



OAKLAND  
COMMUNITY  
COLLEGE

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MACHINE TOOL TECHNOLOGY ADVISORY COMMITTEE MEETING

March 11, 1997

Present: Steve Atma, Faculty, OCC  
Dennis Brejnak, Speed Ring Systems  
Stan Brish, Exotic Rubber & Plastics Corp.  
Linda Casenhiser, Manufacturing & Technological Services, OCC  
Bruce De Bruyne, Bridgeport Machines Inc.  
James Doherty, Midwest Brake  
Robert Globke, Oakland Technical Center Southeast  
Bob Harsha, Lapeer Metal Stamping Companies  
Dave Johnson, C. M. Smillie & Co.  
David MacDonald, Special Mold Engineering, Inc.  
Edwin Marcum, Manufacturing Engineering Specialist  
Dr. Carlos Olivarez, Dean, Academic and Student Services, OCC  
Karen Pagenette, Workforce Preparation Services, OCC  
Dr. Diann Schindler, Auburn Hills Campus President, OCC  
Ruth Springer, Secretary, OCC  
Donald Tremper, Apprentice Coordinator, OCC

**Preliminary Matters**

Dr. Carlos Olivarez welcomed the group and asked them to introduce themselves. During the introductions, Mr. Bruce De Bruyne mentioned that Bridgeport Machines Inc. is assisting OCC with the updating of some of the equipment in the Machine Tool Lab.

Dr. Diann Schindler, new Auburn Hills Campus President, was introduced. She told the group about her background and emphasized the importance of the advisory committees to the ongoing work of the College. She expressed her appreciation to Mr. De Bruyne and Bridgeport for their assistance in updating the lab equipment, stressing the need for such partnerships with business and industry to help the College remain current with the technology used in industry today.

The minutes of the Machine Tool Technology Advisory Committee meeting held on October 23, 1996, were reviewed and approved as written. The minutes of the follow-up meeting of OCC

members of the advisory committee held on January 16, 1997, were reviewed, and a progress report was given on each committee recommendation, as follows:

**Progress Report on Advisory Committee Recommendations**

- 1. That ATM 215, APT Programming Applications, and ATM 216, APT Language Programming, be removed from the Numerical Control curriculum and replaced with more current subject matter.**

Dr. Olivarez explained that a decision was made at the follow-up meeting that the entire curriculum needs to be upgraded, not just the two courses which are mentioned in this recommendation. It was decided that this might best be done by attempting to coordinate OCC's program with what is being done at the Oakland Technical Centers. Dr. Olivarez asked Mr. Robert Globke to explain the National Metalworking Skill Standards Project which has been inaugurated at Oakland Technical Center Southeast (see attached brochure).

Dr. Olivarez reported that he and Mr. Donald Tremper attended a meeting regarding the school-to-work program which is being put together by the State of Michigan. They learned that there are employers who are willing to hire high school students as part of this program. If they work out on the job, when they graduate from high school, they would become indentured to that company as apprentices. Apprentices are required to take classes for a specified number of contact hours in addition to the time they spend on the job.

Dr. Olivarez asked Mr. Tremper to visit Oakland Technical Center Southeast and meet with the personnel there to review the curriculum and equipment which are available there. As OCC moves forward with curriculum revision, we want to remain in touch with all the Technical Centers to ensure that our curriculum lines up with theirs, so that when students come from them to OCC, they can move on to Level II, rather than repeating Level I, which they have already completed.

Mr. Steve Atma reported that he has looked at the information regarding Level I. He will be working with a Workforce Preparation Services program in a few weeks and will try to implement the Level I program with that group of students. He believes we are teaching parts of Levels II and III at OCC, but that we do not have the equipment necessary to teach other parts. This year we have been able to schedule the advanced Machine Tool classes separately from the introductory class, and this has allowed us to increase the difficulty of the material covered in the advanced classes. As we gain more students, we will be able to schedule each of the advanced classes separately, which will again enhance our ability to provide more advanced instruction in those classes. In order to promote the program, there is a need for administration to overlook the 15-student minimum which is normally

Machine Tool Technology Advisory Committee

March 11, 1997

Page 3

required for a class to run. Dr. Olivarez has allowed some classes to go this year with less than 15 students, and some piggybacking has been allowed, which has been helpful.

