

March 13, 1998

Rarely do
great beauty and
great virtue
dwell together.

—Petrarch,
De Remedies

Vol. XXX, No. 25

Budget plan projects 24 percent salary hike over next five years

Michigan Tech could be on the verge of shedding its "best buy" chrysalis and emerging as simply "the best."

Provost **Fred Dobney** unveiled a five-year budget plan before the University Senate March 11 that anticipates a 24 percent increase in salaries and wages through 2002–03.

"We have been a 'best buy' on the backs of faculty and staff," Dobney said. "I'm proposing this because this is what we need to accomplish our goals."

Over the past five years, the University has added about fifty tenure-track positions, filling many of them with top-quality faculty who are becoming leaders in their fields. The growth in research activity throughout the University is well above the national average, and Michigan Tech has redoubled efforts to improve instruction. But it takes money to attract and retain the best people.

"We are poised to make another leap forward similar to what we have done in the last five years," Dobney said. "If this institution is going to become what it has the capacity to be, we have to make this investment in our faculty." MTU is now a Doctoral I institution moving close to Research II in the Carnegie rankings. But all of the top universities in the US are Research I, with high levels of graduate students, research spending, and the accompanying reputations.

"A lot of people in California and Texas have never heard of Michigan Tech," he said. "I want that to change. . . . [The five-year budget plan] provides us with the ammunition we need to make this a first-rate, national university. It's up to us to decide if we want to do that."

The University isn't locked into this goal, he added. "We could return to being a small school in the northwoods that teaches engineering."

The budget

For the first time, the administration has developed a five-year draft budget designed to complement the strategic plan and move the University toward its goals, Dobney said. Actual revenues and expenditures will be updated regularly, since variables such as enrollment and state appropriations cannot be pinpointed. "The budget process, like the planning process, must be dynamic," Dobney said.

The top priority is to bring faculty salaries to parity with peer institutions. Over the past five years, salaries have moved closer but are still about 10 percent behind the Region 3 NASULGC institutions. In general, staff salaries also lag behind their peers'.

To make up the difference, the administration is proposing a 4 percent salary hike in 1998–99, followed by 5 percent increases over the next four years.

"These will not be across-the-board increases," Dobney said. Raises will be allocated based on merit, equity, and marketplace factors.

In addition, the budget calls for adding fourteen new faculty positions (in part to staff new programs anticipated in computer engineering and biomedical engineering) and adding fifteen new staff, primarily in maintenance to support the new buildings, academic support, information technology, and advancement.

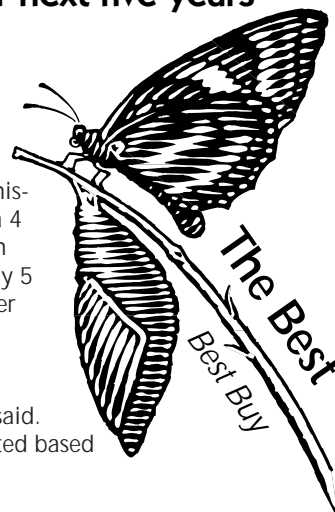
Also for the first time, the tuition rates would differ for upper- and lower-division students, with the largest increase slated for the upcoming fiscal year. On average, upper-division classes are 46 percent more expensive to teach than their lower-division counterparts. Resident freshmen and sophomores would see a \$300 annual increase, from the current \$3,936 to \$4,236. The increases would diminish over the next four years: \$250 in 1999–2000, \$200 in 2000–01, and \$150 in both 2002–03 and 2003–04.

Resident juniors and seniors, currently paying \$3,936, would see increases of \$500, \$400, \$300, \$200, and \$150 through the same period. Then, in 2003–04, lower division tuition would be \$4,986, with upper division students paying \$5,486.

Grad student tuition increases would also be higher. Over the five-year period, resident grad students would see an annual increases of \$400 for three years, \$450, and \$500, raising tuition from the current \$3,276 to \$5426. Graduate education is much more expensive than undergraduate instruction, Dobney said, and the Graduate Student Council backed the tuition differential as a way of bolstering educational quality.

"Can we ask students to carry the extra burden?" Dobney said. The tentative answer is yes. As the quality of a Michigan Tech education increases, so will the value of an MTU diploma. And, when

(Continued on page 6)



Tompkins to attend Innovation Summit

Submitted by the News Bureau

President **Curt Tompkins** is joining other leaders from across the nation at an Innovation Summit to be held March 12–13 at MIT. Governor **John Engler** will also participate in the summit, and President Clinton is scheduled to address the gathering if his schedule permits.

