

Tech Topics

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Michigan Tech's Faculty/Staff Newsletter

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Senate to look at trimester calendar

The University Senate opened the door January 6 to a possible trimester academic calendar. It also passed motions to hold K-Day on Labor Day and eliminate the Good Friday afternoon recess.

The Calendar Issues Clarification Committee had recommended that the University adopt an academic calendar with two fifteen-week semesters plus a four-week intensive period in the spring and a double-time semester in the summer. The committee's proposal incorporates several student wishes: a week-long Thanksgiving break, traditional MTU holidays such as the midweek K-Day, and keeping the same number of instructional days.

However, faculty have consistently raised concerns about afternoon holidays disrupting learning, particularly for the first four weeks of fall lab sections. Classes are generally somewhat disorganized during the first week of the term due to adds and drops, they said. Then, under the proposed calendar, Labor Day interferes with Monday labs the second week, followed by K-Day the third week and Homecoming the fourth week.

The senate also debated a motion to shorten semesters from 15 to 14 weeks. Senators said this calendar would allow for better coordination with other universities and, by eliminating the four-week intensive period, could include an additional 14-week semester in the summer. The committee is expected to draft a trimester calendar for senators to show their constituents and then to consider at the next senate meeting.

The trimester calendar is incompatible with some of the boundary conditions originally set by the Calendar Issues Clarification Committee, since it shortens the number of instructional days during the regular academic year and could eliminate some traditional holidays. However, it retains other items on the students' wish list, such as the week-long Thanksgiving break, and offers students certain advantages, e.g., they could possibly

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*"Against stupidity the very gods
Themselves contend in vain."*

—JOHANN VON SCHILLER

Make-up meetings for professional staff, supervisors on employment status

Human Resources is holding two more meetings on the new satisfaction employment policy. All regular, nonunion, nonfaculty staff who missed other meetings on the issue are strongly encouraged to attend.

The make-up meetings are set for Tuesday, January 12, at 10:30 a.m.–noon; and Wednesday, January 13, at 9:00–10:00 a.m., in Memorial Union Ballroom A. Seating is limited, so please contact Gina Sayen at 487-1737 or gmsayen@mtu.edu by noon on Monday, January 11, to reserve your place.

The Board of Control recently approved a policy allowing professional staff to choose whether they wish to be "at will" or "satisfaction" employees. At the meetings, University officials will discuss both options and answer questions on the issue.

Reminder: All professional staff should

have received acknowledgment forms allowing them to choose their employment status. Forms are due in Human Resources by Friday, January 15. If you have any questions or concerns, contact Ellen Horsch at 487-1737 or eschorsch@mtu.edu

Supervisor workshop

A make-up workshop for supervisors who oversee professional staff will be held Tuesday, January 12, at 9:00–10:30 a.m. in Memorial Union Ballroom A. Supervisors will be introduced to Employment Policy 3.5, which changes the nature of the employment relationship between employees and the University.

Space is limited, so please reserve a seat by noon on Monday, January 11, by contacting Gina Sayen at 487-1737 or gmsayen@mtu.edu

MTU to offer teaching certificate in English

The Michigan Department of Education has approved the secondary teaching certification in English as proposed by Michigan Tech's Department of Humanities.

Effective immediately, MTU will offer Michigan Tech students and area educators state certification in English as part of the BA in Liberal Arts. This new secondary English certification focuses on preparing English teachers to face the challenges of the coming century by providing them a broad understanding of both literacy and technology as they affect the work of English teachers in public schools.

Sheridan Blau, president of the National Council of Teachers of English, gave the proposal his "strongest and most enthusiastic endorsement."

"The program proposed is highly innovative in a dimension of literacy just now being recognized as crucial for teachers of English—technological literacy; and it addresses not merely issues of technological competence and the proper deployment of technological resources, but questions about the ethical and social issues that touch on the use of technology in schools and in the culture," Blau wrote. "It proposes, in other words, to educate prospective teachers in a critical technological literacy and not merely in a functional technological literacy. . . ."