Dr. Olivarez explained that the College is struggling with enrollment in some classes because of the negative image which the machine tool industry has in the public mind. High school counselors and parents often guide students into liberal arts rather than into fields such as this one. It is hoped that the introduction of the National Metalworking Skill Standards Project will generate more interest at the high school level and at OCC.

Mr. Atma commented that there are many job openings in this field. Employers call all the time looking for prospective employees.

Ms. Karen Pagenette explained the 15-week program which is conducted by OCC's Workforce Preparation Services. It serves primarily people who need to get back into the workforce quickly. They are able to take 24 credits in 15 weeks. All who complete the program are placed in jobs, with \$10.86 an hour as the average entry level salary.

Ms. Sally Kalson reported that there is a demand for co-op students in this field, but she has none to place.

Mr. Globke commented that Oakland Schools has allowed the Technical Centers to reduce their enrollment minimum from 15 to 12 on a permanent basis. They realize that the number of students entering manufacturing sector programs is down. Because of the extra technology that needs to be introduced, it is difficult to work with 15 students in a class. They have found they can be more productive working with only 12.

Mr. Brejnak suggested that at OCC it would be better to have only 12 students in a class due to the lack of equipment in the Machine Tool Lab.

Mr. Atma reported that he is also looking at the Ferris State University curriculum in an attempt to coordinate OCC's curriculum with theirs. However, Ferris has 8-credit classes, so it is difficult to apply our 3-credit classes to theirs. He needs to work on how to fit our courses into theirs. He has the name of someone to contact at Ferris, but is waiting to pursue that contact until we have a better idea of what we are doing here in regard to curriculum.

Mr. Globke mentioned that he is working with Ferris and can help Mr. Atma get in contact with them.

Dr. Olivarez suggested that perhaps a local firm would be willing to have our students come to their facility to observe professionals using the equipment students will be using when they are employed.

Machine Tool Technology Advisory Committee

March 11, 1997.

Page 4

Mr. De Bruyne responded that Bridgeport has a facility close by which could be made available to show students. He would be happy to arrange a tour and demonstrations at any time that would be convenient for OCC students.

In regard to the ATM 215 and ATM 216 classes which are specifically mentioned in this recommendation, Mr. Atma stated that he is not sure what should replace them. He is now using Surfcam in ATM 220, Numerical Control Machining, and he will be using it in the future in ATM 230, Three-Dimensional Contour Machining. Surfcam has given him the entire package and is providing full support. So ATM 220 and ATM 230 will be strong classes. Mr. Atma is still trying to determine what should replace the ATM 215 and ATM 216 classes in the curriculum.

In summary, Dr. Olivarez stated that Mr. Atma is still working on a curriculum revision which would bring OCC's Machine Tool Program into line with the curricula at OTCSE and Ferris, in order to provide a smooth transition for OTC graduates who wish to continue their studies at OCC and then go on to Ferris. When a first draft of a curriculum proposal has been put together, it will be sent to advisory committee members for their review. We will attempt to get something out to the members in early May and request their feedback. In that way, we will hopefully have a more concrete proposal to consider when we meet again in the fall.

- 2. That OCC attempt to alleviate the potential problems caused by the cancellation of classes with less than 15 students enrolled, and the piggybacking of classes in order to achieve the required enrollment of 15.**

Dr. Olivarez reported that he, Mr. Tremper, and Mr. Atma will meet soon with Dr. Schindler to find out how she feels about this recommendation. If we could base a request for a minimum enrollment of 12 on objective criteria, it might be approved.

- 3. That OCC attempt to work more closely with local professional organizations, such as the Detroit Tooling Association, National Machine Tool Builders Association, and the Society of Manufacturing Engineers.**

Dr. Olivarez reported that OCC hopes to establish a working relationship with these organizations that will be of mutual benefit in the future.

