OAKLAND COMMUNITY COLLEGE

Program Assessment
Architecture
2002

Final Report

Prepared by

The Office of Institutional Research

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Program Assessment – Architecture
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Program Assessment
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INTRODUCTION

This report examines questions pertaining to the long-term need and viability of the Architecture program. Information was obtained from various sources, including The Occupational Outlook Handbook from the Bureau of Labor Statistics, the Michigan Occupational Information System, the Michigan Community College Network, and the Michigan Department of Education. Included in this report are national, regional, and statewide trends in employment, income, occupational outlook, enrollment, and degrees granted.

In addition, Institutional Research developed and administered a telephone survey of architectural firms in Wayne, Oakland and Macomb counties. The main purpose of the survey was to explore the educational requirements of architect employers. Specifically, there is a need to understand the employability of graduates with an Associate Degree in Architecture. A copy of the survey in its entirety can be found in the Appendix.

The information contained within this report has been collected for the purpose of determining the viability of the program, and is intended to assist in the decision-making process.

MAJOR FINDINGS

- *Employment demand for architects is sensitive to economic changes. Recessions decrease demand for architects substantially.*

- *On a national level, the demand for architectural jobs is expected to increase 10-20% through 2010.*

- *Architects must have a license, which requires that they be a bachelor in architecture, an internship or training period, and passage of the Architect Registration Exam (ARE).*

- *Architects earned a median salary of $52,510 for 2000.*

- *Other schools in Michigan with similar programs include: Gogebic Community College, Jackson Community College, Mid-Michigan Community College, and Monroe County Community College.*

- *Credit hours for ACH courses have declined 34% from 1996-97 (and 49% from 1991-92).*

- *OCC has awarded 7 degrees in Architecture from 1991-92 through 2000-01.*

- *Of 230 architectural employers polled in Wayne, Oakland and Macomb counties, 43% (99) have hired graduates with an Associate Degree in Architecture while 57% (131) have not.*

- *Of the architecture employers surveyed, the majority agree that the most common duties performed by graduates with an associate degree include drafting drawings, AutoCAD and office/clerical duties.*

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QUESTIONS/ ISSUES

Perhaps the biggest concern that faces the program at OCC is the requirement of a bachelor degree before one can obtain a license. Students receiving an associate degree or a certificate will still have to go into a 5-year bachelor program, which is designed for students to enter from high school with no architectural training. In essence, this may make the associate degree or certificate unappealing to students, especially given that a 5-year program must be followed by a 3-year training period. The relatively low number of degrees conferred coupled with the seemingly high enrollment certainly seems to indicate that students may be using this program for the purpose of transferring into a bachelor program.

SUPPORTING DATA

Description of Occupation

According to the Bureau of Labor Statistics, architects are involved with the aesthetic and functional look of buildings and other structures. They must weigh numerous factors in designing a structure, such as functionality, safety, economic considerations, and various needs of the people who will use the structure. Architects also provide professional services to those involved with the construction of a building, from the initial planning phase to the construction process, utilizing the following skills: designing, engineering, managing, supervising, and communicating with clients and builders.

(Source: Occupational Outlook Handbook, Bureau of Labor Statistics)

Training, Qualifications, Advancement

Licensure is required before anyone can offer services as an architect, as they are required to take legal responsibility for their work. Requirements for a license include a professional degree in architecture, an internship or training period, and passage of all divisions of the Architect Registration Exam (ARE). Most architectural degrees come from five-year bachelor or architecture programs, with several two-year master's programs. The internship or training period, required by all State architectural registration boards, typically lasts over a period of three years before architecture candidates can take the ARE. Several states require continuing education in order to maintain their licenses.

(Source: Occupational Outlook Handbook, Bureau of Labor Statistics)

Employment

National:

According to the Bureau of Labor Statistics, there were about 102,000 individuals working in the field of architecture. Most jobs were in architectural firms, where, approximately 5 or fewer architects per firm are employed. About 30% of architects are self-employed.