"I am enthusiastic about the proposed Michigan Tech teacher preparation program in English because I know the faculty who will be teaching in that program. They are among the most distinguished academics in this country in the areas of composition, literary theory, and the teaching of literature, technological literacy, and critical literacy," he wrote. "I can think of no other technologically oriented university in this country—neither MIT nor Cal Tech nor Georgia Tech—that is better staffed than Michigan Tech to offer a teacher-preparation program in English that will prepare secondary English teachers for the classrooms of the twenty-first century."

"Crucial to the success of this effort have been the efforts of Assistant Professor **Nancy Grimm** and Associate Professor **Chuck Nelson**, who have so capably led the humanities department's efforts on this important project, and the support and assistance of **Fritz Erikson**, chair of MTU's Department of Education, and **Max Seel**, dean of sciences and arts," said **Cindy Selfe**, humanities department chair.

Anyone interested in pursuing a secondary teaching certificate in English should contact Nelson at cwnelson@mtu.edu or 487-3232.

Women's commission seeks new members

The Presidential Commission for Women (PCW) needs new committee members, and all interested men and women are encouraged to apply.

Vacancies will be filled through nominations by the University Senate, Staff Council, the University president, and the PCW. The PCW provides a forum for gender-related issues and investigates methods to improve the environment for women in the campus community.

The commission's recommendations have benefited both men and women. Two examples include University-supported child care and recommendations resulting from the Professional Staff Salary Equity Study. The commission regularly reports on University progress, makes recommendations regarding implementation of policies and procedures, and advises the president on gender-related issues. If you would like to be considered or know of someone who might like to become a PCW member, please contact Sonia Goltz (smgoltz@mtu.edu) or Sue Beske-Diehl (sbeske-d@mtu.edu). These names will then be given to the University Senate, Staff Council, and president as possible nominees for PCW membership.

On the road

Associate Professor **Vernon Dorweiler** (SBE) coauthored a paper, "Environmental Concerns: A Business Valuation Perspective," presented November 26 at the conference Environmental Deal-Breakers in Business and Real Estate held in Toronto.

Presidential Professor **Ed Nadgorny** and graduate student **Masato Hiratani** (physics) presented a paper, "Dislocation Dynamics in Superconductors with Local Obstacles," at the Materials Research Society Meeting held November 30-December 4 in Boston. They also took part in a special seminar there on

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MichiganTech

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

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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 topics@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.

MTU notables

Professor Emeritus **Richard Heckel** has been invited to become a special consultant to the Data Committee of the Engineering Dean's Council of the American Society for Engineering Education. He will be an ex-officio member of the committee and assist them in the annual surveys of engineering education statistics. These surveys address degrees, enrollments, faculty, and research funding, and span the period from 1966 to the present. Heckel has also been asked to work with ASEE staff during February and March to assist them in their data verification process.

Heckel is also a member of the Engineering Workforce Commission (and their Executive Committee) of the American Association of Engineering Societies and assists them in their annual surveys and in the preparation of interpretive reports. He has compiled databases from both ASEE and EWC data covering all U.S. engineering colleges and departments from 1966 to the present. Heckel is pleased to accommodate requests for specific data and benchmarking comparisons. Heckel says, "Requests from Tech are given highest priority and are always done on a pro bono basis, a deal that is seldom found these days."

New staff

Cheryl Gherna has joined the Educational Opportunity staff as a senior secretary. She was previously employed as secretary to the bank officers at First National Bank, Calumet. She is married to James Gherna, has two children, Connie and Samantha, and lives in Calumet.

Center for Teaching, Learning,
and Faculty Development



Teaching Tips

Improving the quality of undergraduate education is a goal of most colleges and universities. Some educational researchers focus their efforts on more effective instructional methods (e.g., active learning, computer-mediated instruction, etc.), while others have championed the cause of greater curricular relevance (e.g., through industrial advisory boards, student evaluation instruments, and alumni surveys). Still others have endeavored to discern and distill effective mechanisms for the teaching and learning process (e.g., cognitive psychologists, learning specialists, etc.).

