

Senate declines involvement in AAUP straw poll

The University Senate voted January 27 not to conduct a straw poll on unionization on behalf of the American Association of University Professors (AAUP).

Members of the Michigan Tech AAUP chapter had asked the senate to conduct the poll, since it "has well-established mechanisms for handling such polls, including verification of ballots, counting, security, etc."

The AAUP chapter plans to conduct two polls, one of research and academic faculty and another of professional staff represented by the senate. Each group would be asked whether or not they support having an official referendum on collective bargaining for their group.

Senator **Bruce Barna** (Chemical Engineering), treasurer of the local AAUP chapter, said the poll would provide guidance on whether unionizers should seek support among the faculty and staff to have the National Labor Relations Board conduct an election.

Several senators opposed senate involvement in the process. "I'm not against the straw poll itself, but it may be misconstrued," Senator **Tom Drummer** (Mathematical Sciences) said. "The senate could be seen as part of or supporting the vote."

"It makes it look like the senate encourages the referendum," Senator **Wayne Pennington** (Geological Engineering and Sciences) said.

Some senators backed the measure. "We have one mechanism for polling that has integrity," Senator **Carol Macleannan** said. "It should be shared with all parties in matters of sufficient weight."

On a secret ballot, the senate voted 21-11 not to conduct the straw poll. Barna said later that the local chapter still plans to poll the faculty and professional staff to determine interest in unionizing.

Senator **John Williams** (Chemistry) presented a report from the Research Policy Committee on enhancing

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Strategic planning discussed at Board of Control meeting

Board of Control Chair **Jim Mitchell** opened the January 21 meeting with a cautionary tale. "In the year 400, the citizens of Rome had good reason to be proud of their accomplishments," he said. "They looked from North Africa to the Rhine River, from Syria to Britain, and all the world was Roman. It was peaceful; commerce thrived. . . . By the year 500, the Roman Empire did not exist. It fell because of an anachronistic tax system that nobody wanted to change and outside pressures that nobody wanted to pay attention to."

"We don't want the same thing to happen to Michigan Tech in the next hundred years," Mitchell said. "That is why we are embarking upon a strategic planning process, in which we are asking all the questions and trying to make decisions to position this university for success."

Since November, directors and department chairs throughout campus have been preparing strategic plans for their areas. These plans will be incorporated into portfolios, generally at the dean, vice provost, and vice president level, and the portfolios will be integrated into a single, University-wide document by the end of February. The process is under the direction of the Strategic Planning Working Group, chaired by Dean of Engineering **Robert Warrington** and Dean of Sciences and Arts **Max Seel**.

Directors and chairs are setting goals for their areas and describing what functions should expand and which could be de-emphasized over the next ten years, in line with the University's vision statement.

Mitchell noted that technology has become a major variable. "Is it true that, as the experts say, in fifty years 50 percent of the universities and colleges we see today will no longer be in existence because of the Internet?" he said. "Is it true that we need to be increasing students, or is it a question of the proper mix of students? Do we want to be a research university as we have charted out? Is that the right course? We'll be analyzing those questions carefully over the next weeks and months."

University Senate President **Bruce Seely** noted later in the meeting that the strategic planning process is being coordinated at the dean level. "This puts it one step down the administrative chain, enhancing the chances for input from faculty and staff," he said.

He stressed the importance of by-in across campus. "In the end, it all comes down to the people on the ground," he said. "Our vision is only going to be as good as what the faculty and the staff achieve while working with the administration and the Board for the students. We have to have everybody working on the same page."

So faculty and staff can have direct input, open forums on the draft strategic-planning documents will be held for faculty on February 17 and March 7 and for staff on February 21 and March 6. The Strategic Planning Working Group will also make presentations for the University Senate and Staff Council before meeting with the Board of Control on March 9-10. The documents will be posted on the Web, and members of the University will be able to submit their comments electronically.

Michigan Tech is seeing a significant rise in the number of undergraduate applications for fall 2000, **Gary Neumann**, executive director of enrollment management and marketing, reported. A total of 2,708 applications had been received as of January 19, compared to 2,302 at the same time in 1999, an increase of 17.8 percent. More out-of-state students are showing an interest in the University, and he credited the University's marketing efforts for increasing student awareness of and interest in Michigan Tech. "We're excited," he said. "We think we're doing the right things for the future."

