Ferris State University
College of Technology
Construction and Facilities Department

ACADEMIC PROGRAM REVIEW REPORT

AAS, Architectural Technology

SEPTEMBER, 1999

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Program Review Panel

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September, 1999

ACADEMIC PROGRAM REVIEW REPORT
AAS, ARCHITECTURAL TECHNOLOGY

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SECTION 1
Overview

Ferris State University has offered construction-related education for over 50 years. Initial programming began at the associate degree level with HVACR Technology in 1945, adding Architectural Technology in 1952, Surveying Technology in 1958, Highway Technology (later Construction Engineering Technology and now Civil Engineering Technology) in 1960 and Building Construction Technology in 1968. Baccalaureate programming began in 1973 with Surveying (now Survey Engineering), adding Construction Management in 1981, HVACR Engineering Technology in 1984 and Facilities Management in 1989.

The AAS Architectural Technology and the BS Facilities Management make up a combined program area offering incoming first-year students the opportunity to earn both an associate and baccalaureate degree in a related area.

This report will only deal with the AAS Architectural Technology Program. The BS Facilities Management program will be dealt within a separate report.

Each program is viewed as a separate entity, but at the same time is viewed as part of a closely related program area. This relationship is apparent in the mission state of the programs:

> The mission of the Architectural Technology and Facilities Management Programs is to educate students in a spectrum of technical programs critical to Michigan's economic future and to provide technology transfer of information to the construction industry. This curricula's focus on Architectural Technology and Facilities Management integrates the appropriate general education courses needed to prepare today's graduates with a foundation of knowledge required to cope with advancing technology within their professional careers.
>
> The Architectural Technology and Facilities Management Programs are committed to providing a diverse student body with quality technical curricula emphasizing professional, practical, and usable skills that prepare the graduate to analyze, synthesize, problem solve, and communicate within their discipline. This is accomplished in an environment that is one of respect for our students and their field of study. Students are perceived as products of the Architectural Technology and Facilities Management Programs and employable and prepared for advancement in their chosen careers after graduation.

The technical, technological and career-oriented nature of the two programs is very much in accord with and in support of the university mission. The success of the graduates in attaining employment in their profession at competitive salaries, in demonstrating their skills and knowledge and in attaining advanced levels of responsibility all point to the success of the programs.

There are 12 institutions in Michigan offering architectural technology, architectural drafting, and architectural drawing programs: Delta College, Grand Rapids Community College, Henry Ford Community College, Lansing Community College, Macomb Community College, Monroe Community College, Mott Community College, North Central Michigan College, Oakland Community College, St. Clair County Community College, Washtenaw

Community College and West Shore Community College. It is believed that Ferris's Architectural Technology Program is unique in that all faculty teaching in the program are licensed architects and former and current practitioners in the profession.

The program is taught by a group of six faculty. Faculty resumes are contained in Appendix I. A brief list of the faculty, their credentials and date of initial employment follows:

- Mary Bockstahler, M Arch, AIA, Assistant Professor 1997
- Bruce Dilg, MS, NCARB, Associate Professor 1987
- Gary Gerber, MBA, CSI, Associate Professor 1990
- Mel Kantor, B Arch, AIA, CFM, NCARB, Professor 1974
- Diane Nagelkirk, B Arch, AIA, Associate Professor 1988
- Joe Samson, M Arch, CFM, Associate Professor 1988

The faculty group is a well-balanced mix of longevity and newness. All of the faculty have strong professional experience in the practice of architecture and they bring this experience to the academic setting. Turnover of faculty is low. In recent years (1988 to the present) one faculty member left for a position at another institution, one resigned to reenter architectural practice, one resigned for personal reasons and one resigned to complete a Ph.D in architectural history.

Faculty have also been active in the professional associations, American Institute of Architects (AIA) and the Construction Specification Institute (CSI). They are not only members, as indicated above, but have served as committee chairs and directors of local chapters. Faculty and students regularly attend chapter meetings of the Grand Valley Chapter of the AIA (GVAIA) when the meetings fall within the program's purview.

The AT program students are a diverse group. Women and minority students make up between 15 and 20 percent of incoming first year students. Many students have architectural and construction experience from high school and/or work and share this with the other students. The program has an active student chapter of the American Institute of Architectural Students and a good relationship with the GVAIA.

The program has an excellent relationship with architectural firms in Michigan. Over the 47 years of the program's existence, graduates of the program have been, and are employed by most of the architectural firms located in the state. Over the years, architects have contributed monetarily towards scholarships and student awards. In addition, they have donated their time to visit the campus to speak to the students, to host them during field trips to a variety of architectural offices and building sites, and to serve on the AT advisory board.

The program has maintained a technological position that in most instances parallels the profession. It has grown from a non-computerized, hand drafting program in 1987 to a program with two computer labs (16 stations and 20 stations) running current CAD and 3D

programs as well as product information software and has computerized teaching stations in all classrooms and labs but one. Currently six courses are making substantial use of professional level architectural software programs. These are: ARCH 109 – Computer Graphics in Architecture 1, ARCH 209 - Computer Graphics in Architecture 2, ARCH 203 – Construction Detailing, ARCH 204 – Architectural Construction Documents, ARCH 250 – Systems Cost Estimating, and ARCH 270 – Advanced Usage of CAD in Architecture. Most of the other courses within the program make some use of the computers for reports, research, and presentations.

In response to technological advances and changes in the profession, the faculty is currently investigating expanding the current program into some form of advanced degree beyond the AAS, such as a Bachelor of Science in Architectural Technology (4 year), Bachelor of Science in Architecture (4 year), Bachelor of Architecture (5 year), Master of Architecture (6 year).

A proposal to reestablish the Baccalaureate in Facilities Management at the Grand Rapids Campus has been submitted to the Vice-President of Academic Affairs. This proposal may have an impact on the faculty of the Architectural Technology Program as well as the faculty of the Facilities Management Program. (A copy of the proposal may be found in Appendix J)

SECTION 2
Graduate Survey

This survey included 100% of all graduates of the Architectural Technology Program as identified by the Alumni office of the University. Because of the historically poor response to surveys by this group it was felt that a 100% sample (240) would yield better results than a random sample.

A total of 21 valid responses were received, or 8.8 % of the group sampled. Response for the most part was quite complete with a large number of comments freely given, all of which are included verbatim. A total of nine of the ten years surveyed were represented in the responses.

The purpose of the survey, beyond the statistical information, was to determine the perception of the graduates, based on a five point Likert scale, how RELEVANT they felt each of the course they took in curriculum as to there chosen career path and separately how well PREPARED they felt they were at Ferris in each of these courses.

ANALYSIS OF RESULTS

- AVG TIME SINCE COMPLETION OF AAS DEGREE IS 4.84 YEARS
- 43% OF RESPONDENTS HAVE GONE ON TO ADDITIONAL SCHOOLING
- AVG CURRENT SALARY RANGE IS $ 33, 860.00
- AVERAGE RELEVANCE OF COURSES IS 3.80 (4=IMPORTANT, 3=RELEVANT)
- AVERAGE PREPARATION IN COURSES IS 4.07
- FIVE COURSES IDENTIFIED WITH AN AVERAGE RELEVANCE BELOW 3.0 (3=RELEVANT, 2=NOT VERY RELEVANT)

ARCH 244 – HISTORICAL DEVELOPMENT OF WESTERN ARCHITECTURE	2.35
PHYS 211 – INTRODUCTORY PHYSICS 1	2.90
ARCH 280 – ADVANCED PRESENTATION	2.50
ARCH 281 – ADVANCED PRESENTATION 2 (MODELMAKING)	2.00
PSYC 150 – INTRODUCTION TO PSYCHOLOGY	2.42

- NO COURSES IDENTIFIED WITH AN AVERAGE BELOW 3.0 IN PREPARATION

FERRIS STATE UNIVERSITY - 1999 ARCHITECTURAL TECHNOLOGY GRADUATE SURVEY

YEARS SURVEYED 1989-1998

SURVEYS SENT OUT 240 (100% of GRADUATES)