The summit is sponsored by the National Council on Competitiveness, whose goal for the meeting is to (1) demonstrate to the American people how innovation contributes to US competitiveness, job creation, and quality of life; (2) present new findings that benchmark for the first time the strengths and vulnerabilities of the US innovation system; and (3) produce consensus on guiding principles as well as specific action steps that will maintain long-term US strength and generate momentum for follow-up activities.

The summit will feature leaders from universities, industry, and Congress. Challenges to be addressed include (1) strengthening the national talent pool; (2) sustaining the research base; (3) improving the investment climate; (4) translating ideas into new products and services; and (5) expanding US access to global markets.

Staff Council hangs help-wanted sign

Staff Council agreed March 9 to look into hiring a student worker for spring quarter.

The student would work with Staff Council Member **Tim Gerdeen** (IT-Telcom) to develop and maintain the council's Web page. The council also discussed purchasing a computer for the student to use in Staff Council's new office, located in Administration/Student Services 187.

More than 600 employees and their family members participated in Family Fun Day on March 7, Staff Council Member **Glenn Ekdahl** (Residential Services) reported. "I think it went quite well," he said. "I received several e-mails from staff, who said it was an exceptional day for their kids." Family Fun Day is sponsored by Staff Council.

Apple technology roundtable March 18

Representatives from Apple Computer will hold a roundtable discussion of the current state of Apple and a demonstration of some of the technologies fueling the turnaround on Wednesday, March 18, 10:00-noon, in EERC B18. Topics include the come-back strategy, the new G3 desktop computer, Microsoft's Office '98 for Macintosh, Windows on Mac, OS 8, QuickTime 3.0, QuickTime VR, and Rhapsody Primer.

All interested persons are invited. For more information, contact Bob Boyle at boyle@apple.com.

TECH TOPICS

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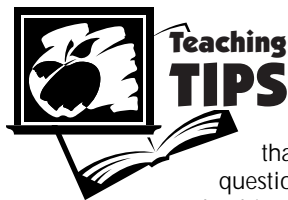
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Our URL is <http://www.sas.it.mtu.edu/urel/ttopics/index.html>

Center for Teaching, Learning, and Faculty Development



What have we learned so far from the IDEA system?

First, we discovered that for IDEA form question, "I had a strong desire to take this class," the average response in 61 percent of the 915 classes we evaluated during the fall term was "Definitely False," or "More False than True." In the IDEA comparative database, only 40 percent of the classes fell into one of these two categories. These findings would appear to substantiate and underscore the faculty concern that many of our students don't seem very engaged in or motivated to pursue their course work. As we stand at the threshold of general education reform, revision of disciplinary curricula, and the move to semesters, we must face this student "motivation/interest" crisis squarely. If we are to improve the quality of this educational enterprise, we must maximize our efforts to engage these young minds from the beginning and to impart some measure of our enthusiasm for and love of learning to them.

At the same time, the good news is that the IDEA scores indicate that some of our MTU faculty members are truly connecting with these very same students. Students in these classes report that they are learning a great deal and are finding that their attitude towards the subject matter is being greatly improved. The center is already observing the classroom teaching techniques and interviewing these professors to find out how they are making these things happen for our students.

We learned during the pilot implementation of the IDEA system that because student rating score distributions are routinely skewed toward the higher end of the scale, relatively small variations in student responses can cause major variations in the IDEA percentile rankings for a given class. Realizing this fact, we must insure that academic departments and tenure and promotion committees not use individual IDEA percentile rankings in isolation. Rather, departments and committees charged with evaluating instructional efforts must look at measures of teaching performance from multiple sources and build a composite view over the course of several terms of instruction. The center is working with the provost and vice provost for instruction to insure that departments are using student rating of instruction scores appropriately.

A review of MTU departmental charters reveals that most academic departments appear to rely much too heavily on student opinion scores as the primary measure of an instructor's teaching effectiveness.

Massage therapy: when insurance pays

Your physician may at some point prescribe massage therapy for you or one of your dependents. The University will pay for such therapy, but only under certain conditions.

First, you must bring a written prescription from your physician to the treating therapist. Your massage therapist will also need your medical insurance information.

Then, a special medical review unit at Wausau evaluates the prescription, your medical condition, and the massage therapist's plan of treatment before deciding if the massage will be covered or not.