Neumann noted that 70 percent of MTU students come from areas where the median family income is \$50,000 or lower. President **Curt Tompkins** said those statistics had increased his interest and enthusiasm for the scholarship portion of the Leaders for Innovation Campaign. In addition, new campus construction, including the Rosza Center for the Performing Arts, is helping make MTU more attractive to students, Tompkins said.

The Leaders for Innovation Campaign will have an official kick-off in February, with four alumni galas, said **Kimera Maxwell Way**, executive director of development and the Michigan Tech Fund. The University has raised \$71.6 million in gifts, planned giving, gifts-in-kind, and pledges for the campaign, and should be at \$75 million by the official announcement, she said. The goal, which has yet to be set, will be greater than the originally projected amount

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The path to solid, supportive, healthy relationships, self-respect, and a quality life starts with the usually painful decision to do the right thing.

—LAURA SCHLESSINGER

Administration approves half-semester courses

At the recommendation of Provost **Fred Dobney**, President **Curt Tompkins** has approved the University Senate's proposal to allow half-semester courses.

Under the policy, half-semester classes would be used primarily to teach "a narrowly defined set of tool skills" or for elective, specialized, senior-level subjects that don't require a full semester course.

Vice Provost for Instruction **Stephen Bowen** will develop guidelines for reviewing the courses.

MTU notables

Junior **Monique Simmons** has been selected by Dow Chemical Company to receive an Emerging Scholars Award. Under the program, Simmons receives a \$5,000 scholarship, renewable annually for up to four years, and will be completing two summer internships with Dow Chemical. She is the first student from Michigan Tech to receive this award. The nationwide program began in 1998 and supports up to thirty students at a given time.

Emerging Scholars are selected from universities where Dow recruits and are chosen based on their academic performance in a major of interest to Dow. Simmons recently earned an AAS in Chemical Engineering Technology and is now pursuing her BS in Chemical Engineering.

ECE seminar February 7

Robert J. Adams of Virginia Tech will give a seminar, "Issues Related to the Numerical Simulation of Electromagnetic Phenomena for Engineering Applications," on Monday, February 7, at 3:00 p.m. in Dow 642.

All interested persons are invited. The seminar is sponsored by the Department of Electrical and Computer Engineering.

MichiganTech

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

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- By e-mail to 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.

Board Chair Mitchell addresses students

Board of Control Chair **Jim Mitchell** gave a talk January 20, "Intellectual Property Rights: The Basics," to students in EE499, the electrical engineering senior capstone design course.

"He did an excellent job—it was really interesting and well done," said Professor **Jon Soper**, EE499 coordinator. "He started out with a case study of the patent for integrated circuits, which was a good example for electrical engineering students. He talked about intellectual property and how to protect it; and copyrights, patents, trademarks, and the differences between them, as well as the basics of patents."

Mitchell, a patent attorney based in Grand Rapids, also chatted about some of his cases. "The students found it to be very interesting," Soper said. "Several came up to him afterward to discuss more details"

About 140 to 150 members of the University community attended the lecture, including faculty and senior design students studying biomedical engineering.

Theories of motivation

Center for Teaching, Learning, and Faculty Development

By *William Kennedy, director*



and cognitive learning models over the last forty years.* This week, we'll survey her thoughts on the influence of these psychological models on student motivation. Motivation theories, not surprisingly, have followed the same basic pattern as learning theories, from behavioral emphases to a series of cognitive models, and beyond.

Early theories of behaviorism understood motivation primarily as the end-product of previous positive stimulus-response experiences. Teachers were encouraged to reward desired behaviors to increase their frequency and punish undesired behaviors to decrease their frequency. According to these views, motivation is reduced to a tendency to act in certain ways resulting from external experiences rather than as a result of internal processes or individual differences.

Cognitive models suggest that learning provides students with ways to gain insights that will make their newly informed perceptions more congruent with reality. The theory goes that human minds yearn for mental consistency. Thus, teachers can use their students' innate needs for consistency to increase the motivation to learn by pointing out how their present methods or ways of looking at the world are dissonant with other notions that they simultaneously embrace.