SURVEYS RETURNED 21

RETURNED WITH BAD ADDRESS 1

DATE OF REPORT 28APR99

REV 30APR99 REV 04MAY99

REV 03MAY99 REV 11MAY99

REV 16JUL99

	98	97	96	95	94	93	92	91	90	89	88
YEAR OF GRADUATION	2	4	2		3		2	1	2	2	1

	BS	B-ARCH	MS	M-ARCH	OTHER
OTHER DEGREES					

OTHER	FM	MS	BCT-AS	CM-BS	BLA
	4	1	1	1	1

	BSD HOUSING & URBAN DEVEL
	1

POSITION TITLE	DRAFTSMAN	CAD-OPER	ARCHITECT	ARCH TECH II	CLAIMS ADJUSTER	MECH ENG
	2	1		1	1	1

	SENIOR DESIGNER/PROJ MANG	INTERN ARCH	TECH ED TEACHER	FARM/PLANT MGR
	4	1	1	1

	SUPERVISOR IN TRAINING	AGENT	FACILITY PLANNER	DESIGNER/ESTIMATOR
	1	1	1	1

INITIAL SALARY RANGE	<$20K	$20K-25k	$25K-30K	$30-35K	$35K-40K	$40K-45K	$45K-50K	>$50K
	7	5		1				

CURRENT SALARY RANGE	<$20K	$20K-25k	$25K-30K	$30-35K	$35K-40K	$40K-45K	$45K-50K	>$50K
		1	3	5		3	1	

CAREER AVENUE	CAD-OPER	DRAFTER	PROJ-ARCH	PROJ-MANG
	9		1	5

	SPEC-WRITE	FIELD OBS	DETAILER	FAC-MANG
		2		1

	MECH/ELECT	STRUCT	TEACHER
	2	3	1

RELEVANCE	5=VERY IMPORTANT, 4=IMPORTANT, 3=RELEVANT, 2=NOT VERY RELEVANT, 1=UNIMPORTANT					
	5	4	3	2	1	AVG
ARCHITECTURAL GRAPHICS I	6	10	4			4.50
STRUCTURAL MATERIALS & SYSTEMS	9	5	5	1		4.10
ENGLISH 1	5	11	5	2		3.83
INTERM. ALGEBRA/NUM TRIG	2	7	8	3		3.40
COMPUTER GRAPHICS IN ARCH 1	14	2	3	1		4.45
ARCHITECTURAL CONST DOC. 1	6	10	3			4.16
INTERIOR & EXTERIOR FINISHES	9	4	5	1	1	3.95
COMPUTER GRAPHICS IN ARCH II	15	1	3	1		4.40
HISTORICAL DEVEL OF WEST. ARCH.	1		9	5	5	2.35
ENGLISH 2	2	9	8	1		3.60
INTRODUCTORY PHYSICS I	1	3	11	3	2	2.90
ARCH. DETAILING	11	6	3			4.40
MECH & ELECT. SYSTEMS FOR BLDG	2	10	2	4	2	3.30
STATICS & STRUCTURES	6	6	6	2		3.80
COMMUNICATIONS	7	8	5			4.10
ARCH ELECTIVE						
ARCH 270 ADV. CAD.	2	1	1			4.25
ARCH 241 HOUSE		1				4.00
MODEL MAKING			1	1		2.50
ADV MODEL MAKING				1		2.00
SOLAR DESIGN		1		1		3.00
COMP APPL IN CONST	1					5.00
CONST SCHEDULING		1				4.00
ARCH CONST. DOCUMENTS 2	8	11				4.42
INTRODUCTION TO PSYCHOLOGY	2	2	5	3	7	2.42
PROFESSIONAL PRACTICE	7	8	3			4.22
		AVERAGE RELEVANCE				3.72

PREPARATION	5=VERY WELL PREPARED, 4=WELL PREPARED, 3=FAIRLY PREPARED, 2=BARELY PREPARED, 1=POORLY PREPARED					
	5	4	3	2	1	
ARCHITECTURAL GRAPHICS I	9	10	1			4.40
STRUCTURAL MATERIALS & SYSTEMS	4	13	3			4.05
ENGLISH 1		11	9			3.55
INTERM. ALGEBRA/NUM TRIG	3	7	10			3.65
COMPUTER GRAPHICS IN ARCH 1	10	7	3			4.35
ARCHITECTURAL CONST DOC. 1	6	11	3			4.15
INTERIOR & EXTERIOR FINISHES	2	12	5			3.84
COMPUTER GRAPHICS IN ARCH II	11	9				4.55
HISTORICAL DEVEL OF WEST. ARCH.	2	10	4	4		3.50
ENGLISH 2	1	8	11			3.50
INTRODUCTORY PHYSICS I	1	4	13	1		3.26
ARCH. DETAILING	6	12	2			4.20
MECH & ELECT. SYSTEMS FOR BLDG	3	7	6	1	2	3.42
STATICS & STRUCTURES	4	11	3	2		3.85
COMMUNICATIONS		11	6	1		3.56
ARCH ELECTIVE						
ARCH 270 ADV. CAD.	3	1				4.75
ARCH 241 HOUSE	1					5.00
MODEL MAKING .		2				4.00
ADVANCED MODEL MAKING		1				4.00
SOLAR DESIGN		2				4.00
COMP APPL IN CONST	1					5.00
CONST SCHEDULING		1				4.00
ARCH CONST. DOCUMENTS 2	4	13	3			4.05
INTRODUCTION TO PSYCHOLOGY	2	5	9	1	3	3.10
PROFESSIONAL PRACTICE	6	9	2	1		4.11
		AVERAGE PREPARATION				3.99

FERRIS STATE UNIVERSITY - 1999 ARCHITECTURAL TECHNOLOGY GRADUATE SURVEY
COMMENTS

- Basic drafting skills are a good idea, but I believe more emphasis on CADD is needed. An advanced course in CADD should be required. (Intro to 3d)"

- It would have been nice to be able to continue my education toward becoming a licensed architect @ Ferris

- "In my work, I have found how important computers are in the field. Not only AutoCAD, but also Softdesk, add on packages, Excel, Word, etc. I feel that hand drafting is important, but outdated and inaccurate."

- Computers are everything! Also I greatly appreciate the project of writing a resume' and a portfolio. Each interview I went to, the people there said they were very impressed by it.

- Although I was not hired as an architectural tech. Initially, students need to be told, and the idea stressed that you may have to shovel a lot of dirt and wheel barrow some concrete before you get anywhere in the field or area you want to be in. After being a construction laborer I was hired as an AutoCAD tech in the Watershed Management Dept. and started officially Monday 4-19-99 as the Architectural Tech and when jobs are done I work in the field doing surveying and staking. All this within the same company within 2 years.

- Even though I hated doing them, the 5-12 page research reports on Structural Systems helped me understand things so much ore. So did Roger's lectures on dryvit! Touring the Swan Building and that on house you were working on helps understand the building process.

- The full working set of Arch. Plans needs to be kept in the curriculum. It shows you how much work and research really goes into a project.

- Still enrolled at Ferris. Will be serving an internship position this summer at Ellis/Naeyart/Genheimer Associates as a Facility Planner.

- This survey has shown me that a lot of the things I learned while in the program I use everyday in my work. I feel that with the background I have received from Ferris Architectural Program makes me even a better, well skilled adjuster on my job. In my job I deal with the construction and materials needed to fix or repair peoples homes. The knowledge I have of the types of materials out there help me write my own estimates and help find out what the people I am talking to have damage to by being able to ask the right questions. This is very important due to I am not able to ""see"" what is damaged, I need them to tell me, and without the materials and construction knowledge I have, this would be very difficult. I may not be working for an architectural firm, but I don't feel that my college years where wasted or not well put to use. I probably wouldn't be working in a job like I have, if I hadn't went to school. Thank you to all the great professors."

- Since graduation I have held two different jobs and now I am going to my third job. The companies shut their doors which caused my search for a new job. May 10th I start a job with Pilot Industries of Clare. My title is Manufacturing/Project Engineer. I will be overseeing new additions onto the existing plant.

- Personally I feel that Ferris State and the professors and instructors taught me to be versatile and as the phrase goes "value added". The classes that has affected my jobs and future the most, was CAD classes. Once a person knows AutoCAD it doesn't matter if you are in Arch. or Mech Design, you have a future. I would like to personally thank the whole Arch staff for the challenge. All of you are top notch. Keep up the good work.

- Not really a fair question since I now sell group Life & Health insurance as well as TSA's.

- Even though I have had 10 years of education since I left FSU, I still consider my main college FSU. Ferris' Arch. Tech. Program gave me a great education in which I share with my current students on a daily basis. The hands-on, practical & performance classes which Ferris offers gives its alumni a definite advantage over other University programs. I'm glad to read of the new programs which Arch. Tech has begun. I'm sure they are of great quality also. Hi Mr. Dilg! I think of you & Mr. Kantor often. Tell Sherry and Judy Hi also.

- Bruce, I would like to thank you for everything you did for me throughout my career. I feel that the Arch Tech program was an excellent choice for me. I have excelled above and beyond my co-workers who have much higher college degree's than I do. I contribute this to the technical background I received at Ferris. Based on my experience working with other people who have graduated from a large university like UofM, I received far more technical experience where they received a lot of theory. I have been offered many different jobs in the past three years. Every offer was based on experience and my current position. None of the offers were based on my level of degree received. Thanks again.

- We do the majority of our hiring through two schools. (Ferris & ITT) My immediate supervisor ""Dick Mackey"" has said for as long as I can't remember, that he would hire any Ferris Grad, from the Architectural Program site unseen. ITT students on the other hand we will not hire any grad with less than a 3.5 GPA. I think Ferris does a great job preparing students for the real world of fast track, design build projects, where every job needs to be done yesterday. ITT's program deals more with computer design on a broad basis. They are moving further & further away from architectural design every year.

- I am very happy with the education I received at Ferris & would recommend anyone interested in architecture to utilize Ferris for their Assoc. Degree.

- I feel that Ferris's 2 year Architectural degree was a very good program. The professors were knowledgeable in the field and they brought that to us in the class room. I always felt that they gave me the grade that I desired.

- Students coming out of college do not know how buildings are built. They can draw them but when it comes to the actual erection of the building they are clueless. We have draftsmen that could not build a stud wall, side a house, shingle a roof, etc. Please put more emphasis on how to build. Require courses in the actual construction phase with hands-on experience.

- Sketching, English, Oral Comm., and AutoCAD skills are what I took with me from FSU and they have served me quite well. As a facility planner I use CAD everyday, moving occupants from building to building and constructing office cubicles for my facilities ever changing needs (wants). May I only suggest, to help the Facility students as well as the Architectural students, you help them develop skills in linking MS Database information to CAD drawings. I know you covered this in class, but in AutoCAD 14 it is a little different. We use our database for tracking phone lines with Ameritech as well as tracking our occupant information. Thanks very much Mr. Dilg! For all you taught me and for the way you "turned" me on to learning.