If you'd like more information on insurance coverage of massage therapy, including how to find out in advance if a massage will be covered, contact the Benefits Office at 487-2517 or iecheney@mtu.edu

The IDEA system: What are we learning?

By William Kennedy, director

Therefore, the faculty must move at the departmental level to develop policies that insure that other measures of teaching effectiveness are used.

Through the initial implementation of the IDEA system, we have also discovered that when we ask students to characterize what and how much they learned, we get a different picture of our instruction at MTU than when we ask students to comment on characteristics of the instructor or the class. It should also be noted that all of the regional and professional accrediting agencies have placed the assessment of student academic achievement (student learning) at the top of their priority lists. The latest word from CHEEA, the parent accrediting association (the agency that accredits the accrediting agencies), is that the emphasis on the assessment on student learning will only increase over the next several years. In this environment, it makes sense to use a student evaluation procedure that focuses, if only indirectly, on a measure of student learning.

At the same time, I cannot emphasize too much or too often that no student rating of instruction procedure can provide a comprehensive picture of a faculty member's teaching contribution. Students are in no position to meaningfully assess the value of the content of the course or the subject mastery or currency of the professor teaching it. Likewise, students cannot be expected to equitably factor in variables that are beyond the instructor's control, such as a lack of instructional resources to support the instruction.

It seems plausible, however, that students can make judgments about what and how much they learned in one course compared to what and how much they learned in other courses they have taken at the University. It also seems reasonable that this sort of student feedback might prove useful to each of us as we strive to continuously improve the impact of our instruction on student academic achievement. If student learning is our common goal, the goal of our accrediting agencies, and the goal of those to whom we are accountable, it makes sense to use a student evaluation instrument that focuses on student learning.

Finally, we have learned that it is going to take some time for us to come to terms with any new evaluation system. With the IDEA system, it will take us a few tries to select and more effectively communicate our instructional objectives to our students and to discover what we can do to improve the impact of those instructional efforts. But isn't that what student evaluation should be about, anyway?

As always, feel free to call and discuss this or any other matter with us at the Center for Teaching, Learning, and Faculty Development at 487-2046.

Schulz: cranking up the power at Michigan Tech

Can you handle just one more weird O. J. anecdote?

"Not many people know this," says power engineer **Noel Schulz**, an assistant professor in the electrical engineering department. "The O. J. verdict was scheduled for 1:00 p.m., and everybody started turning on their TVs at noon. Then the verdict was read, and, within five minutes, everybody suddenly turned off their lights and their televisions.



"We almost had a major power outage because the utilities weren't ready for it."

Here is how a celebrity murder case nearly caused a nationwide blackout. Electric utilities are engaged in a constant and intricate *pas de deux* with electricity users. The amount of electricity flowing into the system has to equal the load, or the amount being used. If there's a sudden surge or drop in demand, it's as if a ballerina had executed an aerial leap toward Baryshnikov's arms while his back was turned. The dance stops, the system shuts down, and everyone lands on their butts. For in the power industry, as in ballet, timing is everything.

Schulz's research focuses on getting everyone back on their feet as soon as possible. Usually, however, the perpetrator of a power failure is not a stormy relationship between ex-spouses, but honest-to-goodness stormy weather. Schulz's goal is to get the lights back on as soon as possible, and her tool is computer software.

"It's a glitzy area," she said. "People are kind of amazed by storms. They remind us that we're not really in control. And as engineers, we have to deal with the elements—we can't make the storm stop."

Schulz and her graduate students are developing computer algorithms to minimize the impact of extreme weather, from the ice storms that crippled the Northeast earlier this winter to summer "heat storms" that (thanks to the miracle of modern air conditioning) suck the last watt of electricity from power company generators.

During a storm of any type, electric companies are deluged with information—including irate phone calls—on how and where the power has shut down. The trick is to find the source of the problem and fix it as fast as possible, yet the culprit's true identity may not be readily apparent. The researchers' algorithms take into account variables such as the type of storm and the pattern of phone calls to determine, for example, if a certain transformer is out or a power line is down.

Other graduate students are developing algorithms for Northern States Power that coordinate work crews and equipment, so that electricity can be restored as soon as possible. And another research team working with Configured Energy Systems, in Minneapolis, is finding ways to help power companies give better estimates of the length of a power outage. "The public wants to know 'how long?'" Schulz said. "Will it be one hour? four hours? The real problem is if the company underestimates." Because, when a promised two-hour outage stretches to twenty-four, the consequences go beyond mere irritation. Pipes can freeze and food can spoil while the customer waits in vain for the lights to come back on at the expected time.