Leon Festinger proposed a theory called cognitive dissonance to explain the various ways students incorporate new ideas that are inconsistent into their present worldviews. Students can choose to ignore or devalue the dissonant information (skip class, daydream), they can partition the new information so that it doesn't clash with existing values (it's school junk, who cares?), or they can accept

the new information and come to a new sense of consistency by re-evaluating what they previously took to be true (learning). In my own teaching, recognizing that gleefully and uniformly accepting and incorporating what I am teaching is always a remote third choice has taught me to approach a new idea from a variety of perspectives. It has also caused me to move away from lecture and into the discussion mode more often.

Various schools of cognitive thinkers have provided other insights. Some have argued that students are more motivated to learn if the tasks (1) offer a reasonable opportunity for success and (2) are valued by the students (relevance). Still others have suggested that students will be more strongly motivated when (1) they can see that they are moving toward an achievable goal and that (2) it is their own effort more than native talent or luck that is involved in reaching the goal.

Recently, those interested in understanding student motivation have emphasized the differences in motivational levels and styles among students in a given class. Some students seem to be motivated to achieve when given self-paced mastery goals rather than norm-referenced performance goals, while others are just the opposite. Some students are more motivated when they have a hand in determining how they will reach instructional goals, while others prefer to have the whole thing laid out. Factor in modern mass education and you can see the problem.

Students who are intrinsically motivated generally outperform those who are extrinsically motivated by carrot-and-stick schemes like grades, extra points, partial credit, etc. Proponents of intrinsic motivation suggest it can be encouraged when students are given choices in developing challenging yet achievable learning goals, a sense of self-control in achieving these goals, and a chance to achieve those goals through reasonable and diligent effort.

*in the series *New Directions for Teaching and Learning*, *Teaching and Learning on the Edge of the Millennium: Building on What We Have Learned*, and *New Directions in Learning and Motivation*, Number 80, Winter 1999, Jossey-Bass, San Francisco.

Room-and-board, apartment rates to go up

Submitted by the News Bureau

The Board of Control voted January 21 to increase residence hall room-and-board rates and apartment rental rates for the 2000-2001 academic year.

At normal occupancy, the new rates will generate an increase in total housing revenue of \$440,604, or 3.8 percent. The new rates call for an increase in double occupancy non-suite rooms of \$191 or 4 percent, from the current annual fee of \$4,726 to \$4,917, starting next fall. Double occupancy suite-type rooms would go up 3.7 percent or \$203 to \$5,643. Students can select the 19-meal plan, the 14-meal plan, the 10-meal plan, or the 5-meal plan. Those electing 14 meals per week will save \$102; those with 10 meals will save \$204, and those choosing the 5-meal plan will save \$1,221.

Apartment monthly rental rates for student families will go up 2.6 percent, ranging from \$9 to \$13, depending on the number of bedrooms, with one-bedroom units costing \$354, two-bedrooms \$393, and three-bedrooms \$506. One-bedroom units with three single students will go up 2.1 percent or \$4 to \$131. One-bedroom units with two students will remain at \$219. Two-bedroom units with four students will increase \$4 to \$131. Two-bedroom units with three students will remain at \$219, while two-bedroom units with two students will increase \$7, or 2.7 percent, from \$255 to \$262.

Michigan Tech officials said the new rates reflect increasing operational costs.

Color image processing seminar February 10

Michael J. Vrhel, a senior scientist with Color Savvy Systems, will give a seminar, "Color Image Processing," on Thursday, February 10, at 3:00 p.m. in Dow 642. All interested persons are invited.

Vrhel's seminar is sponsored by the Department of Electrical and Computer Engineering.

Visiting Russian professor to give materials seminar

Chemistry professor Boris Summ from the Moscow State University, in Russia, will present the seminar "Adsorption, Wetting and Mechanical Properties of Materials" on Friday, January 28, at 3:10 p.m. in M&M 610.

Summ will review and illustrate the main forms and principles of the Rehbinder effect for metals and some other materials.

Refreshments will be served at 3:00 p.m., and all interested persons are invited. The seminar is part of MESS, the Materials Engineering Seminar Series. For more information, contact Jaroslaw Drelich at jwdrelic@mtu.edu.

Board of Control *(Continued from page 1)*

of \$100 million, in large part because of alumni support. "The enthusiasm among the alumni has been great," she said. "They've expressed great pride and support of Michigan Tech."