- Ferris State University has a very good program in Architectural Technology. However, it could always be better. FSU needs to apply this degree more towards engineering. I believe that this would greatly improve the job performance & hiring of a graduated student. My job varies in what task I do daily, but for most I work on the computer. Daily tasks vary from preliminary design, const. Doc., engineering, bidding, estimating, & on the site field operation. Out of all my task that I am expected to do, engineering is what I lack most. Currently I am enrolled back in FSU @ the downtown campus for Construction Management. I will start this fall (99) and hopefully I can get my BA in a couple of years. Pioneer plans on paying for my schooling on my performance, which I great and will make me study hard & make me a better student.

SECTION 3
EMPLOYER SURVEY

Methodology:

A survey of employers of graduates of the Architectural Technology program was sent out during the second week of March 1999. The purpose of the survey was to determine satisfaction and perceptions of the Architectural Technology program.

These employers were identified by a listing from the college alumni records of all alumni of the Architectural Technology program from the past 20 years which contained each alumni's "current" employer. From this listing only 84 employers were identified as being in the category of architecture or a real-estate delivery related business. These 84 businesses were not inclusive of Michigan but ranged throughout the continental United States.

The survey was distributed to the 84 architecturally related employers. The response rate was 33%.

The main body of the survey requested that the employers would respond to each statement by assigning a rating based on a 5-point scale. The rating system is as follows:

5 = excellent
4 = good
3 = average
2 = below average
1 = poor
NA = don't know (not counted when means were calculated)

Conclusion:

From the results of the surveys that were completed and returned, our graduates are performing at above average in all the areas questioned. With the highest score being in Use of Technology (4.43), one might conclude that our program more than adequately meets the industry's demand of technological competency in our graduates.

The next highest score occurs in 2 areas: participates as a team player and works well with individuals from diverse backgrounds (4.18).

Even though they are still above average, the lowest ratings occurred in the areas of written/oral communication (3.61) and the ability to identify, organize, plan and allocate resources effectively (3.71).

Although not requested, one survey contained written comments as follows; "He (an AT graduate) is one of our best project managers and is active in the management of our firms. He tells us that Ferris State provided his richest

educational experience. This is a high recommendation for your program. You should be proud."

In a letter received along with a completed survey from a company looking for a 1999 graduate to hire was written the following; "We ... desire a student with the excellent reputation that your program offers. We have employed several students from Ferris State University over the past ten years all of which have worked out very well in our company and have become very good draftsman and team leaders."

An item by item summary of survey results follows along with a sample of a blank survey.

FERRIS STATE UNIVERSITY - COLLEGE OF TECHNOLOGY
CONSTRUCTION AND FACILITIES DEPARTMENT

Average score is based on 28 returned surveys.

Question	Average Score
1. Uses written and oral communication skills effectively.	3.61
2. Possesses adequate technical skills. (Scheduling, budgeting, planning, etc.)	3.69
3. Possesses adequate mathematical skills.	3.93
4. Uses critical thinking, problem solving and decision-making skills.	3.89
5. Exhibits an appropriate level of responsibility and self-management.	4.09
6. Chooses ethical courses of action.	4.21
7. Identifies, organizes, plans, and allocates resources effectively.	3.71
8. Participates as a team player.	4.18
9. Works well with individuals from diverse backgrounds.	4.18
10. Acquires, interprets, and uses information effectively.	3.91
11. Possesses the ability to gain rapport with "clients".	4.11
12. Uses technologies effectively. (e.g., computers, telecommunication, etc.)	4.43
13. Possesses leadership and negotiation skills.	3.73

FERRIS STATE UNIVERSITY - COLLEGE OF TECHNOLOGY
CONSTRUCTION AND FACILITIES DEPARTMENT

Program Review
Associate of Applied Science in Architectural Technology

Tabulation of Responses to the survey

	Competencies and foundation Skills	excellent	good	average	below average	poor	don't know
1	Uses written and oral communication skills effectively.	5	**11**	9	2	1	
2	Possesses adequate technical skills. (scheduling, budgeting, planning, etc.)	4	**12**	10	1	0	1
3	Possesses adequate technical skills. (scheduling, budgeting, planning, etc.)	5	**15**	6	1	0	
4	Uses critical think, problem solving, and decision making skills.	7	**13**	6	2	0	
5	exhibits an appropriate level of responsibility and self management.	10	**12**	5	1	0	
6	Chooses ethical courses of action.	**12**	11	4	1	0	
7	identifies, organizes, plan, and allocates resources effectively.	4	**14**	8	2	0	
8	Participates as team player.	**13**	11	1	2	1	
9	Works well with individuals from diverse backgrounds.	**13**	8	6	1	0	
10	Acquires, interprets, and uses information effectively.	6	**15**	6	1	0	
11	Possesses the ability to gain rapport with "clients".	10	**13**	1	3	0	1
12	Uses technologies effectively. (e.g., computers, telecommunication, etc.)	**16**	9	2	1	0	
13	Possesses leadership and negotiation skills.	4	**13**	10	1	0	

Program Review

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28		
1	4	3	4	4	4	3	2	4	3	5	3	4	5	4	1	4	4	4	3	3	5	4	3	3	3	5	5	2	101	**3.61**
2	3	4	4	3	4	3	3	4	3	5	4	5	3	3	2	4	4	3	4	4	5	3.5	0	3	4	5	4	3	99.5	**3.69**
3	4	4	4	5	4	4	3	4	4	5	4	5	4	3	2	4	4	3	4	5	5	4	4	3	4	5	3	3	110	**3.93**
4	3	3	4	4	4	4	2	4	4	5	4	4	4	4	2	4	5	3	4	5	5	5	3	3	5	5	4	3	109	**3.89**
5	4	3	5	4	4	4	3	3	4	5	4	5	3	4	4	5	5	2	4	5	5	4.5	4	3	4	5	5	4	114.5	**4.09**
6	5	4	5	4	4	4	3	4	3	5	4	5	3	5	4	4	4	2	4	5	5	5	4	3	5	5	5	5	118	**4.21**
7	3	3	4	4	4	3	3	4	3	5	4	5	2	3	2	4	4	3	4	4	5	4	4	3	4	5	4	4	104	**3.71**
8	5	4	5	4	4	4	3	4	5	5	5	5	2	4	5	4	4	1	4	4	5	5	5	2	5	5	4	5	117	**4.18**
9	4	3	5	4	4	4	3	5	5	5	5	5	4	2	4	4	4	3	3	5	5	5	5	3	5	5	3	5	117	**4.18**
10	4	3	4	4	4	4	3	3	4	5	4	4	4	5	1	4	5	3	4	5	5	4.5	4	3	4	5	3	4	109.5	**3.91**
11	3	0	4	4	4	4	2	4	4	5	4	5	5	5	5	4	5	2	4	4	5	5	4	2	4	5	5	4	111	**4.11**
12	4	4	4	4	5	4	4	5	5	5	5	5	3	5	2	5	5	4	5	5	5	5	4	4	5	5	3	5	124	**4.43**
13	3	3	4	4	4	4	2	4	3	5	4	5	4	3	4	4	4	3	4	4	5	3.5	3	3	3	5	4	3	104.5	**3.73**

SECTION 4
Student Survey

Methodology:
A survey of architectural technology students was conducted in the second week of February 1999. The purpose of the survey was to determine satisfaction an d perceptions of the architectural technology program and faculty, equipment and facilities, as well as support coursework and services provided by FSU.

The survey was distributed to all architectural technology students. Care was taken to ensure that each student received only one copy o f the survey and that only architectural technology students were surveyed. The results of the survey were tabulated separately for the first year and second year students and then combined. The number of respondents in each category are as follows:

First Year:	31
Second Year:	23
TOTAL:	54

The first set of questions, numbered 2 through 5 were fill in. The results of the student responses were classified into groups and then tabulated. The main body of the survey requested that students respond to each statement by assigning a rating on a 5 point scale. The rating system is as follows:

5 = excellent
4 = good
3 = average
2 = below average
1 = poor
? = don't know (not counted when means were calculated)

At the end of the survey a space was provided for student comments. These are recorded verbatim at the end of the report.

Results:
Most students appear satisfied with the program. Good comments were received for both the program itself and the faculty. Some areas which repeatedly surfaced as areas with which the students have concerns are: 1) the computer equipment, 2) the amount of hours the computer labs are open, 3) the times the computer labs are open, and 4) that opportunities for further study in the field of architecture be available at FSU.