(Source: Occupational Outlook Handbook, Bureau of Labor Statistics)

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Employment (continued)

State:

According to MOIS (Michigan Occupational Information System), there were about 2600 licensed architects working in the state of Michigan.

(Source: Michigan Occupational Information System)

Earnings

National:

Median annual earnings for 2000 were $52,510, according to the Bureau of Labor Statistics. Earnings ranged from $32,540 to $85,670.

(Source: Occupational Outlook Handbook, Bureau of Labor Statistics)

State:

Annual earnings for architects in Michigan (from several governmental agencies) ranged from $31,224 to $70,282. Licensed engineers supervising construction sites made approximately $79,000 in 1998.

(Source: Michigan Occupational Information System)

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Job Outlook/Forecast

National:

According to the Bureau of Labor Statistics, employment of architects is expected to grow "as fast as average." This is a projection of a 10-20% increase through 2010. Most jobs will come as a result of architects who retire or leave the work force. Need for repairs and renovation of older buildings, especially in urban areas is expected to increase. However, the job market seems to be "sensitive" to economic changes, and architects will find the market increasingly competitive during periods of recession.

Incoming architects who have experience using CADD technology will have a decided advantage over those without knowledge or experience in computer-aided design.

(Source: Occupational Outlook Handbook, Bureau of Labor Statistics)

State:

According to MOIS, employment for architects in Michigan is expected to increase much faster than average through 2006, with an average of 200 annual openings expected (110 due to growth). Non-residential construction and building rehabilitation are expected to grow in demand.

(Source: Michigan Occupational Information System)

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College Outlook

- The following series of charts provide information about the educational aspect of Architecture in Michigan, including programs similar to OCC's Architecture program, OCC and statewide enrollment in these programs over the last two academic years, and the number of associate degrees conferred for OCC and statewide.

Similar Programs

Table 1: Michigan Post-Secondary Institutions with Similar Programs

Institution	Program Title
Gogebic Community College	Architecture & Design
Jackson Community College	Architecture (Pre-major)
Mid-Michigan Community College	CBI- Architecture/ Design Assistant
Monroe County Community College	Pre-Architecture

Other institutions and programs include: Delta College (*Pre- Architecture*), Northwestern Michigan College (*Architecture & Urban Planning*), and Schoolcraft College (*Architecture Transfer*).

It appears that St. Clair County Community College had a Civil Architecture program until 2001-2002.

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Enrollment

Table 2: Annual Statewide Community College Enrollment

Academic Year	State-Wide Enrollment	Change	OCC Enrollment	Change
2001-2002	814	+363	200	-45
2000-2001	451	+42	245	+38
1999-2000	409	--	207	--

(Source: www.mccnet.com - Michigan Community College Network)

Graduates

Table 3: Annual Statewide Associate Degrees

Academic Year	State-Wide Graduates	OCC Graduates
2001-2002	5	0
2000-2001	11	2
1999-2000	8	0

(Source: www.mccnet.com - Michigan Community College Network)

Source: OCC, Office of Institutional Research   3/28/02

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Employer Survey Findings

As mentioned earlier, Institutional Research developed and administered a telephone survey of architectural firms in Wayne, Oakland and Macomb counties. The main purpose of the survey was to explore the educational requirements of architectural employers.

- Out of the total sample of 441 architectural firms in Wayne, Oakland and Macomb counties, 230 respondents completed the survey. Therefore, the response rate was 53%.

- In most instances, the Telephone Interviewer spoke with the Office Manager or someone who was responsible for their facility's staff.

Respondents were asked whether they have hired someone with an Associate Degree in Architecture. Forty-three percent responded affirmatively, while 57% cited that they have not hired someone with this degree.