- 4. That OCC consider the possibility of teaching the material covered in ATM 110, Introduction to Machine Tools, ATM 112, Machine Tool Operation I, ATM 114, Machine Tool Operation II, and ATM 116, Machine Tool Operation III, in three classes rather**

**than four. If this is not feasible, then course descriptions for all four classes should be made more specific, so it is clear what is covered in each class.**

Mr. Atma reported that in the revised curriculum, it would be more likely that we would be stretching the material out, rather than covering it in fewer classes.

Mr. Bob Harsha reported that at Ferris, students have one hour of lecture and four hours of lab work every day, five days a week. Projects begun in one class are taken to another level in the next class, and so on. Mr. Harsha believes this is a worthwhile way to set up the curriculum, as it shows the flow from blueprint to finished product. Perhaps something like that could be done at OCC.

Mr. Atma responded that that could be done, but we must also reword the catalog descriptions so it does not sound like they are doing the same thing in each class.

It was suggested that credit hours might be increased, perhaps to 6-credit classes which would meet twice a week, so that students could complete a project in one term rather than splitting it up between terms.

##### **5. That equipment in the Machine Tool Lab be updated.**

Mr. Atma stated that there are different levels that need to be addressed on the list of equipment needs. Certain things are needed immediately. For example, there are no readouts on the lathes. Mr. Atma would like to put on digital readouts at a cost of \$2000 per readout. Mr. Brejnak commented that even a travel dial would be sufficient.

Mr. Atma reported that there are four good lathes in the lab. Students will probably not find better machines in a normal job situation. However, we need to look ahead and begin replacing equipment, so we do not have a reputation for having old, junky equipment in our lab. Pieces must be added to some machines. Some machines need to be replaced. Mr. Atma stated that he will be putting together two lists, one of immediate needs, and one of needs that should be met in the near future.

Dr. Olivarez reported that we are trying to purchase a new piece of equipment with funds from OCC's Manufacturing & Technological Services and Workforce Preparation Services, both of which use the Machine Tool Lab for special contract classes. We are waiting now for OCC's Board of Trustees to approve the purchase.

**6. That more space be allocated for Machine Tool lab equipment.**

Mr. Atma explained that he has a plan for moving out old equipment currently in the lab to make space for new equipment as it is obtained.

Dr. Olivarez requested that Mr. Atma make a list of needs and priorities, with specific amounts of money, and how equipment will be needed and used over the next several years. Such a detailed proposal will make it easier for the Budget Council to understand and, hopefully, be more favorable to requests for this area.

**7. That OCC work with industry in an attempt to obtain updated equipment by donation or by being allowed to purchase the equipment at cost.**

Mr. Atma reported that Bridgeport is helping OCC on the price of a machine. He also expects to be able to obtain a Dynapath 40 at a discounted price. Both companies are providing educational discounts. However, more of that kind of help is needed.

**8. That the best possible computers be obtained for the Machine Tool Lab.**

Mr. Atma has spoken with Ms. Brenda Vesprini of OCC's Business & Professional Services to request that the computers replaced by the upcoming upgrade of the AutoCAD Lab in room A401 be reallocated to the Machine Tool Lab. She told him she would put his name on the list of those requesting those computers. Mr. Atma told her he could use all ten computers to set up an open lab for his students. He has a room set up for this already. Mr. Atma reported that, when he asks for computers through OCC's budget process, he is told there are not enough students in his program to warrant that expenditure.

**9. That simulation be used in instruction.**

Mr. Atma reported that he is working on a simulation package which he bought last year. It is possible to have ten computers simulating computer numerical control programming. The software has potential, but he has not yet been able to get the help he needs to make it functional for his purposes. With ten computers, students could work in an open lab situation using simulation packages, rather than standing in line to work on machines. Simulation would be especially effective for students who are visual learners. We need to have computers and a vcr put in place so they would not be stolen. Students could then look at a video or work on a computer, rather than waiting in line to use a machine.

It was suggested that perhaps in the future the material on computer could be set up so that students could access it from home through the internet.

**10. That OCC consider the possibility of a partnership with OTCSE, perhaps to include the possibility of holding classes there.**

Mr. Atma reported that he and Mr. Tremper are working closely with Mr. Globke now. They are moving in the right direction and must find the right niche for OCC in conjunction with the OTCSE program.