Question by Question Tabulation of Results of Student Survey

1. What is your current academic status within the AT program?(circle answer)

first year 31 second year 23 TOTAL 54

2. Why did you choose to attend FSU?

•	architectural technology program	first year	17	second year	7	TOTAL 24
•	close to home	first year	7	second year	5	TOTAL 12
•	location	first year	1	second year	5	TOTAL 6
•	scholarship	first year	1	second year	3	TOTAL 4
•	family	first year	2	second year	1	TOTAL 3
•	construction management program	first year	2	second year	1	TOTAL 3
•	facilities management program	first year	2	second year	0	TOTAL 2
•	cost	first year	1	second year	1	TOTAL 2
•	recommended	first year	0	second year	2	TOTAL 2
•	family housing	first year	0	second year	1	TOTAL 1
•	size of school	first year	0	second year	1	TOTAL 1
•	pharmacy program	first year	0	second year	1	TOTAL 1
•	away from home	first year	1	second year	0	TOTAL 1
•	friends	first year	1	second year	0	TOTAL 1
•	job placement	first year	1	second year	0	TOTAL 1
•	surveying program	first year	1	second year	0	TOTAL 1
•	learn English better	first year	1	second year	0	TOTAL 1

3. Are you satisfied with your decision to attend FSU?

YES	first year	21	second year	17
NO	first year	4	second year	0
YES AND NO	first year	6	second year	6

Why YES?

•	good program	first year	5	second year	9	TOTAL 14
•	faculty	first year	3	second year	7	TOTAL 10
•	made friends	first year	2	second year	1	TOTAL 3
•	career planning	first year	2	second year	1	TOTAL 3
•	small classes	first year	1	second year	1	TOTAL 2
•	good education/start	first year	2	second year	0	TOTAL 2
•	good technical experience	first year	1	second year	0	TOTAL 1
•	cost	first year	1	second year	0	TOTAL 1
•	location	first year	1	second year	0	TOTAL 1
•	atmosphere	first year	1	second year	0	TOTAL 1
•	know everyone	first year	0	second year	1	TOTAL 1
•	equipment	first year	1	second year	0	TOTAL 1
•	extracurricular activities	first year	0	second year	1	TOTAL 1

Why NO?

- need BA in Architecture — first year 0 — second year 3 — TOTAL 3
- poor equipment — first year 1 — second year 2 — TOTAL 3
- hard to transfer after done — first year 2 — second year 1 — TOTAL 3
- atmosphere — first year 2 — second year 0 — TOTAL 2
- need more career counseling — first year 0 — second year 1 — TOTAL 1
- poor social opportunities — first year 0 — second year 1 — TOTAL 1
- parking — first year 0 — second year 1 — TOTAL 1
- room and board problems — first year 0 — second year 1 — TOTAL 1
- FSU too small — first year 1 — second year 0 — TOTAL 1
- need more design in program — first year 1 — second year 0 — TOTAL 1
- not ready for college — first year 1 — second year 0 — TOTAL 1
- don't like classes — first year 1 — second year 0 — TOTAL 1
- labs/library close too early — first year 1 — second year 0 — TOTAL 1

4. Why did you choose to study Architectural Technology?

- interested me — first year 27 — second year 19 — TOTAL 41
- like to be creative — first year 12 — second year 2 — TOTAL 14
- necessary for facilities management — first year 1 — second year 1 — TOTAL 2
- like construction — first year 0 — second year 1 — TOTAL 1
- to learn CAD — first year 1 — second year 0 — TOTAL 1

5. Are you satisfied with your decision to study Architectural Technology?

YES — first year 28 — second year 19 — TOTAL 47
NO — first year 2 — second year 1 — TOTAL 3
YES AND NO — first year 1 — second year 3 — TOTAL 4

Why?

- challenging — first year 8 — second year 6 — TOTAL 14
- fun — first year 6 — second year 6 — TOTAL 12
- good professors — first year 2 — second year 3 — TOTAL 7
- good prep for facilities management — first year 1 — second year 1 — TOTAL 2
- good prep for construction mgmt — first year 0 — second year 1 — TOTAL 1

Why not?

- need bachelors degree — first year 0 — second year 3 — TOTAL 3
- not right program for me — first year 2 — second year 0 — TOTAL 2
- need better equipment — first year 0 — second year 1 — TOTAL 1
- need more tutors — first year 0 — second year 1 — TOTAL 1
- poorly organized program — first year 0 — second year 1 — TOTAL 1
- needs to be more flexible, allow more exploration and experimentation of other career options — first year 1 — second year 0 — TOTAL 1
- some instructors expect students to know material already and teach classes — first year 0 — second year 1 — TOTAL 1
- more advise on how to use degree — first year 1 — second year 0 — TOTAL 1

1. Who most influenced you to attend FSU.

A. high school counselor	first year 1	second year 0	TOTAL 1
B. parent(s)	first year 12	second year 4	TOTAL 16
C. friend	first year 5	second year 2	TOTAL 7
D. FSU staff on visit to FSU	first year 2	second year 2	TOTAL 4
E. other	first year 11	second year 15	TOTAL 26

2. If you answered "other" to question 1, please write what the other factor was in the space provided. _____

• myself	first year 2	second year 6	TOTAL 8
• arch tech degree	first year 3	second year 1	TOTAL 4
• high school teacher	first year 2	second year 2	TOTAL 4
• near home	first year 1	second year 2	TOTAL 3
• cost	first year 0	second year 1	TOTAL 1
• family	first year 0	second year 1	TOTAL 1
• architects	first year 0	second year 1	TOTAL 1
• poor grades	first year 1	second year 0	TOTAL 1
• away from home	first year 1	second year 0	TOTAL 1
• school in Brazil	first year 1	second year 0	TOTAL 1

3. What most influenced you to attend FSU.

A. cost	first year 1	second year 2	TOTAL 3
B. reputation	first year 3	second year 2	TOTAL 5
C. program/degree offerings	first year 18	second year 11	TOTAL 29
D. location	first year 7	second year 6	TOTAL 13
E. other	first year 2	second year 2	TOTAL 4

4. If you answered "other" to question 3, please write what the other factor was in the space provided. _____

• housing	first year 1	second year 1	TOTAL 2
• small class sizes	first year 0	second year 1	TOTAL 1

The responses to the following questions 5 through 42 are shown with three different suffixes. A "**F**" suffix indicates the responses of first year students. A "**S**" indicates the responses of second year students. A "**T**" indicates the responses of first and second year students combined.

	Excellent "5"	good "4"	average "3"	below average "2"	poor "1"	don't know
COURSES IN YOUR PROGRAM AREA ARE:						
5. Available and conveniently located.	9f/6s	12f/10s	8f/6s	1f/0s	1f/1s	-/-
Means: 3.9f/3.9s/ 3.9t	**15t**	**22t**	**14t**	**1t**	**2t**	-
6. Based on realistic prerequisites.	7f/3s	18f/18s	3f/2s	2f/-	-/-	1f/-
Means: 4.0f/4.0s/ 4.0t	**10t**	**36t**	**5t**	**2t**	-	**1t**
WRITTEN OBJECTIVES FOR COURSES IN YOUR PROGRAM:						
7. Are available to students.	9f/6s	17f/13s	4f/3s	-/1s	1f/-	-/-
Means: 4.1f/4.0s/ 4.1t	**15t**	**30t**	**7t**	**1t**	**1t**	-
8. Describe what you will learn in the course.**Means: 4.1f/4.3s/ 4.2t**	8f/8s **16t**	18f/14s **32t**	5f/0s **5t**	-/1s **1t**	-/- -	-/- -
9. Are used by instructor to keep students aware of their progress.	6f/4s	12f/9s	9f/9s	3f/1s	1f/-	-/-
Means: 3.6f/3.7s/ 3.6t	**10t**	**21t**	**18t**	**4t**	**1t**	-

	Excellent "5"	good "4"	average "3"	below average "2"	poor "1"	don't know
TEACHING METHODS, PROCEDURES, AND COURSE CONTENT IN PROGRAM AREA:						
10. Meet projected student career needs, interests, and objectives.	10f/6s 16t	12f/10s 22t	5f/7s 12t	1f/- 1t	1f/- 1t	2f/- 2t
Means: 4.0f/4.0s/ 4.0t						
11. Provide supervised practice for developing skills.	11f/9s 20t	11f/7s 18t	5f/7s 12t	3f/- 3t	1f/- 1t	-/- -
Means: 3.9f/4.1s/4.0t						
PROGRAM FACULTY:						
12. Know the subject matter and occupational requirements.	17f/8s 25t	8f/13s 21t	6f/2s 8t	-/- -	-/- -	-/- -
Means: 4.3f/4.3s/ 4.3t						
13. Are available to provide help when needed. **Means: 4.1f/4.0s/ 4.0t**	10f/7s 17t	14f/9s 23t	7f/6s 13t	-/1s 1t	-/- -	-/- -
14. Provide instruction so it is interesting and understandable.	8f/3s 11t	11f/11s 22t	9f/5s 14t	3f/2s 5t	-/- -	-/- -
Means: 3.8f/3.5s/ 3.6t						
RELATED COURSE FACULTY (such as English, math, science, etc.)						
15. Know the subject matter and occupational requirements.	10f/3s 13t	12f/9s 21t	8f/11s 19t	1f/- 1t	-/- -	-/- -
Means: 4.0f/3.7s/ 3.8t						
16. Are available to provide help when needed. **Means: 3.8f/3.6s/ 3.7t**	6f/3s 9t	14f/10s 24t	10f/7s 17t	1f/3s 4t	-/- -	-/- -
17. Provide instruction so it is interesting and understandable.	3f/2s 5t	13f/6s 19t	10f/11s 21t	5f/4s 9t	-/- -	-/- -
Means: 3.4f/3.3s/ 3.4t						
PROGRAM COMPUTER LABORATORIES:						
18. Provide adequate lighting, ventilation, etc.	8f/3s 11t	17f/11s 28t	4f/8s 12t	1f/1s 2t	-/- -	-/- -
Means: 3.9f/3.7s/ 3.8t						
19. Include enough work stations for students enrolled in courses.	6f/3s 9t	10f/9s 19t	6f/6s 12t	6f/4s 10t	3f/1s 4t	-/- -
Means: 3.3f/3.4s/ 3.4t						
20. Are safe, functional, and well maintained.	7f/- 7t	14f/11s 25t	7f/7s 14t	2f/3s 5t	1f/2s 3t	-/- -
Means: 3.8f/3.2s/ 3.5t						
21. Are open adequate hours.	3f/4s 7t	8f/4s 12t	8f/5s 13t	6f/6s 12t	6f/4s 10t	-/- -
Means: 2.9f/2.9s/ 2.9t						
22. Are open at times when students are most likely to use them.	5f/3s 8t	6f/9s 15t	10f/3s 13t	5f/5s 10t	5f/3s 8t	-/- -
Means: 3.0f/3.0s/ 3.0t						
OTHER PROGRAM LABORATORIES:						
23. Provide adequate lighting, ventilation, etc.	7f/2s 9t	11f/9s 20t	7f/11s 18t	-/- -	-/- -	5f/1s 7t
Means: 4.0f/3.6s/ 3.8t						
24. Include enough work stations for students enrolled. **Means: 3.6f/3.4s/ 3.5t**	6f/3s 9t	8f/6s 14t	7f/9s 16t	1f/3s 4t	2f/- 2t	7f/2s 9t
25. Are safe functional, and well maintained.	5f/2s 7t	10f/9s 19t	6f/11s 17t	2f/- 2t	1f/- 1t	7f/1s 8t
Means: 3.7f/3.6s/ 3.6t						
26. Are open adequate hours.	4f/1s 5t	6f/2s 8t	8f/13s 21t	3f/4s 7t	2f/1s 3t	8f/2s 10t
Means: 3.3f/2.9s/ 3.1t						
27. Are open at times when students are most likely to use them.	3f/2s 5t	8f/8s 16t	8f/7s 15t	2f/2s 4t	2f/1s 3t	8f/3s 11t
Means: 3.3f/3.4s/ 3.3t						