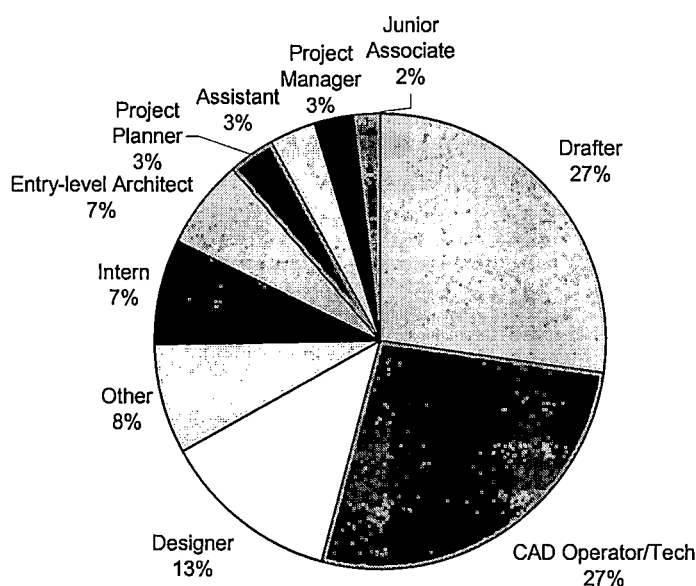**Figure 1: ARC Employer Survey**
Respondent Distribution
(N=230)

☐ Have Hired Someone with an Associate Degree in Architecture
☐ Have Not Hired Someone with an Associate Degree in Architecture

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Those who have hired these graduates were asked what types of job titles are given to someone with an Associate Degree in Architecture. The responses are displayed in Figure 2.

Figure 2:
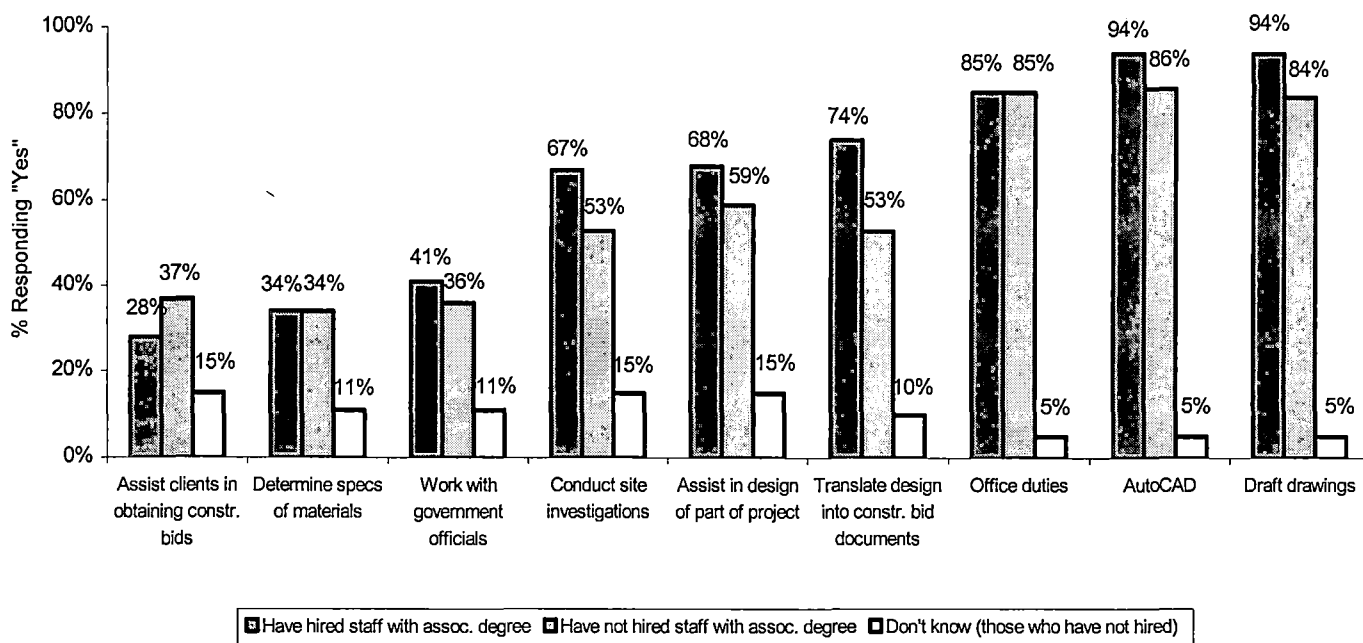**Job Titles for Graduates with an**
Associate Degree in Architecture
(N=99)