At research universities, such efforts to rethink and improve education are seen by some as time and energy sinks that divert the attention of already over-tapped faculty members away from the important research missions of these institutions. Ference Marton, professor of education at the University of Gothenburg, argues in his essay "Towards a Theory of Quality in Higher Education" that recognizing the common elements and processes in student learning and research might inform a more productive effort toward meaningfully understanding and improving quality in higher education.*

Marton holds that learning and research are the distinguishing features of modern universities. Rather than seeing research and learning as competing or unrelated missions, Marton focuses his attention on their similarities. He argues that student learning (through undergraduate instruction) should have much in common with the process and value of scholarly discovery. "In research," he notes, "human knowledge in its entirety is widened

Ways of knowing—research and learning

By William Kennedy, director

and humanity learns . . . such that we can see research as resulting in learning on the collective levels compared to what the students are doing, where the focus is on the individual level."

As profound advances in research provide scholars with new ways of understanding longstanding problems, Marton argues that meaningful student learning should focus on student appreciation of a variety of tools for characterizing the central elements and issues in their fields of inquiry. Just as research findings provide ways of understanding numerous variations in the challenges posed by the original research, Marton feels significant student learning should help learners apply what they have learned in one setting to related challenges.

The challenge of the university is to enable the learners to deal with situations "in an unknown future, in unknown places, in situations which cannot be defined in advance."** Under this line of reasoning, students are exposed to a variety of perspectives and insights from a broad variety of schools of thought and disciplines informing any given challenge. It also provides students with an understanding of the primary features of the evolution of knowledge within their own field of inquiry. Marton asserts that the "distinctly different ways in which we experience and understand the world make up the most important aspects both of learning and of research."** Student learning should be intimately related to the process of discovery, which drives and enlivens research. Students should learn that our present conceptions represent our best work to date, and that their education is intended to provide them with the tools to play an active role in the continuing process of human discovery.

* in Barry Dart and Gillian Boulton-Lewis, *Teaching and Learning in Higher Education*, Acer Press, Melbourne, 1998.

Researcher studies impacts of ozone on Atlantic

Submitted by the News Bureau

A Michigan Tech researcher is investigating the impacts of ozone produced in the northeast United States on the Central North Atlantic. Associate Professor **Richard Honrath** (civil and environmental engineering) has received a \$75,000 grant from the U.S. National Oceanic and Atmospheric Administration's Office of Global Programs to fund the study.

Research conducted by Honrath in 1993 and 1997 measured the levels of carbon monoxide, a tracer of pollution, and nitrogen oxide, a precursor to ozone, in the troposphere (the lower atmosphere). This research has suggested that ozone is being produced and exported. Impacts of the ozone are both positive and negative. It is a respiratory irritant that destroys crops and forests and is a greenhouse gas. However, it also produces hydroxide, a radical cleanser. Honrath will seek more accurate measurements of ozone at a higher atmosphere above the clouds. He, in collaboration with scientists from the University of Lisbon and the University of Azores, will make measurements on top of Mount Pico in the Azores. "The summit of Pico Mountain is the only location in the central North Atlantic at which ground-based measurements of the composition of the free troposphere, the atmosphere above the humid marine boundary level, are possible," explains Honrath. They will depend on wind and solar power and helicopters from Portugal to complete their research 2.3 kilometers up the mountain. Radon and carbon dioxide will also be measured to monitor volcanic activity on Pico for public safety. Honrath hopes, that with this new data, researchers will have "an improved understanding of the extent to which air pollutant emissions affect the global atmosphere. This information will help the United States and other countries determine whether pollutant impacts—global climate change and ozone toxicity to ecosystems and people—are large enough to warrant emission control."

In print

Assistant Professor **Kris Mattila** (civil and environmental engineering) and Dulcy Abraham (Purdue University) published a paper, "Linear Scheduling: Past Research Efforts and Future Directions," in *Engineering, Construction and Architectural Management*, Vol. 5, No. 3, September 1998.

Lecturer **William Chapel** (SBE) has published an article, "Advising Graduate Students for Successful International Internships," in *Business Communication Quarterly*, Vol. 61, No. 4, December 1998.

News you can use:

Quiz your health-care provider

It's up to you to make sure that the care and treatment you receive from your health-care provider are absolutely necessary and appropriate for your circumstances. Never be afraid to ask. If your provider can't take the time to answer your questions or doesn't answer them to your satisfaction, you may want to get a second opinion.

Here are the types of questions you can ask to get the most effective treatment:

When your doctor recommends diagnostic tests or X-rays:

- What will you learn from these tests?
- Are there risks posed by the tests themselves?
- Are X-rays really necessary?
- What exactly do the test results indicate?