If you think this sounds as if Schulz is working on systems that think for themselves, you're right.

The proposal that won her a \$200,000 National Science Foundation Presidential Early Career Award was titled "Development of an Intelligent Information System for Electric Power Distribution Systems." Her research showcases just how high-voltage power engineering can be.

"Power companies are among the largest users of computers, and they have huge systems that reach from the generating plant to your house," she said. "Our project with Siemens Energy, in Minneapolis/ St. Paul, is to create an intelligent system, to capture human knowledge and thinking."

Her department chair, **David Stone**, elaborates. "Power is a trillion-dollar industry with resources to innovate in all kinds of cutting-edge disciplines," he said. "And Noel brings a wonderful, creative energy to her research programs. I think she is one of the stars on campus, and we are lucky to have her."

Nonetheless, many university students view power as the stodgy old uncle of electrical engineering—"They think we're out working the lines," Schulz said. And a hiring slump that accompanied industry deregulation a few years ago didn't do anything to encourage would-be engineers to devote their professional careers to power. Now, however, demand is far outpacing the supply of graduates with the requisite skills.

"They need people who understand power as well as computers and control systems," Schulz said. She gets one or two inquiries a week from companies recruiting power engineering students, far more than she can field.

"One of our grads is working for a company that spun off from a major utility. He's doing really well—his boss said he wants four more Matts, and I'm not sure we can provide that. It's an exciting time for us."

If there's a shortage of power engineers, the number of women in the field is positively meager.

"I did my master's work in microelectronics knowing electrical engineering was light in women, and it's even worse in power," Schulz said. "There are only ten female power engineering faculty in the country."

Faculty couple get matching NSF awards

If one were to honor Achievement by a Married Couple, the Joanne Woodward and Paul Newman of Michigan Tech would have to be **Noel and Kirk Schulz**.

Both MTU faculty members have received National Science Foundation Presidential Early Career Awards, which are only slightly harder to come by than Oscars. Kirk, an assistant professor in the chemical engineering department, received notice of his award in summer 1995, just as he was coming to Michigan Tech.

The grant allows him to make what he describes as "outstanding progress" in his research on catalysts. Noel, an assistant professor in the electrical engineering department, was notified of her award, on developing intelligent systems for the power industry, in January.

"The College of Engineering is certainly proud to have what is probably the only husband-and-wife team to hold NSF Career awards," Dean of Engineering **Robert Warrington** said. "But, more importantly, her award is an indicator of the growing strength of our faculty in both research and education."

"We're really excited that we both got one," Noel said. "It gives us both some breathing room."

Career awards are not only generous—typically six figures spread out over about four years—they also provide matching funds, doubling the clout of any related corporate grants. Thus, researchers can spend more time doing research and less time passing the hat.

The same week Noel learned of her award, Kirk received a hefty grant from Ford Motor Company, which will be matched by the NSF through his Career grant.

"People were saying we should buy lottery tickets," Noel said.

In developing the proposal, it helped having a husband who knew the NSF ropes, she said. "Kirk was instrumental in me getting my Career grant," she said. "He was very supportive and had lots of suggestions. He's also a really good writer, so that helped me be successful." Noel also credited her fellow power engineering faculty, Professor **Dennis Wiitanen**, Assistant Professor **Bruce Mork**, and Associate Professor **Leonard Bohmann**, for their support during her three years at MTU.

Next week in *Tech Topics*, what it's like being among the top (and only) ten, what it took to get there, and how Schulz is working to expand the ranks of women in engineering.

ODK leadership workshops

Omicron Delta Kappa is inviting all students, faculty, and staff to attend any of a series of workshops during ODK National Leadership Honor Society Leadership Week, Monday–Saturday, March 16–21.

The workshops promote individual development and enhance leadership and teamwork skills. The theme for this year's program is "Pilots Not Passengers into the 21st Century." Workshops are centered around the themes of Conflict and Communication in Negotiations, Leadership Assessment, Meeting Skills, Time Management, and Group Dynamics.

In addition to the workshops, Board of Control Members **Claude Verbal** and **Jim Mitchell** will give presentations along with **Linda Belote**, of the University of Minnesota–Duluth, who founded MTU's circle of the ODK National Leadership Honor Society.

To register, pick up a form at the ODK office, located in Memorial Union 106. For more information, contact Mike Anderson (anderson@mtu.edu) or Mike Skowronek (mduksowro@mtu.edu).