Tompkins said that a flood of donations has allowed for the expansion of the snow-making project at Mt. Ripley. MTU has received \$539,000 from the community, with alumni set to contribute an additional \$300,000. And Senior Vice President for Advancement and University Relations **John Sellars** said that, among alumni who have received proposals relating to the capital campaign, 60 percent have agreed to contribute. According to fundraising consultants, the typical figure is 20 percent.

Sung Lee, vice provost for research and dean of the Graduate School, reported on the importance of attaining Doctoral/Research I status under the new Carnegie classifications. The new classifications, which go into effect this year, are based solely on doctoral degrees granted. Doctoral/Research I institutions award a minimum of 50 doctoral degrees per year, and Michigan Tech has been graduating just short of that number, based on its most recent, three-year averages. This puts MTU on a "cusp," allowing the University to ask to be placed in Doctoral/Research I based on its programs' special characteristics. Michigan Tech can make a good case to be placed in Doctoral/Research I this year, Lee said, and needs to ensure that it will remain at that level when the next classifications are done, in 2005.

Michigan Tech's prestige, not to mention state support, will depend in large part on its Carnegie ranking, Lee said. The University of Michigan, Michigan State, Wayne State, and probably Western Michigan will achieve Doctoral/Research I status. If MTU doesn't, "we will be rubbing shoulders with Andrews,

Detroit Mercy, and Oakland," he said, which will probably be placed in the Doctoral/Research II category.

And while MTU will likely graduate at least 50 PhDs this year, that number will slide over the next few years because of declining enrollments. MTU is less competitive than other universities in in terms of graduate students' health insurance, stipends, and workload, he said. To help reach the goal of awarding fifty PhDs annually by 2005, Lee proposed creating Dean's Fellowships and additional graduate teaching assistantships. A plan to allow more flexibility in allocating Graduate School budget dollars to achieve Doctoral/Research I status is already being implemented. And while expanding doctoral enrollment is crucial, the bachelor's and master's degree programs shouldn't be allowed to suffer as a result. "As a technological university, our master's program supports our industry base," he added.

Tompkins said that graduate enrollment was affected by researchers' greater reliance on postdocs at the expense of graduate research assistants. Postdocs are considered "more prestigious," Board Member **Ruth Reck** said, and Tompkins indicated that they are also more experienced. Reck said that if more faculty took release time (replaced some of their salary with research funding), more money would be available for graduate students. Tompkins said he had broached the subject previously, but had not found support among deans and faculty.

"I don't think we have to improve; I think we're top notch," Reck said. "But we need to do things to get recognized."

"The School of Forestry and Wood Products is is top notch in its field," Lee noted. Their ratio of undergraduates to graduate students is 3:1, the faculty publish in top journals, and they receive \$350,000 in research funding

In other business, the Board

- heard a financial report from Vice President for Finance and Administration **Bill McGarry**. He predicted "approximately a balanced year," with unbudgeted expenses and revenues being about equal and health-care costs on track with projections. The draft budget for next year will be presented to the Board in March, with a final budget ready for Board action in May or later, depending on when the state acts on Michigan Tech's allocation.
- heard a report from Executive Director of Corporate Services **Peter Radecki** on the Enterprise Park proposal, to make Michigan Tech "a nurturing place" for technological innovation. In addition to encouraging technology-based development in the local community, the Enterprise Park could also involve student design teams and provide local employment for MTU grads, most of whom must leave the area to find good jobs.
- heard a report from Undergraduate Student Government Treasurer **Megin Agostinelli** asking that the University consider purchasing the UPPCO building as a site for the undergraduate Engineering Enterprises. Using the ROTC gym, as originally planned, will disrupt student group activities and the ROTC program, she said. The University would save money on the purchase, since Advancement and the Michigan Tech Fund are now renting space in the building; in addition, MTU could rent space to other tenants. Under this scenario, the purchase could cost no additional funds, Agostinelli said. Tompkins cautioned that the local area is experiencing a glut of rental space. The administration has not made a recommendation to the Board regarding the proposal.

Library gets \$34,000 thank-you from Endeavor

Endeavor Information Systems has given the J. R. Van Pelt Library a \$33,910 credit, which will cover the cost of one year's maintenance for Voyager.

Voyager is Endeavor's online catalog and library management software, which allows users to search the library's holdings by subject, author, title, etc.