When your doctor recommends treatment:

- What are the treatment options?
- Which types of treatment have been most successful?
- What are the risks and benefits of each type of treatment?
- If surgery is involved, what type of follow-up care is necessary, and how long will it take?

When your doctor prescribes medication:

- What's the name of the drug and what does it do?
- How should it be taken?
- Should the medication be taken until the prescription is used up—even if the condition improves before then?
- Are there activities, food, drinks, or other medications that should be avoided while taking this drug?
- What are the drug's possible side effects?
- Are there any effective alternatives to this medication?

Your doctor should also ask what other types of drugs you are currently taking and whether you have had allergic reactions to any medications. Volunteer this information if your doctor doesn't ask, and double-check with your pharmacist for possible side effects and reactions with other medications.

New gen ed program praised by AAC&U

General Education Council members named

Members of the General Education Council have been appointed and will begin meeting early in the new year. The council will oversee implementation of the new General Education curriculum established in the faculty referendum in November.

Although the plan has set goals and curricular structures, the council and faculty will have flexibility in developing gen ed course content and pedagogies. Council members and the areas they represent are **Bill Bulleit** (Engineering), **Diana George** (Humanities), **Bonnie Gorman** (Student Affairs), **Pat Joyce** (SBE), **David Landon** (Social Sciences), **Larry Lankton** (Social Sciences), **Ed Lutz** (undergraduate students), **Glenn Mroz** (SFWP), **Lee Oberto** (Technology), **Karen Owens** (graduate student), **Warren Perger** (Engineering), **Steve Seidel** (Mathematics/Computer Science), **Tom Snyder** (Biological Sciences/Chemical Sciences/Physics), **Stephen Bowen** (ex officio), and **Dennis Lynch** (Humanities, Director of Writing Programs). **Marilyn Cooper** will serve in Lynch's place while he is on leave during winter term.

Vice Provost for Instruction Stephen Bowen sent a copy of our General Education Development Task Force Report to Carol Schneider, president of the American Association of Colleges and Universities, which is particularly interested in general education. "Those of you who worked so hard on the new curriculum will be gratified by Dr. Schneider's comments," he said.

"It was an extraordinary pleasure to read through the new general education plan you and your colleagues have developed," Schneider wrote in an e-mail letter. "Congratulations on both the design and your success in winning passage. The plan as you describe it seems a very judicious combination of core courses and guided choice around intelligently chosen themes. It is heartening to know that AAC&U's efforts to encourage strong foundations through general education are influencing such good work.

"I know it's not easy to win agreement on a set of core courses, but Sandy Astin's research on student learning outcomes shows that core courses have the most significant effect on the quality of student learning in general education," she said.

"I thought the core course concepts were well chosen, both consistent with what others are doing (Inquiry; World Cultures) and path-breaking, especially the idea of a sophomore course on Re-Visions," Schneider said. "I hope you will evaluate these new courses and keep us apprised of the outcomes. Your Re-Visions concept is one I could certainly imagine featuring in our work, so do share your progress in implementing it with us. It's a very exciting idea.

"And congratulations once again on a very major accomplishment. You and your colleagues must have done a huge amount of work to pass such a significant program. I very much appreciate your sharing it with us."

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Da Vinci, the dodo, and Darwin's finches: birds in science and human culture

Submitted by University Cultural Enrichment

"Da Vinci, the Dodo, and Darwin's Finches: Birds in Science and Human Culture" is the title of the next Tech Tea Time, scheduled for Wednesday, January 13 at 4:00 p.m. in the Memorial Union Alumni Lounge. Ornithologist **David Flaspohler**, an associate professor in the School of Forestry and Wood Products, will discuss the roles birds have played in human culture, and conversely, the role human cultures and modern civilization have played in the lives of birds. Flaspohler will show slides and describe the diverse contributions of bird studies to our understanding of ecology, animal behavior, and conservation biology.