(Continued on page 5)

Call for student papers

The Graduate Student Council is inviting all MTU graduate and undergraduate students to participate in the 1998 Multidisciplinary Sigma Xi Research Colloquium, set for Saturday, April 25.

To participate, submit an abstract of your paper before the 5:00 p.m. April 15 deadline to Neil Hutzler, College of Engineering, ME-EM 104.

Board of Control meets March 20

The Board of Control is expected to begin discussion on the 1998–99 budget at its meeting set for Friday, March 20. The meeting begins at 10:00 a.m. in the Memorial Union Ballroom. Other agenda items include a proposed Master of Engineering degree program, a Hockey Education Center, and several reports. All members of the public and the University community are invited to attend.

Major wolf die-off recorded on Isle Royale

Submitted by the News Bureau

Officials at Isle Royale National Park have reported that more than half of the timber wolves present on the Lake Superior island park last year have died.

Park Superintendent Douglas Barnard said that 13 of the 24 wolves seen in the park during a survey held during the winter of 1997 have since succumbed. He said it was one of the steepest declines recorded since wolves first migrated to the island during the winter of 1947–48.

"We had anticipated a modest increase in wolf numbers this year," said Barnard. "Mother Nature is unpredictable."

Barnard said this winter's survey showed 14 wolves in the park, including 3 pups born since the completion of the 1997 survey. Biologists aren't certain what caused the decline, but suspect it may be tied to a sharp drop in the available food supply, since the island's moose population suffered a major die-off in 1996 due to a severe winter and a very late spring. Many of those animals were older moose that normally provide the main food source for wolves.

"This year's wolf decline could just be an aftershock of the moose die-off in the spring of '96 when we lost nearly 2,000 animals—almost 80 percent of the herd," said Professor **Rolf Peterson** (SFWP), who heads the park's annual wolf-moose study. "Many of the animals that died then were

old and weak—the kind wolves love to prey on. Those animals are no longer available, so wolves have had to rely on calves they could kill, since healthy adult moose are quite able to defend themselves against attack under most circumstances."

Peterson said Isle Royale's moose herd is up to about 700 this year, an increase of almost 200 from the 500 animals recorded last year. The island's moose are in good shape because competition for food is not nearly so fierce as it was when the herd numbered 2,500.

"One thing that has happened is that we've moved to a completely new generation of wolves," he said. "All of the wolves in the park now are less than five years old. Their reproductive performance will be of great interest, since they are even more in-bred than their parents."

Peterson said there were 10 wolf pups alive on the island last summer and only 3 have survived to this winter. That leads biologists to wonder if perhaps canine parvovirus is again present in the population. "We plan to live-capture some of the wolves this spring and take some blood samples to see if that's the case," said Peterson.

Major funding for the Isle Royale study is provided by the National Park Service, the National Science Foundation, and Earthwatch.

Company of fifty present sensational dramas

Submitted by University Cultural Enrichment

The good guys have red faces (red symbolizes loyalty and honesty), but watch out for the white-faced guys, who are treacherous! And be sure to root for the black-faced guys, who are known for their honesty and integrity! There are violent battles, wicked intrigues at court, havoc in heaven, and a tender love story thrown in for good measure. The characters in these sensational dramas weep, rejoice, lament, and fight with wide eyes and fierce expressions, and it's all happening when the Peking Opera comes to the Calumet Theatre for one performance only at 8:00 p.m. on Tuesday, March 17. The show is part of Michigan Tech's Great Events Series and tickets are on sale at the Memorial Union Box Office (487-3200), the SDC Central Ticket Office (487-2073), and the Calumet Theatre (337-2610).

More acrobatic than operatic, this fifty-member company from Hebei province in the People's Republic of China offers a dazzling display of amazing gravity-defying acrobatics, martial arts maneuvering, fencing, intricate juggling, tumbling, baton twirling, dance, music, and song. Dressed in colorful, jewel-encrusted, richly embroidered costumes and magnificent headdresses, they will keep you enthralled as they perform excerpts from four traditional Chinese stories. There's more than enough action to keep you on the edge of your seat, and the exaggerated acting style makes the meaning plain. However, a narrator introduces each part of the program. She tells the story and explains the meaning and symbolism for the gestures and expressions of the characters, the elaborate makeup, masks and costumes. There's also plenty of information in the program notes.

