OAKLAND
COMMUNITY
COLLEGE

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ARCHITECTURE ADVISORY COMMITTEE MEETING

November 7, 1996

Present: Syed Ahsan, Faculty, OCC
Daniel F. Christensen, Giffels Hoyem Basso, Inc.
Alfred Gittleman, Redstone Tiseo Architects
Paul N. Hunter, Oakland County Facilities Engineering
Sally Kalson, Coordinator of Cooperative Education, OCC
Charlie Kurzer, Counselor, OCC
Stanley Monroe, Wright Street Design Group Inc.
Celeste Allen Novak, Celeste Allen Novak
Dale O. Orchard, Rochester Adams High School
Dr. Carlos Olivarez, Dean, Academic and Student Services, OCC
Martin Orlowski, Director, Institutional Planning & Analysis, OCC
Mike Pudists, Minoru Yamasaki Assoc. Architects
Rocco Romano, TMP Associates
Ruth Springer, Secretary, OCC
Joshua Taylor, Architecture Student, OCC

1. Welcome and Introductions

Dr. Carlos Olivarez welcomed the group and thanked them for their willingness to assist OCC as members of the advisory committee. Mr. Syed Ahsan introduced each member of the committee.

2. Overview of Curriculum

Mr. Ahsan gave a brief overview of the curriculum, explaining what is taught in each class. He reported that, the last time the advisory committee met, they pointed out the need for design classes to be added to the curriculum. Since then, three design classes have been introduced.

Mr. Ahsan mentioned that he feels there is too much material to be covered in ARC 112, Architectural Construction Materials. He would rather divide the material between a Materials I and Materials II class.

Mr. Ahsan reported that some students in the program are builders who are taking classes to increase their knowledge in the field. Others are younger students who plan to transfer to a university when they have finished their studies here. A smaller group is made up of students from Lawrence Technological University who come to OCC for one or two classes which will transfer back to Lawrence, as they can take them more inexpensively at OCC.

Mr. Dale Orchard reported that 90 percent of the graduates from his high school program continue their studies at the college level. Many move on to a four-year university, such as Michigan State or the University of Michigan. Some come to OCC to take their basic courses before going on to a four-year school.

It was suggested that OCC Architecture students be surveyed to determine their reasons for taking classes at OCC and their long-term goals.

Mr. Ahsan asked the group for their comments on the curriculum.

3. Need for Computer Stations in Architecture Classrooms

Mr. Mike Pudists pointed out that we need to consider the population to whom we are addressing our curriculum. The first thing to note is that architecture today is computerized. There will be no going back to pencil and paper. Employers are looking for people who can use a computer. Entry level positions are in the area of production. Employees must understand specifications, details and materials. It is not enough to just blindly copy something. They must understand what they are doing before they can execute something successfully. Entry level employees must have a good basic knowledge of architecture. Everything in the current curriculum is important; nothing should be eliminated. There are two basic groups of people who may wish to study at OCC: those who will complete two years of study, then join a company and work their way up in the field; and those who plan to attend school for four or six years. Mr. Pudists believes that OCC should concentrate on those who plan to study for two years and prepare them in the best way possible for the workplace.

Mr. Ahsan responded that one of his goals has been to tailor OCC's program for the student who is preparing to graduate from OCC and enter directly into the workplace. However, a major problem is the fact that students in the two Architecture classrooms are still working on drafting boards. Two Computer Aided Design (CAD) classes are included in the curriculum, but they are not enough to make students proficient on the computer.

Mr. Pudists agreed that computers are essential, as the entire business is computerized. In addition to CAD, students must know word processing. A project director needs to be able to write reports himself on his word processor. In addition to being able to do straight drafting in CAD, ability to do 3-D CAD is also important. Students need to be able to think in CAD. That is where their future is.

Dr. Olivarez mentioned that there is a discussion among CAD and drafting people. Some say there is a need for students to learn drafting before going on to CAD. Others say there is no need to do board drafting first. Dr. Olivarez asked the group for their feelings on this subject.

Mr. Pudists responded that the older generation is in the process of transition from the board to CAD. Once the new generation is established in the workplace, there will not be much need for the board.

Mr. Paul Hunter stated that, for sketching rudimentary things in color, freehand drawing is quicker. Beyond that, only CAD is needed. Mr. Hunter feels there is too much focus on hand drafting at OCC. He believes that the view that there is still a need for hand drafting is a mind set of the older generation.

Mr. Orchard stated that he could teach students to do on the computer everything that has been done in the past on the board. Mr. Alfred Gittleman agreed that a drawing is created entirely differently on the board from the way it is created on a CAD system. It can be done on CAD without ever doing drafting on the board.

Mr. Pudists pointed out that there will always be room for sketching freehand when one is searching, testing ideas, and trying to convey ideas quickly during the early stages of a project. There is a need for students to develop hand skills for this purpose. Once the project is set, the remainder of the work can best be done on the computer.