Birds have played an important role in human culture since the beginning of recorded time. From Egyptian hieroglyphics of falcons and geese, to Native American veneration of ravens and eagles, to the birds of prey that adorn U.S. currency, birds have served as important symbols for a variety of human cultures. Leonardo da Vinci pondered the mechanics of bird flight, while modern scientists continue to be drawn to birds as subjects of observation and inquiry. In fact, studies of birds have produced some of the most important scientific advancements in the last 200 years. The finches of the Galapagos kindled Darwin's early thinking on natural selection, or what has been called "the best idea anyone ever had," while a fossil of the bird-reptile archaeopteryx fueled the debate over evolution. The flightless dodo became synonymous with extinction after the last one was killed in 1681. More recently, accumulation of DDT in birds such as the peregrine falcon provided an early warning of environmental contamination in the U.S. Birds have even been suggested as possible descendants of the dinosaurs, who consequently, may have never really disappeared.

Flaspohler, who joined the faculty last fall, conducts avian research in the U.S., Mexico and Costa Rica, and teaches ornithology and conservation biology.

Tech Tea Time, which is free and open to the public, is coordinated by the University Cultural Enrichment Department. For further information, or to propose a topic for a future program, call 487-2844

On the road (Continued from page 2)

dislocation mobility and computation, held on December 4.

Professor **David Nitz** (physics) presented a paper, "An Overview of the Pierre Auger Observatory Project," at the 19th Texas Symposium on Relativistic Astrophysics held December 14-18 in Paris. He also chaired an internal review of the Auger Project Communications Task and presented on the integrated circuit development work to be done at MTU at the internal review of the Auger Surface Detector Electronics Task.

Members of the Department of Civil and Environmental Engineering made several presentations at the Fall 1998 meeting of the American Geophysical Union, held December 6-10 in San Francisco. Associate Professor **Richard Honrath** presented an invited talk, "Evidence of Production and Emission of NO_x from the Snowpack at Summit, Greenland," coauthored by PhD candidate **Matt Peterson**, PhD student **Song**

Senate (Continued from page 1)

take courses in the summer that they failed earlier and thus remain on track academically; coop opportunities would be greater.

Students attending the senate meeting expressed concern over the trimester proposal and the other amendments adopted by the senate; the Undergraduate Student Government supports the committee's original plan (see http://www.mtu.edu/transition/final_calendar_.htm). However, under its constitution, which was approved by the Board of Control, the senate has the power and responsibility to set the University's academic calendar, Senate President **Bruce Seely** noted. And the faculty's concerns regarding instructional quality may override some of the original boundary conditions.

A special senate meeting on the issue is set for Wednesday, Jan. 13, at 5:30 p.m. in EERC B45.



January

- 8 Friday**
7:35 p.m.—Hockey, Alaska Anchorage at MTU—Student Ice Arena
- 9 Saturday**
7:05 p.m.—Hockey, Alaska Anchorage at MTU—Student Ice Arena
- 14 Thursday**
5:30 p.m.—Women's basketball, Saginaw Valley State at MTU—SDC
7:30 p.m.—Men's basketball, Saginaw Valley State at MTU—SDC
- 15 Friday**
Martin Luther King's Birthday
7:35 p.m.—Hockey, St. Cloud State at MTU—Student Ice Arena

POSITIONS AVAILABLE AT MTU

Job descriptions are available from Human Resources starting at 1:00 p.m. on Friday. You can e-mail us at JOBS@MTU.EDU and we will e-mail you the job description you request.

The following positions will be posted Friday, January 8, 1999, at 1:00 p.m. through noon, Friday, January 15, 1999, in the Human Resources Office.

- Custodian—Facilities Management (Internal AFSCME posting only)
- Custodian—Facilities Management (Regular, full-time position; night shift during academic year, day shift during summer; AFSCME internal posting only)
- Master Machinist—Keweenaw Research Center (AFSCME internal posting only)
- Food Service Helper—Memorial Union (Regular, full-time, nine-month position; AFSCME internal posting only)
- Administrative Aide (N7)—Accounting Services (UAW internal posting only)
- Senior Clerk (N2)—Auxiliary Retail Services—Campus Store (Regular, part-time, nine-month position; UAW internal and external posting)
- Senior Specialized Clerk (N4)—Information Technology (UAW internal and external posting)
- Director of Distance Learning—College of Engineering (100 percent during summer, up to 50 percent during academic year; internal posting only)

University employees are reminded to apply in writing prior to noon, Friday, January 15, 1999, 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.