The origins of Peking Opera can be traced back over ten centuries and a dozen dynasties with performances that combined drama with music, dance, and acrobatics. The current form developed in Peking about 200 years ago, and there are now many Peking Opera companies outside Beijing, all sharing traditions and repertoire. Sometimes described as the Broadway theater of China, it is one of the most popular forms of theater there.

The Peking Opera Company of Hebei was founded in 1945. Government support has helped the company to prosper and to produce many brilliant performers who are recipients of awards of excellence. Training for the performing arts in China begins in childhood. At about nine years old, Peking Opera students begin to learn all aspects of the art, from singing to martial arts to acrobatics, as well as the detailed movements required for the traditional stylized acting. The company has toured in Japan, Singapore, and Indonesia. This is their first tour in America. They have performed all over China and for many members of the Chinese leadership, including Mao Zedong, Zhou Enlai, and Jiang Zemin.

The visit of the Peking Opera to our area is made possible by funding from the MTU Committee for Campus Enrichment and the Michigan Tech Fund, with production assistance from the MTU Student Entertainment Board. For further information, contact the University Cultural Enrichment Department (487-2844).

GET TECH TOPICS SOONER! READ US ON THE WEB! YOU CAN REACH US FROM MTU'S HOME PAGE BY CLICKING ON "TECH TOPICS."

ODK leadership workshops *(Continued from page 4)*

Monday, March 16

- Academic Advisor **Jon Henkel** (general engineering), "Ethics and the Leader," 6:00–7:00 p.m., Memorial Union 105: A practical exercise in evaluating instructions to determine the best solution under improper circumstances.
- Professor **Tom Merz** (SBE), "Bunnies, Baseball and the Boardroom," 7:00–8:00 p.m., Memorial Union 105: Leaders are often judged by the decisions they make. Bunnies and baseball can teach us a lot about sound decision making and sound judgment of leaders.

Tuesday, March 17

- Major **Scott Malcom** (Army ROTC), "Leadership and Values: Joined at the Hip," 6:00–7:00 p.m., Memorial Union 105: An interactive discussion and practical exercise demonstrating the essential link between values and effective leadership.
- Senior Vice President for Advancement and University Relations **John Sellars**, "Managing the Politics of Group Dynamics," 6:00–7:00 p.m., Memorial Union 105: Rarely a day goes by that the "P" word doesn't creep into a conversation in a group situation. No, we're not talking about "popular." We're talking about "politics." Politics can be difficult in group dynamics. Learn how to recognize and manage the politics of group dynamics in any situation.

Wednesday, March 18

- Psychiatric Social Worker **Jeanine Sewell** (Counseling Services), "Personal Style and Leadership Using the Myers-Briggs," 5:00–7:00 p.m., Memorial Union 105: The self-scoring Myers-Briggs assessment will be administered for you to determine your personality styles. The following discussion will focus on how to use self-knowledge to become a better leader. A leader must do continuous, sometimes brutal, self-examination to maintain clarity and balance. Power can have a tendency to distort perception. To be an enduring leader, you must know your tendencies to filter information, your preference for making decisions, and your personal idiosyncrasies. The MBTI can be a tool that can help you. Note: If you have taken the MBTI previously, please bring your results.
- Instructor **Amy Hietapelto** (SBE), "Group Dynamics: The Hilarity Greeting Card Company," 7:00–8:00 p.m., Memorial Union 105: This exercise demonstrates how inter-group conflict occurs in organizations. You will experience the dynamics of interdepartmental conflict in a simulated organizational setting, understand the causes and consequences of conflict, and identify ways to reduce inter-group conflict in organizations.

Thursday, March 19

- Counseling Services Director **Don Williams**, "Conflict and Communication," 5:00–6:00 p.m., Hamar House: We will review functional dysfunction conflict, centering on conflict as a healthy form of communication that promotes

growth. We will discuss successful ways to communicate during conflict.

- Quality Service Education Manager **Becky Christianson**, "Creating Champions—Motivating, Coaching, and Mentoring," 6:00–7:00 p.m., Memorial Union 105: Can you really motivate someone? Do you really know why no one volunteers when you ask for help? How can you, as a leader, work to develop continuity in your organization? How does your leadership style influence your group? All of these questions, and more, will be explored in "Creating Champions."
- Board of Control Member **Claude Verbal**, GM executive and past Society of Automotive Engineers (SAE) president, will be the featured speaker at 7:00–8:00 p.m. in the Memorial Union Alumni Lounge.