Mr. Ahsan mentioned that, in ARC 200, Commercial Working Drawings, he would like students to be able to use both board and computer, so they can use AutoCAD to produce their drawings. Students will be hired based on their ability to produce a drawing on AutoCAD without needing a great deal of on-the-job training or help from their coworkers. We need to train them to be able to do a sketch on the board, get the sketch approved, and then do the complete drawing on the computer. He asked the group whether they believe students need to be trained in this way to work with both board and computer on the same project.

Mr. Daniel Christensen responded that today hand drafting is the exception in his office. OCC's Architecture Program would be better served if hand drafting could be minimized and more emphasis

could be place on CAD. He agreed that most of the hand drafting work is in the sketching of ideas. He believes that, fifteen years from now, very little hand drafting will be used.

Dr. Olivarez asked for a recommendation as to how many of the drawing courses should be done using the board and how many using the computer. Mr. Hunter recommended that the students' CAD literacy should be increased earlier, and that hand drafting should be dropped off at whatever speed the College is able to do so. Mr. Hunter would like to see students taught to conceptualize in sketch form. They should learn to sketch freehand, rather than using the T-square and triangle. In this way they would learn the necessary small motor control. The drawing of straight lines can be left to the computer.

The group was asked if they would be as likely to hire a person who had never had formal training in board drafting. Mr. Christensen responded that he would probably never ask the question. He would only ask about their CAD capability.

Ms. Novak suggested that more than one course in CAD use is needed. There is a need for 3-D studio and more involved packages than are available now.

The group agreed that CAD instruction must be integrated into the Architecture Program. Instructors should be able to show students the computer station and how to use it, so they learn to think on the computer as they would on a drafting board. They agreed that students need to have the CAD stations available in the classrooms where they are being taught the architectural principles.

Mr. Ahsan explained that, when students take CAD 100, Fundamentals of Engineering Graphics, in the CAD department, they learn the AutoCAD language and how to draw in 3-D, doing tolerances of machine parts. When they go on to CAD 115, CAD Applications in Architecture/Civil Engineering Technology, they are baffled by the need to draw building spaces rather than machine parts. When an instructor assigns a drawing as part of an Architecture class, they must do the drawing on the board, because there is no computer available for them to work on.

The group agreed that students should be using CAD stations in the Architecture classes. They should be learning from day one how to use AutoCAD in connection with their own industry.

Dr. Olivarez reported that the Campus Budget Council has stated that the fact that there is a computer lab in one location does not mean that its use is limited to only one discipline. It should be possible to teach Architecture courses in the CAD Lab if that is what is needed. However, Mr. Ahsan responded that it would be difficult to teach his classes in the CAD Lab because his own materials would not be readily available there, and there would not be as much space available.

Mr. Pudists suggested that some stations be configured so they have extra space so students can work with paper as well as on the computer. He pointed out that money is tight in the private sector as well as in the community college setting. We need to decide whether we are teaching students the right things at the right time in the right place.

Mr. Kurzer suggested that courses can be modified to focus on a particular program. For example, a CAD 100 class could be listed in the Course Schedule with a footnote stating that it is for Architecture students. The basics of AutoCAD could be taught using architectural drawing assignments.

Mr. Pudists added that, once the students have learned the basics, the tools should be available to teach Architecture classes with access to computers, either by going with the Architecture classes to the CAD Lab, or by having computers available in the Architecture classrooms. Dr. Olivarez commented that it would be more likely that they could have Architecture classes taught in the CAD Lab.

Ms. Novak suggested that students might benefit from having access to PageMaker or other computer software to be used in preparing presentations and other assignments in their Architecture classes. Mr. Ahsan pointed out that there are good programs for architecture in which you can think and design with more design capabilities than AutoCAD provides. All the codes are on CD-ROM. If there were computers in the Architecture classrooms, students could use these programs for many functions. If they must go to another lab to use the computers, they would be unable to load all the other programs that they could use in addition to AutoCAD.

Mr. Ahsan stated that he is comfortable with CAD 100 being taught by the CAD Department in the CAD Lab. He does not believe it matters that the students are drawing machine parts, because they are learning the basics of the software. But after they have learned the basics, students become frustrated because they have no tools in the Architecture classrooms to use what they have learned.

Mr. Ahsan asked for guidance in regard to the four Architectural Drafting courses. Would it be possible to teach the necessary material in less than four courses?

Mr. Pudists commented that more emphasis is needed on freehand sketching. Mr. Ahsan responded that he does currently emphasize freehand sketching. He would like students to have a board with onion skin, as well as a computer, so they can do their assignments in the way they would be done in the workplace. It is not the same if students must go to the CAD Lab for classes. In addition, the computers could be used by Architecture students for other things besides drawing, such as codes, and cost estimating. Mr. Ahsan believes he could get along with only ten computers. Some students could be working on boards, doing models or schematics, while others worked on the computers.