	Excellent "5"	good "4"	average "3"	below average "2"	poor "1"	don't know
RELATED COURSE CLASSROOMS:						
28. Provide adequate lighting, ventilation, etc.	6f/5s	19f/12s	5f/4s	1f/-	1f/1s	-/-
Means: 4.0f/3.7s/ 3.9t	**11t**	**31t**	**9t**	**1t**	**2t**	-
29. Include enough seats, desks, tables, etc. for students enrolled.	8f/5s	15f/10s	8f/5s	-/3s	-/-	-/-
	13t	**25t**	**13t**	3t	-	-
Means: 4.0f/3.7s/ 3.9t						
30. Are safe, functional, and well maintained.	5f/5s	18f/10s	6f/6s	-/2s	-/-	-/-
Means: 3.7f/3.8s/ 3.7t	**10t**	**28t**	**12t**	**2t**	-	-
OTHER PROGRAM CLASSROOMS:						
31. Provide adequate lighting, ventilation, etc.	7f/5s	14f/9s	7f/9s	-/-	-/-	3f/-
Means: 4.0f/3.8s/ 3.9t	**12t**	**23t**	**16t**	-	-	**3t**
32. Include enough seats, desks, tables, etc. for students enrolled.	7f/4s	13f/9s	8f/7s	-/3s	-/-	3f/-
	11t	**22t**	**15t**	**3t**	-	**3t**
Means: 4.0f/3.6s/ 3.8t						
33. Are safe, functional, and well maintained.	7f/4s	15f/10s	6f/7s	-/1s	-/-	3f/1s
Means: 4.0f/3.8s/ 3.9t	**11t**	**25t**	**13t**	**1t**	-	**4t**
PROGRAM INSTRUCTIONAL EQUIPMENT IS:						
34. Current and representative of industry.	6f/3s	19f/5s	4f/9s	-/4s	1f/2s	1f/-
Means: 4.0f/3.1s/ 3.6t	**9t**	**24t**	**13t**	**4t**	**3t**	**1t**
35. In sufficient quantity to avoid long delays in use. **Means: 3.8f/3.0s/ 3.5t**	4f/2s	21f/4s	4f/11s	1f/3s	1f/3s	-/-
	6t	**25t**	**15t**	**4t**	**4t**	-
36. Safe and in good condition.	5f/2s	21f/8s	4f/8s	-/3s	1f/2s	-/-
Means: 3.9f/3.2s/ 3.6t	**7t**	**29t**	**12t**	**3t**	**3t**	-
INSTRUCTIONAL MATERIALS (i.e., textbooks, reference books, etc.) ARE:						
37. Current and meaningful to the subject.	8f/6s	13f/7s	8f/9s	-/1s	1f/-	1f/-
Means: 3.9f/3.8s/ 3.8t	**14t**	**20t**	**17t**	**1t**	**1t**	**1t**
38. Available and conveniently located for use. **Means: 3.7f/3.0s/ 3.4t**	8f/3s	12f/3s	7f/10s	3f/5s	1f/2s	-/-
	11t	**15t**	**17t**	**8t**	**3t**	-
INSTRUCTIONAL SUPPORT SERVICES (i.e., tutoring, lab assistance, etc.) ARE:						
39. Available to meet student needs and interests. **Means: 3.8f/3.1s/ 3.5t**	5f/3s	11f/3s	7f/10s	-/3s	1f/2s	7f/2s
	8t	**14t**	**17t**	**3t**	**3t**	**9t**
40. Provided by knowledgeable and interested staff. **Means: 3.9f/2.3s/ 3.6t**	6f/3s	9f/3s	6f/9s	1f/3s	-/2s	9f/4s
	9t	**12t**	**15t**	**4t**	**2t**	**13t**
PLACEMENT SERVICES ARE AVAILABLE TO:						
41. Help students identify employment opportunities. **Means: 3.6f/3.0s/ 3.4t**	6f/3s	8f/5s	8f/4s	1f/4s	2f/2s	6f/4s
	9t	**13t**	**13t**	**5t**	**4t**	**10t**
42. Help students prepare to apply for job applications. **Means: 3.5f/3.5s/ 3.5t**	7f/3s	4f/7s	7f/7s	3f/3s	2f/-	8f/3s
	10t	**11t**	**14t**	**6t**	**2t**	**11t**

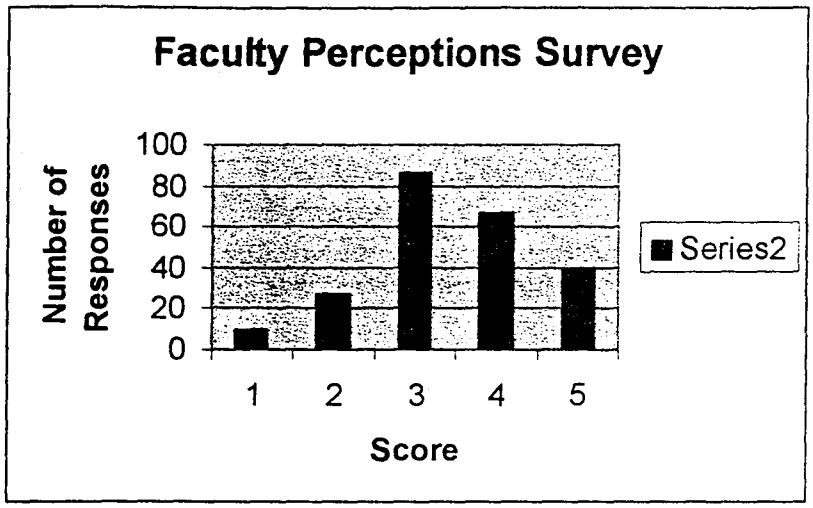
COMMENTS FROM FIRST YEAR STUDENTS:

- ARCH 100 needs to have tutors in the labs after 6:00 pm because sometimes when I get an assignment I can't complete it because there is no one there to help and my teacher goes through the material too quick, so I'm left to figure it out or get an incomplete.
- Vellum, blue line print paper, and tracing paper should be provided to first year students at least in ARCH 101 and ARCH 102.
- I like the program and I've learned a lot of information from Mr. Samson, he's my favorite teacher because he always makes sure his students understand before moving on.
- I think the program provides a great base for further study in architecture. We gain a lot of useful knowledge. I think the staff does a good job instructing us. The university should really consider a bachelor's degree.
- With regard to Question #34. Good/Better plotting device is needed for larger print documents. Current device is old and works some of the time. New or improved plotting device suggested.
- My high school had better computers.

- Our class rooms and labs are very cold and the labs should be open later on the weekends for students to work.
- More prerequisites or more helpful teachers for ARCH 102. A lot of kids and I in my class are pretty clueless, even though we did well in other classes.
- Labs are overbooked during the day so that students from other classes can't use them for reference or projects.
- The classrooms and labs are always too cold in the winter. The labs should remain open longer during the week and on weekends. Saturday and Sunday are good homework days and the labs are not open long enough.
- The computer labs need to have longer hours on weeknights and weekends. The current hours do not take into account students who have a job or other classes.
- The teaching methods should be up to date with the current job field. For example, we will never do hand drafting in an office when Auto CAD is the way all offices do things now. Hand drafting in more than one semester is a waste of time and it proves nothing helpful to our graduating into the real world. This being the case, we need many more computers available so that we actually can learn what we will be doing when we graduate.