Saturday, March 21

- USG officer **Eric Schelter**, "Using Meeting Time Effectively," 10:00–11:00 a.m. in Memorial Union Peninsula Room A: How to run effective, goal-oriented meetings that encourage input of ideas and foster methods for implementing them.
- **Bonnie Gorman**, director of student orientation and first-year programs, "Running a Meeting," 10:00–11:00 a.m., Memorial Union Peninsula Room B: Being able to lead an effective meeting is a skill worth developing! The way in which people communicate—or fail to communicate—in a meeting can make a large difference in how a project, event, or program proceeds. This session will provide participants with an opportunity to compare a well-run meeting with a poorly managed one and to discuss the differences.
- Assistant Professor **Kelly Strong** (SBE), "Leading High Performing Teams," 10:00 a.m.–noon, Memorial Union 105: Discusses the leadership behaviors found in high-performing teams. Topics include the strengths of multifunctional teams, developing creativity and sustained performance, managing conflict, and setting expectations.
- Provost **Fred Dobney**, "Constructive Conflict + Effective Communication = Successful Organization," 11:00 a.m.–noon, Memorial Union Peninsula Room A: Groups, teams, friends, family, government, and organizations all share something in common. No communication occurs without conflict. Furthermore, no effective organization or group moves forward without learning how to address conflict in their groups. This workshop will explore the dynamics that occur between conflict and communication.
- Board of Control Member **Jim Mitchell** and **Linda Belote**, luncheon and panel discussion, noon–2:00 p.m., Memorial Union Alumni Lounge, \$5 for lunch due after confirmation—first thirty people to register receive their meal free.
- Dan Amerman, "Confrontation 101," 2:00–3:00 p.m., Memorial Union Peninsula Room A: This workshop will help you assess yourself in conflict situations and work on methods of dealing with these situations.
- Vice Provost and Dean for Student Affairs **Martha Janners**, "Gender Benders," 2:00–3:00 p.m., Memorial Union Peninsula Room B: Males and females communicate differently, and as a result, conflict can occur between the sexes. This workshop will be a highly charged interactive program between the sexes. Come check out what "he said, she said!"
- Associate Dean of Students **Steve Tyrell**, "Assessing Your Leadership Style: Minimizing Leadership Turbulence into the Twenty-first Century," 2:00–3:00 p.m. in Memorial Union 105: You can't fly an organizational craft without experiencing a little turbulence. However, a lack of recognition of the impact of your leadership style can reduce motivating in your group and create a lot of turbulence. Come learn how to reduce this turbulence and keep your members energized.
- **Sara Lesiewicz**, "Knock Your Socks Off with Group Dynamics," 3:00–4:00 p.m. in Memorial Union Peninsula Room A: Can't seem to get your group motivated? Ready to give up? Well, don't! You and your group can succeed as a dynamic organization. Come see how!
- Electrical Engineering Chair **David Stone**, "Recapture Your Life! One Minute at a Time," 3:00–4:00 p.m., in MUB Peninsula Room B: It's so easy to fritter our professional lives away—one wasted minute after another. In this workshop, we'll explore principles and techniques so that you can accomplish twice as much as your competition—and still fine-tune your tennis or golf game.
- Associate Dean of Students **Steve Tyrell**, "Flying the Aircraft: When Group Conflict Jams Up Your Propeller," 3:00–4:00 p.m., in Memorial Union 105: Effective groups accomplish a lot because they present highly functional roles. However, any group can also have dysfunctional roles that can split groups apart, slow down your progress, and result in a lot of unresolved conflict. Learn how to identify dysfunction and encourage members to pursue functional roles that support each other.

Senate *(Continued from page 1)*

students and their families choose a school, they tend to shop within one of three groups: community colleges, public universities, and private institutions. Once students are committed to attending a public university, their final choice depends mainly on variables other than price.

In addition, these tuition hikes will still peg Michigan Tech's tuition rates below those projected for Michigan State and substantially below the University of Michigan, Dobney said. In addition, Michigan Tech has traditionally rebated to students a much higher percentage of tuition in the form of financial aid than either MSU or U of M. As a result, students need to borrow less money. MTU's graduates rank sixteenth from the bottom among the 229 national universities in terms of debt load. Thus, though the percentage of tuition returned in the form of financial aid would decline, MTU would still offer enough financial aid to assure student access to the University. In addition, an increase in endowed scholarships and fellowships should relieve some of the burden on the general fund.

With the increase in graduating high-school seniors and the rosy employment picture in engineering, MTU anticipates a five-year increase in undergraduate enrollment of about 830, to 6,300 degree-seeking students. The plan also projects that retention between the first and second year will rise to 87 percent, since a number of student-friendly measures have been instituted. The number of grad students should rise from the current 628 to 700, primarily in the PhD programs.