Many of those polled cited the job titles of "Drafter" or "CAD Operator or Technician" as those used most frequently for graduates with an Associate Degree in Architecture (54%). Some of the titles listed in the "other" category included Job Captain and Engineer, as well as other job designations.

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FIGURE 3:
JOB DUTIES (N=230)

Bar chart showing "% Responding 'Yes'" for job duties:

Job Duty	Have hired staff with assoc. degree	Have not hired staff with assoc. degree	Don't know (those who have not hired)
Assist clients in obtaining constr. bids	28%	37%	15%
Determine specs of materials	34%	34%	11%
Work with government officials	41%	36%	11%
Conduct site investigations	67%	53%	15%
Assist in design of part of project	68%	59%	15%
Translate design into constr. bid documents	74%	53%	10%
Office duties	85%	85%	5%
AutoCAD	94%	86%	5%
Draft drawings	94%	84%	5%

☐ Have hired staff with assoc. degree ☐ Have not hired staff with assoc. degree ☐ Don't know (those who have not hired)

Respondents who have hired associate degree graduates were asked if these individuals typically perform certain job duties. Similarly, respondents who have not hired associate degree graduates were asked if they thought someone with an Associate Degree in Architecture could perform the same job duties.

As Figure 3 illustrates, there are little differences in perceived abilities between these two groups. The largest disparity is found in translating design into construction bid documents; with 21% less potential employers who think this could be performed by someone with an associate degree. Most employers appear confident in graduates' ability to draft drawings, AutoCAD work and general office duties. Conversely, these same employers seem less confident in graduates' ability to work with government officials, determine specifications of materials and assist clients in obtaining construction bids. It should be noted that those who answered "don't know" were exclusively from the group who have not hired any graduates with an Associate Degree in Architecture.

Source: OCC, Office of Institutional Research   3/28/02

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Respondents were also asked what other job duties are being performed or could potentially be performed by these individuals, as outlined in Table 4.

Table 4 "Are there any other duties you can think of? (Responses in order of ranking)	
Have hired staff with AA degree (N=29)	Have not hired staff with AA degree (N=17)
Clerical duties	Clerical duties
Modeling	Assist with projects
Designing / detailing	Field support
Other	Other

Most of the duties mentioned by both sets of respondents were clerical in nature. There was, however, a wide array of other miscellaneous duties cited by both groups of employers (i.e., client contact, field measurement).

Those individuals who have not hired someone with an Associate Degree in Architecture and did not respond affirmatively to any of the potential job duties for these hires were asked an additional question: "Would you consider hiring someone with an Associate Degree in Architecture?" Of the seven potential respondents, only one respondent said that they would. Four of those polled said they would not, while two did not know. Three who said they would not hire an individual with an Associate Degree in Architecture were asked why not:

- "Experience is necessary. We hire on a trial basis to be sure hires meet certain skill levels in CAD and drawing. Most often the successful candidates are those with four-year degrees."
- "We won't hire anyone with a two-year degree. We recommend students continue their education from a two-year associate degree."
- "We have tried [to do so] in the past. Their level of expertise is not up to our level."

Finally, employers were asked about starting (and potential starting) pay rates for someone with an Associate Degree in Architecture.

	Table 5 Average and Potential Pay Rates for Graduates with an Associate Degree in Architecture*		
	Average Hourly Pay Rate	Hourly Pay Rates Cited Most Frequently	Average Annual Pay Rate
Those who have hired a graduate with an AA degree in Architecture	$11.96 (N=61)	$10.00 (N=15) $12.00 (N=12)	$28,000 (N=12)
Those who have not hired a graduate with an AA degree in Architecture	$11.29 (N=53)	$10.00 (N=12) $12.00 (N=8)	$26,300 (N=14)

*NOTE: An Analysis of Variance was conducted on the mean pay rates for each group of respondents. There are no statistically significant differences between the two groups.