COMMENTS FROM SECOND YEAR STUDENTS:

- I think the school bookstore situation is awful. When I go in to buy a book and they don't have it, it just adds stress to students. This has happened to me every year since attending Ferris and this is my third year here. The whole point of pre-ordering books is to reserve yours. Well the first and last time I pre-ordered books, 4 of them were not in.
- Faculty is great. Computer labs need a lot of work. Few tutoring options. Tutoring center needs to be more involved. Please get BA program. Get zip drives on computers. Don't tell me there is no money to do it, because $5,000 of my money goes to tuition. I should at least get adequate equipment.



1=poor
2=below expectations
3=acceptable
4=good
5=excellent

The average score overall was 3.43. This can be analyzed according to the major section headings of (a)Goals and Objectives, (b)Processes, and (c)Resources. For category (a) the average score was 3.14, category (b) the score was 3.57 and for category (c) the score was 3.39.

The Architectural Technology faculty were asked to fill out a questionnaire rating their perceptions of the Architectural Technology program. The survey instrument was the PROE document. Six faculty members completed the survey. The ratings of the questions is shown above with the accompanying chart.

The resulting analysis focuses on a broad evaluation of the three survey categories of (a) goals and objectives, (b) processes, and (c) resources, and on a specific evaluation of individual question responses.

Responses on individual questions show a high degree of satisfaction (response between 4 and 5) in the following areas:

-Relevance of supportive courses
-Program availability and accessibility
-Efforts to achieve sex equity
-Student placement effectiveness
-Qualifications of instructional staff
-Professional development opportunities
-Scheduling of instructional facilities
-Adequacy of instructional materials

Based on the above, it appears that the AT program is doing an excellent job of educating students. The instructional staff is well qualified, and does a good job both in teaching and advising.

Several areas received low marks (less than 3) by the faculty. Those areas are as follows:

-Provision for work experience, cooperative education or clinical experience
-Student follow-up system
-Use of student follow-up information
-Uses of instructional support staff
-Use of clerical support staff
-Provisions in capital outlay budget for equipment
-Provision for leadership and coordination
-Qualifications of administrators and/or supervisors

Specifically, three questions received the lowest overall marks, namely:

-Provision for work experience, cooperative education or clinical experience
-Use of instructional support staff
-Provisions in capital outlay budget for equipment

In terms of a measure of faculty evaluation and support for broad program characteristics the highest average score (3.57) occurs for the Processes category which relate most directly to instructional activities and support. The Resources category received the next highest score of 3.39. This score was negatively impacted by two questions which received the lowest overall marks. Finally, the category receiving the lowest overall score (3.14) was the Goals and Objectives category. This may reflect an underlying lack of support for, understanding of, or input into the vision of the program and its future directions.

Ferris State University

Physical Sciences Department

To: Architectural Technology/Facilities Management Program Faculty

From: Charles R. Bacon, Professor of Physics & Chemistry

Subject: Academic Program Review: Faculty Perceptions Survey

Date: April 30, 1999

Scoring: 1=poor, 2=below expectations, 3=acceptable, 4=good, 5=excellent, blank=don't know.

Goals and Objectives	1	2	3	4	5	DK	AVG SCORE
1. Participation in development of college Occupational education program plan.	1		3	2			3.0
2. Program goals.	1		3	2			3.0
3. Course objectives.		1	2	3			3.33
4. Competency based performance objectives.		2	2	1	1		3.17
5. Use of competency based performance objectives.		2	2	2			3.0
6. Use of information on labor market needs.		1	3	1	1		3.33
7. Use of information on job performance requirements.		1	4	1			3.0
8. Use of profession/industry standards.			2	3		1	3.6
9. Use of student follow-up information.		2	3	1			2.83

Ferris State University

Physical Sciences Department

Processes	1	2	3	4	5	DK	AVG SCORE
10. Adaptation of instruction.			4	2			3.33
11. Relevance of supportive courses.			1	1	3	1	4A
12.Coordination with other community agencies and educational programs.		1	2	2		1	3.4
13.Provision for work experience, cooperative education or clinical experience.	1	2	2			1	2.2
14.Program availability and accessibility.			2	2	2		4.0
15.Provision for the disadvantaged.	1		2	2	1		3.3
16.Provision for the handicapped.			2	2		2	3.5
17.Efforts to achieve sex equity.			2	1	3		4.16
18.Provision for program advisement.			1	2	3		4.3
19.Provision for career planning and guidance.			1	2	3		4.3
20.Adequacy of career planning and guidance.		1		5			3.67
21.Provision for employability information.		1	1	2	2		3.83
22.Placement effectiveness for students in this program.		1	1	1	3		4.0
23.Student follow-up system.		2	3	1			2.83
24.Promotion of this program.		2	1	2		1	3.0

Ferris State University

Physical Sciences Department

Resources	1	2	3	4	5	DK	AVG.
25.Provision for leadership and coordination.	1		4	1			2.83
26.Qualifications of administrators and/or supervisors.	1	1		2	1		2.67
27.Instructional staffing.			3	2	1		3.67
28.Qualifications of instructional staff.			3		3		4.0
29.Professional development opportunities.			2	2	2		4.0
30.Use of instructional support staff.	2	1	2			1	2.0
31.Use of clerical support staff.		3	1	2			2.83
32.Adequacy and availability of instructional equipment.			3	1	2		3.83
33.Maintainence and safety of instructional equipment.		1	3	2			3.17
34.Adequacy of instructional facilities.		1	3	2			3.17
35.Scheduling of instructional facilities.			1	3	1	1	4.0
36.Adequacy and availability of instructional materials and supplies.			2	2	2		4.0
37.Adequacy and availability of learning resources.			3	1	2		3.83
38.Use of advisory committees.			1	1	4		4.5
39.Provisions in current operating budget.			3	3			3.5
40.Provisions in capital outlay budget for equip.	2	1	3				2.17

Ferris State University

Physical Sciences Department

Comments: Compilation of all comments.

1. What are the chief occupational education strengths of your program?

Strong, practical, up-to-date course content. Well defined student will statements. Close interaction between student and instructor both in the classroom and in an advising format. Solid hands-on instruction and learning. Employment of licensed architects as faculty. Real world nature of courses. Use and integration of CAD. Student comes out with good CAD skills and have an understanding of construction process. Faculty-all of faculty are registered architects with "real world" experience. Computer Technology-in spite of, not because of university initiatives. Combination of hand drafting and computer aided drafting skill based training. Technology education. AutoCAD training. Much hands on work. Projects give students a good idea of what to expect in a job. All faculty have practical experience. Uses CAD and hand techniques. Requires problem solving.

2. What are the major needs for improvement in your program and what action is required to achieve these improvements?

Better organization of resources/restudy-redesign spaces. Better recruiting/develop stronger relationships with high schools. Curriculum needs to be re-addressed to update it and provide better coordination between courses. Equipment maintainance-faster response and communication from technical support people. Better computer support: funding for new hardware and software(continuous), better technical support. Funding for recruiting (continuous). Funding for faculty development (currently out of S&E). Staff (secretarial) assistance. Develop trust and team spirit amoung faculty group. Better leadership. Expansion of program to BS level. Faculty integration of planning rather than power brokering. Accountability through means such as accreditation. Curriculum response to changing needs of profession. Better integration with other construction department faculty and programs. Continued development and consistent application of classroom standards relating to the architectural profession. Cross collaboration of course content within the AT program. Review and integration of current teaching and learning styles. Application of student will statements.

The Ferris State University Architectural Technology Program Advisory Committee Survey was administered to fourteen board members. The response rate was 79%. The results can be broken down into four categories: program, market, facilities and faculty.

Program

The survey indicated that all members felt the skills and training needed by the profession and provided by the Architectural Technology program is above average (good to excellent). About 64% felt that the curriculum is above average and meets the needs of the industry. Graduates are viewed as prepared to go to work and 84% thought the graduates are above average. The perceived financial support of the program by the university is unknown to most members with a ranking of 82% indicating that they do not know.

Market

Most members (64%) thought that the market demand is higher than average for students from the program and would be interested in hiring a graduate. The respondents, however, are less knowledgeable about the adequate number of graduates with a 90% ranking at average or below. About half (55%) rank the program above average about graduates as competitive to similar programs at other universities.

Facilities

The board members indicate that the majority do not know about the physical facilities of the program. Forty-five percent of the members indicate they do not know about the adequacy of the computer facilities. In regards to the laboratory facilities, 73% do not know if they are adequate for the program.

Faculty

The members give a high rank of 82% (above average) about the adequacy, credentials and experience of the faculty. On the other hand, 64% of the members respond that they do not know if the program has an adequate number of faculty or institutional support for faculty professional development and continued education.

Summary

The adequacy of the faculty and the skills and training provided by the program receives the highest rankings. Additional knowledge is needed by the board members about: the financial support the program receives from the university, adequate number of graduates, and a better understanding about the physical facilities.

SECTION 7
Labor Market Analysis

According to the *1998-99 Occupational Outlook Handbook (OOH)*, there will be little change in the employment outlook for Architectural Technologists, which the OOH refers to as 'Architectural Drafters'. They predict an increase of 2.3% from 1996 to 2006 in "Drafters" which amounts to a projection of 68,000 job openings. Summary of the data from the *1998-99 Occupational Outlook Handbook (OOH)* may be seen on the next page. There will be some changes, however, in the skills that will be demanded of these technicians. Specifically, there will be the most demand for individuals with proficiency in CAD systems. Interestingly, an expectation that individuals will possess a good understanding of basic drafting principles will also remain.