The \$33,910 credit is Endeavor's way of saying thank you for the use of the library's database in its sales and training demonstrations. "We were one of Endeavor's first customers in 1994 and a development partner," University Librarian **Phyllis Johnson** said. "A few months ago, Endeavor asked us if we would be willing to update the Voyager database by allowing them to add our most current records. Of course we said yes. We're proud of the work we do here, and we're delighted that other libraries around the world can use our database to test how well Voyager will work for them."

The Van Pelt Library's database was selected for demonstration purposes because of its large number of complex records, its scientific and technical journals, and its relatively small size. Since it was piloted by MTU, Voyager software has been installed in over 600 libraries, including two of MTU's benchmarking institutions, Georgia Tech and the Colorado School of Mines. Other Voyager customers are Northwestern University, University of Pennsylvania, and the Library of Congress.

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research at MTU. According to a survey of faculty, the primary impediment to research was a lack of time.

He said that a dramatic rise in research had begun leveling off in 1998. "We'd like to suggest that we've run out of oomph," Williams said.

The committee's primary recommendation was to "reduce the faculty, staff and graduate student workload." Survey respondents also said that their research would benefit from the addition of more graduate students.

Associate Professor **David Landon** (Social Sciences), chair of the Graduate Council,

said the council was excited about the University's push to achieve Doctoral/Research I status in the Carnegie classifications, and that increasing faculty lines and time should be important parts of such a plan.

In other business, the senate

- sent the proposal on double majors back to committee after reviewing suggested changes made by the administration.
- reaffirmed its University Web Policy proposal, including editorial changes made by administration.
- scheduled a special meeting with the Strategic Planning Working Group on 5:30 p.m.,

News you can use: HRT and breast cancer

(This information is extracted from a January 26 press release by New York University Medical Center, available at <http://www.newswise.com/articles/2000/1/ESTROGEN.NYM.html>)

A study published Thursday in the *Journal of the American Medical Association* reports a greater risk of breast cancer with estrogen-progesterone combination hormone replacement than with estrogen alone.

Many doctors currently recommend either hormone replacement therapy with estrogen alone or a combination of estrogen and progesterone to treat symptoms of menopause and reduce the risk of osteoporosis and possibly heart disease. The hormone progesterone protects the tissue lining the uterus from the effects of estrogen, which raises the risk of uterine cancer. The combination of the two hormones is considered the standard treatment in women with an intact uterus. In women without a uterus, estrogen alone is used as a treatment.

In the new study, researchers from the National Cancer Institute evaluated whether the combination therapy increased the risk of breast cancer more than estrogen alone. Using data from 46,355 postmenopausal women who participated in the Breast Cancer Detection Demonstration Project, they found that the combination therapy was

associated with a substantial increase in risk compared with estrogen alone.

"This study isn't good news for women, but there are many more options available to women than were available twenty years ago when this study began," said Steven R. Goldstein, MD, a professor of obstetrics and gynecology at New York University School of Medicine. Newer types of progesterone are available today, such as natural oral micronized progesterone and natural vaginal progesterone, which are safer than the progesterone likely used by women in the study. And he notes that he and other physicians are already treating women with fewer doses of progesterone, a regimen called "sporadic progesterone." These regimens employ progesterone only two to four times a year, and rely on ultrasound to ascertain that the lining of the uterus isn't becoming abnormally thick.

"Women who are taking hormone replacement therapy for 12 to 36 months to treat symptoms of menopause shouldn't be scared away from the therapy because of this study," he says.

POSITIONS AVAILABLE AT MTU

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

The following positions will be posted Friday, January 28, 2000, at 1:00 p.m. through noon, Friday, February 4, 2000, in the Human Resources Office.

Custodian—Facilities Management (Third shift, AFSCME internal posting)
Office Assistant N5—Student Records and Registration (UAW internal posting)

University employees are reminded to apply in writing prior to noon, Friday, February 4, 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

28 Friday

3:00 p.m.—Boris Summ, "Adsorption, Wetting, and Mechanical Properties of Materials"—M&M 610

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*—University Theatre

29 Saturday

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

7:05 p.m.—Hockey, North Dakota at MTU—Student Ice Arena

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

February

Black History Month

3 Thursday

6:00/8:30/11:00 p.m.—Film Board Movie (free admission): *Pulp Fiction*—Fisher 135

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

4 Friday

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

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

5 Saturday

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

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