Mr. Pudists agreed that the advisory committee has made it clear that they believe the Architecture classrooms should have computers available for the students to use.

Mr. Christensen pointed out that we need to be concerned about what we can do to make students more employable. Architecture is a hands-on profession. When people apply for their first job, the primary question will be: What are your CAD skills? The use of CAD cannot be overemphasized.

4. Need for Communication Skills

Mr. Hunter pointed out that there is a need to stress the communication of ideas in both writing and speaking. Mr. Ahsan responded that he tries to have students do a lot of presentations in front of the class. He invites architect colleagues to come in and critique the students' work.

Mr. Hunter stated that we need to teach how to communicate with the person who will build the concept. Students need to understand what the process of building will be and how the builder thinks in order to communicate. They need to try to put themselves in the other person's shoes and ask themselves what they are really communicating. This is not a natural accomplishment. Students need to learn to consciously think about what they are trying to say and whether they are saying it clearly.

Dr. Olivarez pointed out that the Architecture curriculum includes a Business Communications or Technical Writing course. Mr. Hunter responded that if it was possible to include even more instruction in those areas, that would be better. He finds that many people are weak in those areas. Employees will stay in entry level jobs if they do not have the ability to write and speak. These skills equip them for upward movement beyond the level of simple technical capability.

Mr. Charlie Kurzer mentioned that there is an ongoing debate within the College about how many credits we can require and still stay within the norm of a 62-credit program. The CAD Program has moved to 82 credits in order to accommodate the various kinds of skills that are needed in that field. It is hard to determine how many general skills are needed, included computer literacy skills, and still be able to include all the specialized courses that are needed. Many programs have expanded to become three-year programs. Mr. Kurzer has heard the importance of employability skills emphasized at many conferences and advisory committee meetings. These types of skills are often not included in a four-year bachelor degree program. If they are not included at that level, perhaps we should make sure students get that training here.

5. PHY 161 and MAT 156

Mr. Pudists suggested that there is no need for students to take PHY 161, College Physics I, as part of a two-year degree. If they are taught about the building systems, that is all the physics they need at this level. If they go on to a four-year program, they can pick up the physics they need then. Deleting PHY 161 from the program would free up four credit hours to be used to teach something else.

Mr. Hunter expressed the same view in regard to MAT 156, Trigonometry. However, Mr. Kurzer pointed out that MAT 156 is a prerequisite for PHY 161.

Ms. Celeste Novak mentioned that, when transferring to a four-year school, students can transfer the Physics and Trigonometry classes, so perhaps OCC is a better place to take them.

6. ARC 211

Mr. Pudists suggested that ARC 211, Architectural Site Development, should include instruction about zoning codes. Mr. Ahsan responded that he has placed the Site Development course on hold, as he is in the process of transferring it to the Landscape Program. The group recommended that this course not be transferred to the Landscape Program. They pointed out that, when a client asks an architect what can be put on a piece of land, the architect must know how to respond, rather than referring the client to a landscape architect.

Mr. Ahsan explained that instruction about zoning is included in ARC 213, Building Code Analysis. However, Mr. Pudists responded that he believes instruction in zoning codes should be included in the Site Development course.

7. ARC 220

Mr. Ahsan reported that, since coming to work at OCC, he has never been able to run ARC 220, Construction Estimating. He has never had more than four students enroll, and the College requires an enrollment of at least fifteen in order to run the class. He asked for the group's opinion as to whether this course is really important at this stage of students' education.

Mr. Pudists responded that cost estimating is important and must be included in the course of study. If enough students are not registering for the Cost Estimating course, then that subject matter could be combined with something else by adding an extra credit hour to another course, so that students are forced to take it.

Committee Recommendations

1. That Architecture students be surveyed to determine their reasons for taking classes at OCC and their long-term goals.

2. That Architecture students' CAD literacy be increased as early as possible in their program of studies, and that hand drafting be dropped from the program at whatever speed the College is able to do so by providing computer access in its place.

3. That computers be obtained for the Architecture classrooms, so that students can use both drafting board and computer in doing their assignments.

4. That freehand sketching be emphasized in Architecture classes, rather than the use of the T-square and triangle.

5. That instruction in word processing be included in the Architecture Program.

6. That the College consider offering a section of CAD 100 for Architecture students in which the basics of AutoCAD would be taught using architectural drawing assignments.

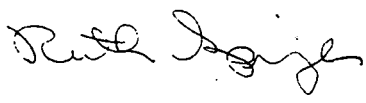
7. That Architecture students be provided with access to presentation graphics software to use in the preparation of presentations and assignments.

8. That the College seek to provide Architecture students with additional instruction in the communication of ideas in writing and speaking.

9. That instruction about zoning codes be included in ARC 211.

10. That instruction about cost estimating be included in the Architecture Program. If students are unwilling to register for ARC 220, Construction Estimating, instruction on cost estimating should be included in another course which they are required to take.

Respectfully submitted,



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