As has been the case in the past, most jobs will remain directly or indirectly linked to the cyclical construction industry. This could result in a larger percent of total Architectural Technologists working in temporary or contract positions, reflecting the trend that has become evident in many industries impacted by economic fluctuations.

These technicians also have the option for moving into other industries besides traditional architecture, construction, and engineering. Some of these other industries include durable goods manufacturing (machinery, electrical equipment, and fabricated metals), communications, utilities, and personnel supply services.

The experience of graduates from the Ferris State University Architectural Technology program has shown that students wanting employment in architectural technology can find employment. Many openings are left unfilled by our graduates as graduates opt to continue their education. A common path for our graduates is to ladder into the Facilities Management program. Other options taken by our graduates is to enter the Construction Management program or transfer to an accredited Architecture program to become a registered architect.

[Accessibility Information]

Employment Projections BLS

Technicians and related support occupations: 1996 and projected 2006 employment

This file represents part of *Table 2, Employment by occupation, 1996 and projected 2006,* in "Occupational projections to 2006," published in the November 1997 *Monthly Labor Review*. The table is too large to place in one file and be easily read over the internet. This file contains data for Technicians and related support occupations.

Download the entire table

Other major occupational groups

- Executive, administrative, and managerial
- Professional specialty occupations
- Marketing and sales occupations
- Administrative support occupations, including clerical
- Service occupations
- Agriculture, forestry, fishing, and related occupations
- Precision production, craft, and repair occupations
- Operators, fabricators, and laborers

Table 2. Employment by occupation, 1996 and projected 2006
(Numbers in thousands of jobs)

Occupation	Employment				Change		Total job openings due to growth and net replacements, 1996-2006[1]
	Number		Percent distribution		Number	Percent	
	1996	2006	1996	2006			
Total, all occupations	132,353	150,927	100.0	100.0	18,574	14.0	50,563
Technicians and related support occupations	4,618	5,558	3.5	3.7	940	20.4	1,927
Health technicians and technologists	2,301	2,872	1.7	1.9	571	24.8	1,011
Cardiology technologists	17	23	0.0	0.0	6	34.9	9

Clinical laboratory technologists and technicians	285	328	0.2	0.2	42	14.9	70
Dental hygienists	133	197	0.1	0.1	64	48.2	104
Electroneurodiagnostic technologists	6	8	0.0	0.0	2	24.0	3
EKG technicians	15	11	0.0	0.0	-4	-24.2	3
Emergency medical technicians	150	217	0.1	0.1	67	45.1	96
Licensed practical nurses	699	848	0.5	0.6	148	21.2	296
Medical records technicians	87	132	0.1	0.1	44	50.9	61
Nuclear medicine technologists	13	15	0.0	0.0	2	13.3	4
Opticians, dispensing and measuring	67	76	0.1	0.1	9	14.1	24
Pharmacy technicians	83	92	0.1	0.1	9	11.1	25
Psychiatric technicians	66	72	0.1	0.0	6	9.1	15
Radiologic technologists and technicians	174	224	0.1	0.1	50	28.9	77
Surgical technologists	49	64	0.0	0.0	15	31.9	25
Veterinary technicians and technologists	27	34	0.0	0.0	7	27.4	13
All other health professionals and paraprofessionals	430	531	0.3	0.4	101	23.5	185
Engineering and science technicians and technologists	1,236	1,342	0.9	0.9	106	8.6	378
Engineering technicians	698	767	0.5	0.5	70	10.0	228
Electrical and electronic technicians and technologists	297	341	0.2	0.2	43	14.5	121
All other engineering technicians and technologists	400	427	0.3	0.3	26	6.6	107
Drafters	310	317	0.2	0.2	7	2.3	68
Science and mathematics technicians	228	258	0.2	0.2	29	12.9	82
Technicians, except health and engineering and science	1,082	1,345	0.8	0.9	263	24.3	538
Aircraft pilots and flight engineers	110	125	0.1	0.1	15	13.8	38
Air traffic controllers and airplane dispatchers	29	29	0.0	0.0	0	-0.3	8
Broadcast technicians	46	53	0.0	0.0	7	15.1	20
Computer programmers	568	697	0.4	0.5	129	22.8	306

Legal assistants and technicians, except clerical	221	310	0.2	0.2	90	40.7	112
Paralegals	113	189	0.1	0.1	76	67.7	86
Title examiners and searchers	26	29	0.0	0.0	3	13.4	6
All other legal assistants, including law clerks	82	92	0.1	0.1	10	12.1	20
Programmers, numerical, tool, and process control	7	7	0.0	0.0	0	5.7	2
Technical assistants, library	78	100	0.1	0.1	22	28.0	44
All other technicians	24	23	0.0	0.0	0	-2.0	7

[1] Total job openings represent the sum of employment increases and net replacements. If employment change is negative, job openings due to growth are zero and total job openings equal net replacements.

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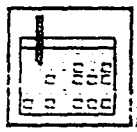
Employment Projections Home Page


BLS Home Page

Occupational Outlook Program
Bureau of Labor Statistics
OOHInfo@bls.gov
Last modified: July 17, 1998
URL: http://stats.bls.gov/emptab23.htm

95-96

LNAME	FNAME	Employer Name	Occupation	BCITY	BSTATE
Butterly	Kristin				
Clary	David	CB Financial Corp	Corporate Facilities Mgr	Jackson	MI
Clements	Mark	Centerline Gage	Builder		
Cock	Jeffrey	Peninsula Contruction	Architectural Work	Traverse City	MI
Coon	Peter				
Flanders	James				
Greenfield	Chris	Ledy Design Group	Architectural Designer		
Husocki, Jr.	James				
Hyma-Deck	Paula	Standard Federal Bank	Facilities Coordinator	Troy	MI
Lyons	Cory				
Martin	Filip				
Paull	Julie				
Perry	Roy				
Peterson, II	Norman	Wickes Lumber	Kitchen & Bath Specialist	Cadillac	MI
Powers	Michael				
Saxton	Joshua	Saxton Construction	Contractor		
Schinderle	Robert				
Schneider	Michael	Ferris State University	Student/Works at	Big Rapids	MI
Shaw	Kevin				
Wehner	Kenneth				
White	Robbie				
Zietz	Jason				

FLNAME	FFNAME	Degree	Date	Employer Name	Occupation	BCITY	BST	BZIP
Baker	Kelly	A.A.S.	5/10/97					
Barrette	Shani	A.A.S.	5/10/97					
Breimayer	Matthew	A.A.S.	5/10/97					
Burton	Daniel	A.A.S.	5/10/97	Diehm Construction	Residential Designer	Mecosta	MI	
Claycaugh	Joseph	A.A.S.	12/14/96					
Demarrow	Jodi	A.A.S.	8/8/96					
Gray	Zane	A.A.S.	5/10/97					
Haluska	Eric	A.A.S.	5/10/97					
Hedrick	Amy	A.A.S.	5/10/97	Spicer Eng	Tech	Saginaw	MI	48605
Holverstott	Cory	A.A.S.	5/10/97					
Korcek	Daniel	A.A.S.	12/14/96	Rockford Construction	Construction Supt	Grand Rapids	MI	
McNatt	Jason	A.A.S.	5/10/97					
Meekhof	Dennis	A.A.S.	5/10/97	Riebschleger & O'Brien	Draftsman	Houghton Lake	MI	
Moyer	Michael	A.A.S.	5/10/97					
Price	Timothy	A.A.S.	5/10/97	Ferris State University	CAD Operator	Big Rapids	MI	49307
Raycraft	Roger	A.A.S.	5/10/97					
Salisbury	Kevin	A.A.S.	12/14/96	The Delfield Co.	Draftsman	Mt. Pleasant	MI	48858
Sandifer	Andre	A.A.S.	12/14/96	DTS Architects	Project Mgr	Grand Rapids	MI	
Schulz	Bryan	A.A.S.	5/10/97	MacMillan Assoc.	CAD Specialist	Bay City	MI	48706
Severson	Brett	A.A.S.	12/14/96					
Sorrels	Renee	A.A.S.	5/10/97					
Spedowski	Jennifer	A.A.S.	5/10/97	Advanced Technologies	CAD Operator	Lombard	IL	
Spitzley	Jessica	A.A.S.	5/10/97					
Van Driesse	Julie	A.A.S.	5/10/97					
Vaeghe	Shane	A.A.S.	5/10/97					
Whitney	Robert	A.A.S.	12/14/96					
Wubbenhor	Eric	A.A.S.	5/10/97	Freeman, Smith & Assoc	Architectural Tech	Lansing	MI	48906
Young	Christophe	A.A.S.	5/8/96					

Program	EmployerName	Occupation	CITY	STATE
Architectural Technology	Advanced Technologies Gro	CAD Operator	Lombard	IL
Architectural Technology	Diehm Construction	Residential Designer	Mecosta	MI
Architectural Technology	Ferris State University	CAD Operator	Big Rapids	MI
Architectural Technology	Freeman, Smith & Assoc.	Architectural Tech	Lansing	MI
Architectural Technology	MacMillan Assoc.	CAD Specialist	Bay City	MI
Architectural Technology	Riebschleger & O'Brien	Draftsman	Houghton Lake	MI
Architectural Technology	Spicer Eng	Tech	Saginaw	MI
Architectural Technology	The Delfield Co.	Draftsman	Mt. Pleasant	MI

Architectural Technology A.A.S.