**Student Membership in Professional Organization**

Ms. Linda Casenhiser suggested that it would be beneficial for students to become involved in the Society of Manufacturing Engineers (SME). Mr. Phil Crockett would be willing to work with a student chapter, but administrative support is needed. The professional chapter of SME meets on the Auburn Hills Campus, and Mr. Ed Marcum, a member of this advisory committee, is heavily involved. Free plant tours are provided every month, and students are welcome to attend. Ms. Casenhiser would like to meet with Dr. Olivarez and Dr. Schindler in regard to activating a student chapter of SME on the Auburn Hills Campus.

Mr. Atma commented that night school students are so busy they are unable to attend meetings. In the past, one instructor used to make participation in SME a required part of their grade in his Robotics class. Mr. Atma wondered what could be done to encourage students to get involved now. If participation in SME could be made a requirement for some programs, that would be helpful. Membership would be helpful to students in obtaining a job.

Dr. Olivarez agreed, stating that if it was part of a course requirement, it would be easier for students to use their school time to attend.

Mr. Atma suggested that it could be made a requirement for co-op students. Ms. Sally Kalson reported that she advises her co-op students to join SME because it makes a good addition to their resume.

Ms. Casenhiser suggested that perhaps only three or four activities could be planned per year, each with an excellent speaker and the possibility of networking with a professional organization. This would demand a limited commitment on the part of students to receive a much larger benefit.

Mr. Brejnak and Mr. Doherty offered to give membership forms to students in their classes.

Ms. Casenhiser stated that she would set up a meeting with Dr. Schindler, Dr. Olivarez, and Mr. Tahir Khan, Technology Department Chair, to discuss SME.

### **Suggestions for Marketing the Program**

The group made the following suggestions as to things which might be done to help market the program:

1. Hold a Technology Awareness Day, one for young students, another for job seekers.
2. Advertise on WRIF.
3. Take OCC and high school counselors into shops so they can see the type of work being done.
4. Put out success stories on a regular basis.
5. Make a video to publicize the Machine Tool Technology Program.

### **Committee Recommendations**

1. That ATM 215, APT Programming Applications, and ATM 216, APT Language Programming, be removed from the Numerical Control curriculum and replaced with more current subject matter.
2. That OCC attempt to alleviate the potential problems caused by the cancellation of classes with less than 15 students enrolled, and the piggybacking of classes in order to achieve the required enrollment of 15.
3. That OCC attempt to work more closely with local professional organizations, such as the Detroit Tooling Association, National Machine Tool Builders Association, and the Society of Manufacturing Engineers.
4. That OCC consider the possibility of teaching the material covered in ATM 110, Introduction to Machine Tools, ATM 112, Machine Tool Operation I, ATM 114, Machine Tool Operation II, and ATM 116, Machine Tool Operation III, in three classes rather than four. If this is not feasible, then course descriptions for all four classes should be made more specific, so it is clear what is covered in each class.
5. That equipment in the machine Tool Lab be updated.
6. That more space be allocated for Machine Tool lab equipment.



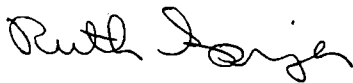
Machine Tool Technology Advisory Committee

March 11, 1997

Page 9

7. That OCC work with industry in an attempt to obtain updated equipment by donation or by being allowed to purchase the equipment at cost.
8. That the best possible computers be obtained for the Machine Tool Lab.
9. That simulation be used in instruction.
10. That OCC consider the possibility of a partnership with Oakland Technical Center Southeast, perhaps to include the possibility of holding classes there.
11. That OCC consider the possibility of reducing the minimum student enrollment for Machine Tool classes from 15 to 12.
12. That arrangements be made for Machine Tool students to visit a local facility to observe professionals using the equipment students will be using when they are employed.
13. That OCC consider increasing the credit hours for Machine Tool classes, perhaps to 6 credits per class, so that students could complete a project in one term rather than splitting it up between terms.
14. That a student chapter of the Society of Manufacturing Engineers (SME) be activated on the Auburn Hills Campus.
15. That OCC consider making participation in SME a requirement for students in some classes.

Respectfully submitted,



Ruth Springer

(advw97:atm0311.min)



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## MACHINE TOOL TECHNOLOGY

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