Because employment prospects are so good for graduating seniors, it is getting harder to recruit graduate students, Dobney noted. To encourage graduate enrollment, ten graduate teaching assistantships would be added per year for the next five years.

Professor **Les Leifer** (chemistry) said the money to support GTAs should come from outside the University, not from the general fund. Dobney said that the entire cost of the GTA salaries was \$120,000, about one quarter of 1 percent of an overall raise for MTU employees, and that the GTAs were not only necessary to provide instruction in some departments, they were needed to help build the University's research and graduate programs.

To fund new programs, Dobney is considering continuing position control for another year, even though, as he said, "That's not working very well." However, rather than return to the 1 percent realignment, deans and directors have said they are willing to forego a planned 3 percent increase in their SS&E budgets.

Other budget high points include injecting \$100,000 per year to upgrade classrooms and buy equipment, and increasing the University's match of employees' contributions to TIAA-CREF from 1 percent to 2 percent of their salaries.

Dobney said the budget projections were based on a model of "optimal growth tempered by knowledge of historical trends," and that it

will be modified when the real numbers are known. One projection is an \$842,000 shortfall at the end of 1998-99. "That's unacceptable, of course," he said. "But this budget does show the cost of doing what we think is necessary."

Dobney is scheduled to present the budget plan to the Board of Control on March 20.

In other business, the senate

- heard from Vice Provost for Instruction **Stephen Bowen** that 600 of the original 2,000 copies of the book *Ishmael* are still available for study during Earth Week. Students in participating classes receive free copies of the book, courtesy of a grant from General Motors, and discuss it for one class period. "It's the only time I ever had students thank me for assigning a book," Bowen said. For more information, call 487-2537.
- heard a Senate Finance Committee report on a proposed Terminal Year Sabbatical for faculty and staff.

Undergrads wanted

Summer EE research

Undergraduates are invited to apply to participate in state-of-the-art microelectronics research at MTU this summer.

Under the program, which is funded by the National Science Foundation, ten undergraduates will work with electrical engineering faculty and grad students on GaAs-based, very high-speed integrated circuit technology. Participants receive a \$2,800 stipend, free University housing or an allowance for off-campus housing, all necessary books and supplies, and travel expenses.

In addition, participants receive a certificate of completion of a 4-credit electrical engineering project and may attend seminars on hot topics in electrical engineering. A social program is also included.

Applicants should have completed at least two years of study in electrical engineering, computer science, or a related field with a minimum 3.0 GPA. To apply, e-mail a cover letter, resume, and two references to Associate Professor Ashok Goel at goel@mtu.edu or Professor Martha Sloan at masloan@mtu.edu; fax to 487-2949; or send via campus mail to either faculty member, care of the Department of Electrical Engineering. There is no application deadline; selection begins April 1 and continues until all ten positions are filled.

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, March 13, 1998, at 1:00 p.m. through noon, Friday, March 20, 1998, in the Human Resources Office.

- Lecturer—General Engineering
- Admissions Representative—Admissions (Regular, full-time, nine-month position based in northeast Wisconsin)
- Admissions Representative—Admissions (Regular, full-time, nine-month position based in southwest Lower Michigan)
- Assistant Professor, Mechanical Engineering Technology—School of Technology
- Assistant Professor, Electrical Engineering Technology—School of Technology

University employees are reminded to apply in writing prior to noon, Friday, March 20, 1998, 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.

March

NATIONAL WOMEN'S MONTH

- 12 Thursday**
4:00 p.m.—Britt-Louise Gunnarsson, "Images and Image Work: The Discursive Construction of the Bank"—Walker Theatre
- 6:00/7:00 p.m.**—Club Indigo: Italian buffet and *The Gold of Naples*—Calumet Theatre
- 13 Friday**
8:00 p.m.—Hypnotist Fred Winters—Fisher 135
- 14 Saturday**
8:00 p.m.—Hypnotist Fred Winters—Fisher 135
- 15 Sunday**
7:30 p.m.—Nancy Royce Martin, piano recital—Walker Theatre
- 17 Tuesday**
8:00 p.m.—Peking Opera Company—Calumet Theatre
- 18 Wednesday**
10:00 a.m.—Apple Computer roundtable—EERC B18
- 20 Friday**
10:00 a.m.—Board of Control meeting—Memorial Union Ballroom