



OAKLAND  
COMMUNITY  
COLLEGE

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## ROBOTICS/AUTOMATED SYSTEMS TECHNOLOGY

### ADVISORY COMMITTEE MEETING

October 6, 1998

#### Members Present:

Eric Anderson, FANUC Robotics North America, Inc.  
Doug Cicchini, Robotic Production Technology  
Bob Lieblang, FANUC Robotics North America, Inc.  
Donald F. Stephanic, Applied Manufacturing Technologies, Inc.  
Carl Traynor, Dynalog, Inc.

#### OCC Ex Officio Members Present:

Sharon L. Blackman, Ed.D., Dean of Technology  
Phillip Crockett, Workforce Development Services  
Sally Kalson, Coordinator of Cooperative Education  
Pat May, Counselor  
John Sefcovic, Paraprofessional  
Ruth Springer, Secretary  
Doug St. Clair, Faculty

#### **Welcome and Introductions**

Dr. Sharon Blackman, OCC's new Dean of Technology, introduced herself and welcomed the group. She invited those present to introduce themselves.

Dr. Blackman mentioned that she would like to increase the membership of the advisory committee in order to more adequately represent the robotics field. Members may be asked to suggest potential members from among those with whom they are acquainted in the industry.

#### **Review of Advisory Committee Meeting Minutes**

The minutes of the Robotics/Automated Systems Technology Advisory Committee meeting held on September 23, 1997, were reviewed and approved as written.

Mr. Traynor suggested that someone from one of the companies represented on the advisory committee might come in to describe how they would deal with a typical situation.

Mr. Anderson pointed out that a technician will not normally be talking to a large group of people. He or she must be comfortable explaining to one or more skilled tradesmen how to use a robot. It was suggested that perhaps students could pair up and practice communicating with each other in that way.

Mr. John Sefcovic pointed out that students in the same class are all at essentially the same skill level. A way needs to be found to give them practice in communicating with people who do not have the same understanding as they do. Perhaps a schedule could be created so that, for one week during the semester, advanced students would attend a beginning class meeting on a different night of the week from their own. They could simulate explaining things to someone who doesn't understand what they are talking about. Mr. St. Clair agreed that this would probably help beginning students as well.

Mr. Traynor mentioned that a co-op program might also help expose students to those kinds of situations. OCC Co-op Coordinator Sally Kalson agreed, stating that in co-op, students are mentored by professionals in the field where true learning takes place. She finds that students involved in the Computer Aided Design and Drafting co-op program come back better students and more marketable to employers because of their co-op experience.

Mr. Sefcovic suggested that, in ROB 240, Automated Systems Applications, when students have a problem with the PLC program, perhaps they should be required to submit the problem in writing on a standard form before the instructors would talk to them about the problem.

**9. That, rather than requiring ATF 140 and ATF 147, the material needed by Robotics students in the areas of Pneumatics and Hydraulics be taught in a single class, with the primary emphasis on Pneumatics.**

Mr. St. Clair reported on the Manufacturing Technology Academy program which is being developed in conjunction with Oakland Schools and the Chrysler Foundation. Students will begin their studies in the area high schools and continue them at OCC. The aim is to produce a manufacturing generalist who has been exposed to several related areas of study. Mr. St. Clair believes that this would be a good place to consider developing a course that would include the essentials of ATF 140 and ATF 147. It could be designated as a Robotics class. Putting a combined three-credit class in the Robotics Program would lower the total credit hours required to graduate, which would be good, as the total is currently very high.

**4. That OCC attempt to provide some instruction in simulation as a part of the Robotics Program.**

Mr. Traynor suggested that each company represented on the advisory committee provide a staff member to come in and talk to students about a particular area. This would benefit students and would also give employers the opportunity to get acquainted with students who might become potential employees.

Mr. Cicchini agreed, pointing out that technicians today need to communicate on the internet and do troubleshooting via telephone. This is not being addressed at OCC.

Mr. Lieblang stated that OCC should use its advisory committees as technical advisers and invite members to come in and give a one-hour lecture explaining new technology. This would also help OCC instructors stay current.

Mr. Traynor asked about OCC's work with Deneb on simulation. Dr. Blackman responded that the contract with Deneb has not yet been renegotiated. OCC just obtained the equipment needed to run their software, and now the negotiations need to be reopened.

Mr. Sefcovic explained that, the last time the committee met, we thought we would be getting Deneb software to use in simulation. That is why we did not pursue the incorporation of Dynalog's equipment. However, we have not been able to obtain the Deneb software.

Mr. Traynor stated that Dynalog could give OCC its software in licenses which would provide demo capability. Mr. Sefcovic agreed that OCC might want to explore that now. Mr. Traynor suggested that if he came in to speak to the students one night, they could at least be introduced to the concept without a big financial commitment on OCC's part.

Mr. Sefcovic agreed that there are places in the curriculum where a tour or speaker from a company could be added to give students the kind of exposure that committee members have suggested.

