Cumov, executive director, University Relations  
Marcia Goodrich, Tech Topics editor  
Gail Sweeting, electronic marketing assistant

To get Tech Topics via e-mail, send a message to  
MAJORDOMO@MTU.EDU saying SUBSCRIBE TECH-TOPICS-L

Information to be included in Tech Topics should be submitted to the Tech Topics editor in one of the following ways:

- By e-mail to [ttopics@mtu.edu](mailto:ttopics@mtu.edu)
- By campus mail, send typed copies to Tech Topics, University Relations.

Each week, the deadline for submitting information is Friday at 5:00 p.m. for publication the following Friday.

## Perspectives on Inquiry (Continued from page 1)

ate a win-win situation," Bowen said.

Perspectives can give faculty a chance to explore a topic that's not part of their usual repertoire. Biological sciences professor **Robert Keen**, in his "Church of Reason" section, is sneaking epistemology into freshman heads through a study of Pirsig's 1970s classic *Zen and the Art of Motorcycle Maintenance*.

"I'm doing things differently, taking a more contemplative approach," Keen said. "It's very unstructured. I don't have a defined endpoint, as I do in my other courses. Instead, it's about how much of a fire I can light under my students. We're trying to teach them how to learn, to get them excited about exercising their minds."

A goal of "Church of Reason" is to help students understand the underpinnings of scientific thought. "I ask, what are the articles of faith that scientists have to have?" he said.

This is not totally unknown territory to Keen, who studied more English in college than biology and who has already had some eye-opening experiences with first-year students. "I've had to teach a general biology course, and a surprising percentage of Michigan Tech students have problems with Darwinian thought," he said. "I had to give them a firm idea of where scientists are coming from."

"We've had a lot of fun asking about the origins of human knowledge. But you have to be wary," he cautioned. The freshman frame of reference is far different from the typical professors'. "These students were all born in 1980 or later, and to them the Vietnam War is the same as the Civil War, ancient history."

Kennedy corroborates. "The complicating factor is these are freshmen, and I'm used to grad students," he said. "The enticement, other than the \$4,500, is that this is a way to re-energize your teaching, especially if you've been teaching the same six courses for twenty years. I am having to rethink everything."

"But the kids seem to love it."

Associate Professor **Marilyn Cooper** (Humanities) chairs the Perspectives committee and is teaching a section herself, "Antarctica." Armed with years of experience as a first-year writing teacher, Cooper was not blindsided by her students' callowness. But she can see how that could happen.

"I think it's an eye-opener for people who haven't worked with first-year students," she said. "You have to teach them how to read books, how to make arguments. Upper-division and grad students have already learned this stuff."

"Like any new course, it's not easy to teach. But it's really fun. And the students like the course a lot—at least, that's what they've been telling me. And it's interesting for me to teach, because it's different from my other courses."

Research Assistant Professor **Nancy Auer** (Biological Sciences), Michigan Tech's sturgeon expert, is teaching two pilot sections, "Ocean Fishery Resources" and "Freshwater Uses and Abuses."

"I'm really enjoying it," she said. "Both topics are things I've been interested in for a long time."

A primary goal of Perspectives is to teach students to write, and Auer's students recently completed essays on something they did

over break that related to the course. "Several had had conversations with their parents about the tunafish they were eating, particularly as it relates to dolphin-safe nets," she said.

Auer advises faculty who are thinking about teaching Perspectives to pick a subject they are familiar with but may not have taught before. Otherwise, "you'll have to dump an awful lot of work to prepare, or the students will see you're not familiar with the material," she cautioned. "But if you are familiar, it's easy."

As for teaching first-year students, there are advantages. True, "they need a lot more coaching, so in that way it's harder," Auer said. "But it's also more rewarding. They are new and naive, and you can shape them, in a way. . . . It's fun to get them thinking about their own thoughts and actions."

Perspectives on Inquiry can be taught by tenured and tenure-track faculty or other MTU professionals with a strong teaching background, including some instructors, research scientists, lecturers, and adjunct faculty. Though most Perspectives sections will be taught in the fall, some spring and summer sessions will be scheduled for transfer students and those who don't pass the course. A few sections may be team taught by three to six faculty. If you're interested in teaching Perspectives, contact Cooper at [mmcooper@mtu.edu](mailto:mmcooper@mtu.edu) or 487-3233. More information on the course is available at <http://www.admin.mtu.edu/admin/vpinst/gened/request.htm>.

For inspiration, you could phone Keen. "We're trying to get them to take something they haven't really thought about and make them think about it, something really important," he said. "To borrow shamelessly from Butler, education shouldn't be the filling of an empty bucket; it should be the lighting of a fire. That's what we're trying to do."

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## POSITIONS AVAILABLE AT MTU

Job descriptions will be available at 1:00 p.m. on Friday, or by e-mail at <[JOBS@MTU.EDU](mailto:JOBS@MTU.EDU)>.

The following positions will be posted Friday, January 21, 2000, at 1:00 p.m. through noon, Friday, January 28, 2000, in the Human Resources Office.

Senior Secretary N5—Educational Opportunity (UAW internal posting)  
Lecturer—General Engineering  
Associate Head Football Coach/Offensive Coordinator—Athletic Department (Regular, full-time, ten-month position)  
Computer Systems Support Engineer—Mechanical Engineering-Engineering Mechanics

University employees are reminded to apply in writing prior to noon, Friday, January 28, 2000, to be considered as internal candidates for bargaining unit positions only. Applicants from the recall pool will be given first consideration for non-bargaining-unit positions only. Vacancy announcements are normally posted every Friday at 1:00 p.m. in the Human Resources Office. Complete job descriptions are available in the Human Resources Office or by calling 487-2280. More information regarding employment opportunities is available by calling the Job Line at 487-2895. Michigan Technological University is an equal opportunity educational institution/equal opportunity employer.

### January

#### 21 Friday

**10:00 a.m.**—Board of Control meeting—Memorial Union Ballroom B

**3:30 p.m.**—Teaching Colloquium, "Negotiating Classroom Authority with Our Students"—Walker 318

**6:00/8:30/11:00 p.m.**—Film Board Movie: *American Beauty*—Fisher 135

**7:35 p.m.**—Hockey, Minnesota-Duluth at MTU—Student Ice Arena

#### 22 Saturday

**6:00/8:30/11:00 p.m.**—Film Board Movie: *American Beauty*—Fisher 135

**7:05 p.m.**—Hockey, Minnesota-Duluth at MTU—Student Ice Arena

#### 26 Wednesday

**4:00 p.m.**—Tech Tea: Russ Alger, "A Superhighway to the South Pole"—Memorial Union Alumni Lounge

#### 27 Thursday

**5:30 p.m.**—Women's basketball, Grand Valley State at MTU—SDC

**7:30 p.m.**—Men's basketball, Grand Valley State at MTU—SDC

**8:00 p.m.**—*Diary of Anne Frank*—Univ. Theatre

#### 28 Friday

**6:00/8:30/11:00 p.m.**—Film Board Movie: *Bringing Out the Dead*—Fisher 135

**7:35 p.m.**—Hockey, North Dakota at MTU—Student Ice Arena

**8:00 p.m.**—*Diary of Anne Frank*—Univ. Theatre