Source: OCC, Office of Institutional Research   3/28/02

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APPENDIX

3/28/02

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Employer Survey
<u>ARC Program</u>

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|                         |
|                         |
|     PLACE LABEL HERE     |
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Interviewer Name: _____

Date: _____

Hello, my name is _____, and I'm calling from Oakland Community College. May I please speak to the person responsible for hiring?

We're conducting a survey to assess the labor market for architecture graduates. Do you have a few minutes to answer four questions regarding this topic? For your information, this call may be monitored for training purposes.

1. Have you ever hired anyone with an Associate Degree in Architecture at your facility?

    1 Yes *(continue)*
    0 No *(skip to page 3)*

2. What types of job titles are used at your facility for someone with an Associate Degree in Architecture? *(list all responses)*

    1 Drafter
    2 CAD Operator/Technician
    3 Intern
    4 Architect (entry level)
    5 Project Planner
    6 Designer
    7 Construction Administrator
    8 Other (please specify)

    _____

    _____

    0   None
    88 Don't know/indifferent

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3a.   Does someone with an Associate Degree in Architecture typically perform any of the following job duties at your facility?

(*read list and circle appropriate response*)

1 Yes   0 No   88 Don't know   Draft drawings?

1 Yes   0 No   88 Don't know   AUTOCAD work?

1 Yes   0 No   88 Don't know   General office duties?

1 Yes   0 No   88 Don't know   Assisting in design of one part of a project?

1 Yes   0 No   88 Don't know   Conduct site investigations?

1 Yes   0 No   88 Don't know   Determine specifications of materials?

1 Yes   0 No   88 Don't know   Work with government officials (assure compliance with zoning, building regulations, etc.)?

1 Yes   0 No   88 Don't know   Translate design into construction bid documents?

1 Yes   0 No   88 Don't know   Assist clients in obtaining construction bids?

Are there any other job duties you can think of? (*please record all responses*)

_____

_____

4a.   What is the **average starting pay rate** for new hires with an Associate Degree in Architecture at your facility?

$ _____ per   hour / year
                              (*circle one*)
88 *Don't know/ indifferent*

INTERVIEWER: SKIP TO PAGE 4

3b.   Do you think someone with an Associate Degree in Architecture could perform any of the following job duties?
       (*read list and circle appropriate response – don't read "don't know"*)

1 Yes   **0 No**   **88 Don't know**   Draft drawings?

1 Yes   **0 No**   **88 Don't know**   AUTOCAD work?

1 Yes   **0 No**   **88 Don't know**   General office duties?

1 Yes   **0 No**   **88 Don't know**   Assisting in design of one part of a project?

1 Yes   **0 No**   **88 Don't know**   Conduct site investigations?

1 Yes   **0 No**   **88 Don't know**   Determine specifications of materials?

1 Yes   **0 No**   **88 Don't know**   Work with government officials?

1 Yes   **0 No**   **88 Don't know**   Translate design into construction bid documents?

1 Yes   **0 No**   **88 Don't know**   Assist clients in obtaining construction bids?

Are there any other job duties you can think of? (*please record all responses*)

_____

_____

(If respondent answers "no" or "don't know" to all questions in 3b, ask the following:)

3c.   Would you consider hiring someone with an Associate Degree in Architecture?

1 Yes   **0 No**   **88 Don't know**

(If no) Why not?

_____

4b.   What would you consider to be a reasonable **average starting pay rate** for someone with an Associate Degree in Architecture?

       $ _____ per   hour   /   year
                          (*circle one*)
       88 *Don't know/ indifferent*

That's all the questions I have today. I'd like to thank you very much for your time.

Interviewer: Please write the person's name and title with whom you spoke.

Person's Name and Title _____