**Review of Competencies**

Dr. Blackman pointed out that members have received a copy of the competencies for the Robotics courses. Perhaps a subcommittee can work through these and give specific suggestions for improvement. She asked the group to review the competencies and get back to OCC staff with their suggestions.

It was pointed out that the competencies are product dependent, because students have to work with the robots we have in the lab. The group agreed that it would be difficult for students if they had to work with several kinds of robots, as there would be several different languages to learn.

Mr. Sefcovic asked when we should be looking at personal computer based controllers. Mr. Lieblang responded that everyone's product is changing. One thing should be kept in mind: the PC is only the user interface. The controller will still be there, as well as the power supply and other drive components. The user interface will be Windows based rather than in text programming code.

Mr. Sefcovic asked about instruction in additional programming languages. Do students need a generic programming class? Mr. Lieblang responded that the RC can be used to teach basic programming. This block language structure can be used to teach students the philosophy of programming. Service people do not need to get down to the level of core executive command structures for the programming of robots.

Others in the group stated that it would be beneficial for students to have some knowledge of Pascal or Karel. Application developers need robot experience and C++. Whether a knowledge of programming languages is needed is dependent upon a student's specific goals.

Mr. Don Stephanic asked where and how simulation is covered in the curriculum. Mr. Sefcovic responded that it is not covered because we do not have the necessary software. Our working discussion plan has been that we would not like to add an additional course to cover simulation, but rather include it in various courses, so students are exposed to it as they go along. It would be natural to include it in ROB 240, Automated Systems Applications. A minor course revision could be done to cover this additional material.

Mr. Cicchini mentioned that simulation is becoming a necessity because customers cannot afford down time on the lines. It would be good to have someone come in and lecture about simulation.

Mr. Lieblang pointed out that we have never really established a mission statement as an advisory committee which would state why we are here and what we intend to accomplish. We need to know what we are trying to do in order to be sure we have done it.

Dr. Blackman responded that we will work on a mission statement and make it very clear. We want to be continuously improving the program so that the curriculum provides students with the skills they need to be successful. Our goal is for students to obtain a two-year degree and get into a job where they can be successful.

### **Appreciation**

Dr. Blackman thanked the group for their service as members of the advisory committee. She presented each member with a certificate of appreciation and a small gift.



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## ROBOTICS/AUTOMATED SYSTEMS TECHNOLOGY

### ADVISORY COMMITTEE

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ROBOTICS/AUTOMATED SYSTEMS TECHNOLOGY ADVISORY COMMITTEE  
 FOLLOW-UP MEETING  
 December 10, 1996

Present: Willie Lloyd, Director of Placement and Cooperative Education  
 Pat May, Counselor  
 Dr. Carlos Olivarez, Dean, Academic and Student Services  
 John Sefcovic, Paraprofessional  
 Ruth Springer, Secretary  
 Doug St. Clair, Faculty

Advisory Committee Recommendations	Follow-Up Actions
1. That a strong emphasis be placed on the teaching of troubleshooting skills.	1. Troubleshooting skills are taught on an ongoing basis in all classes.
2. That OCC explore the possibility of including a co-op experience in the Robotics Program.	2. Mr. Doug St. Clair will work with Ms. Sally Kalson, Coordinator of Cooperative Education, to explore the possibility of adding a co-op class to the Robotics Program as a recommended elective.
3. That OCC explore the possibility of placing equipment from Dynalog, Inc. in the Robotics Lab on a consignment basis.	3. The group agreed that there is nothing in the current Robotics curriculum to which this equipment could be applied. Mr. St. Clair and Mr. John Sefcovic will maintain a relationship with Dynalog so that, if simulation is added to the curriculum in the future, there might be a possibility of having their equipment placed in the Robotics Lab on a consignment basis.

Advisory Committee Recommendations	Follow-Up Actions
10. That AC and DC Fundamentals be taught as a single class for the Robotics Program.	10. Mr. Brent Meyers is the faculty member responsible for the Electrical Trades Program. Mr. St. Clair will discuss with him the possibility of creating a single class to teach AC and DC Fundamentals.
11. That OCC explore the possibility of including more instruction in communication skills, including writing, speech, and listening skills, as a part of the Robotics Program.	11. Dr. Carlos Olivarez will contact Mr. Wally Smith to find out exactly what is taught in SPE 129, Interpersonal Communication. This information will be used to help the group determine whether to add SPE 129 to the Robotics curriculum.
12. That tours of area companies be included as a part of the instruction offered in the Robotics Program.	12. Ms. Ruth Springer will contact Mr. Randy Schroeder to verify whether he is able to take students in night classes on tours through his work area at FANUC Robotics.

The next meeting of the Robotics Advisory Committee will take place on Monday, March 24, at 5:00 p.m. in room T6. The meeting will begin with dinner.

Respectfully submitted,

Ruth Springer

(robfollo.min)