Number receiving degrees	22	
Number responding to survey	13	*59.1%*

		Full-Time	Part-Time	PT/FT Unknown
Continuing their education	9	8	1	0
Total employed	5			
Employed in field		4	0	0
Employed, but not in field		1	0	0
Seeking in field	1			
Still seeking employment	0			
Not seeking employment	0			

Had an FSU internship 0 Did their internship with the employer 0

Employment rate *100%*

Full Time Salaries

# of grads indicating full-time employment: 5 **Did Not Answer: 2** **# Reporting: 3**

$8-11.K	$12-15.K	$16-19.K	$20-23.K	$24-27.K	$28-31.K	$32-35.K	$36-39.K	$40-43.K	$44-47.K	$48-51.K	$52-55.K	$55-60.K
				2	1							

Architectural Technology A.A.S.

Number of Degrees: 28 Number responding: 15 *(54%)*

Placement Rate = 100% (15)

		Full-Time	Part-Time
Continuing Education	6	6	0
Employed	9	9	0
Seeking Employment	0		
Not Seeking	0		

Salary Scale (Full-Time)

$10-12 K	$12-15 K	$15-19 K	$20-23 K	$24-27 K	$28-31 K	$32-35 K	$36-39 K	$40-43 K	$44-47 K	$48-51 K	$52-55 K	$55-60 K
1	1	2	2	1	1							

Employment Rate = 100%

Employed	9	*(60%)*	In Field	7 *(78%)*
			Completed Internship	1 *(11%)*
			With Current Employer	0 *(0%)*
Seeking	0			
Total in Job Market	9			

SECTION 8
Facilities and Equipment Evaluation

In keeping with FSU's Mission statement, the Architectural Technology program is committed to teaching and learning in order to prepare students for employment within the architectural profession. This preparation is accomplished through innovative teaching and learning techniques that engage the student as an active learner within the classroom. These innovative educational activities are accomplished through a combination of lecture, small group work, and hands-on studio work. In addition, the classroom has been structured to simulate the setting of an architectural office. The architectural office is simulated through the arrangement of workstations and the provision of up-to-date equipment such as computers, architectural software, drafting tables, printers, plotters, scanners and architectural library resources.

The Architectural Technology program primarily utilizes classrooms and studios in the Swan Building. The following facilities are dedicated to the Architectural Technology program:

Facility	Capacity	Use
Swan 202	32	Lecture with instructional video projection
Swan 202A		Storage of educational equipment, building material examples
Swan 203	22	Hand drawing studio
Swan 205	20	CAD drawing studio with instructional video projection
Swan 208	20	Lecture and printing/plotting area
Swan 212	16	Lecture and CAD drawing studio with instructional video projection

Other classrooms in the Swan Building are used if the dedicated classrooms are not available or if the class section size exceeds the seating capacity of the room.

Scheduling of instructional facilities and equipment is planned to maximize the use of the dedicated classrooms.

Equipment used in the AT classrooms is consistent with current practice and therefore representative of work sites for which students are being educated. The majority of the AT equipment is funded from Voc Ed funds and year-end funds. Due to the ever-changing nature and rapid growth of technology, hardware and software equipment is required to be updated on a yearly basis. Therefore, in order to maintain state-of-the-art equipment consistent funding must be available on a yearly basis. Currently equipment is in sufficient supply to meet the needs of the students.

While equipment maintenance in previous years has been inconsistent, equipment maintenance during the academic year of 98-99 was exceptional. The recently organized Computer Support Call Center provided dependable and accurate service, as well as a prompt response time to computer requests initiated by faculty and students.

There is a great need for a centralized, controlled printing and plotting facility. For the past 10 years, printers and plotters have been part of the "architectural office" concept and readily available for student use within the classrooms. However, AT faculty has found that due to heavy use and inappropriate handling by students, we are continually challenged with major breakdowns and maintenance requests. Printing and plotting equipment is often inoperable and unable to meet the learning needs of the students. Discussion, among the AT faculty and the BTC computer support organization, is underway to provide a centralized printing/plotting facility operated by work-study students on the first level of the Swan Building. In concept, this facility would be similar to the printing facility found in the Business Program.

SECTION 9
Curriculum

The Architectural Technology Associate in Applied Science Degree is a 2-year program that requires a total of 66 semester hours for graduation. The educational philosophy of the AT curriculum is designed to provide vocational readiness. Since its inception in the early 1950's, the AT curriculum has provided high quality technical education that responds to the needs of the architectural profession.

Due to semester conversion, in the fall of 1993, the Architectural Technology program implemented a revised curriculum. Building on the strengths of the term-based program, responding to employer and student surveys and the AT Advisory Committee, the revised curriculum focused on a general core curriculum that included courses in architectural graphics and communication, architectural construction documents, and building materials and systems. In addition, new learning tools and content were added, which included a heavier use of the computer as a drawing tool, architectural elective courses that offered students experiences in other areas of architecture, an architectural construction detailing course, and a systems cost-estimating course.

In order to accommodate the additions of the revised curriculum, four 10-week Working Drawings courses were transformed into two 15-week Architectural Construction Documents courses and one 15-week Architectural Construction Detailing course. A stand-alone course titled Building Codes was eliminated; however the content of this course was integrated into the Architectural Construction Documents and Detailing courses. The AT faculty felt that exposing the student to building codes in a more contextual approach would offer a better learning experience for the student.

Since the implementation of this semester-based curriculum, curriculum changes have been minor and include the following:

- In 1994 the reconfiguration of lecture and lab hours in ARCH 250 was changed from 2+3 to a 2+2. ARCH 250 was a newly added course due to semester conversion and anticipated the need for a three-hour lab. However, after the actual teaching of the course it was determined that the three-hour lab was too long and that a two-hour lab would be sufficient to meet the project requirements and the productivity of both students and faculty would be enhanced by this change. In addition, it reduced student contact hours in the AT program to a more reasonable number without impacting the quality of student learning.

- In 1995 ARCH 290 – Exploring Architecture was added as an experimental course to provide transfer and pre-tech students with an understanding of the

AT program and its expectations, thereby increasing their opportunity for success.

- During the academic year of 1995, a winter-entry admission into the program was implemented. The winter-entry was created to accommodate the needs of pre-tech students and transfer students both from FSU and other colleges. Having the ability to enter the program during the winter semester would potentially decrease the number of years to complete the program from 3 to 2. The success of the winter-entry relied on a sufficient number of students for enrollment in ARCH 102 during the summer semester. During the summers of 1995 and 1996 enrollment did not exceed 4-5 students. As such, the existence of a winter-entry was not feasible and was discontinued in the winter of 1997.

- In 1997 the addition of ARCH 112 was added as a prerequisite for ARCH 115. This requirement prepares the student for a better understanding of the content of ARCH 115 and successful completion.

SECTION 10
Enrollment Trends

Enrollment data for the AAS Architectural Technology is tabulated below. Detailed information on enrollment by class year is available at Appendix A.

	Fall 1994	Fall 1995	Fall 1996	Fall 1997	Fall 1998
On Campus:					
AAS ARCH	76	75	88	95	87
Pre-Tech	20	23	20	10	20

Enrollment in the AAS ARCH between 1994 and 1997 indicates a growth of 19 students (25 %) and between 1997 and 1998 a reduction of 8 students (8 %). If the total of AAS and Pre-Tech is considered, enrollment is very consistent from 1996 through 1998. The AAS ARCH increase in 1997 may be because more academically prepared students enrolled directly into the program.

An interesting phenomenon has been noticed in the last couple of years. Initial first year student admissions to the program have reached or been close to the maximum available seats, but after registration in the summer the number enrolled substantially reduced. Calling those students who have not registered indicates a number of reasons: chose a local community college, chose another university, chose employment rather than education, or just decided not to go to college.

Currently the AT Program is under capacity and could have 10 additional first year students enter the program.

SECTION 11
Program Productivity/Cost

Productivity data for the AAS Architectural Technology course prefix is tabulated below. Data for Ferris State University, the College of Technology and the three departments within the college are included for comparison purposes.

PRODUCTIVITY REPORT
SCH/FTEF
1994-1999

Area	1994/1995	1995/1996	1996/1997	1997/1998	1998/1999
FSU	466	464	447	442	457
College of Technology	334	339	333	323	331
Transportation & Electronics Department	287	325	304	297	301
Design, Manufacturing & Graphic Arts Department	361	324	324	306	323
Construction & Facilities Department	352	380	384	384	378
ARCH Prefix Courses	294	334	360	377	332

Productivity data for the AAS Architectural Technology course prefix is tabulated below. Data for Ferris State University, the College of Technology and the three departments within the college are included for comparison purposes.

PRODUCTIVITY REPORT
SCH/FTEF
1994-1999

Area	1994/1995	1995/1996	1996/1997	1997/1998	1998/1999
FSU	466	464	447	442	457
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Transportation & Electronics Department	287	325	304	297	301
Design, Manufacturing & Graphic Arts Department	361	324	324	306	323
Construction & Facilities Department	352	380	384	384	378
ARCH Prefix Courses	294	334	360	377	322

Academic year 1997-1998 program teaching costs for the AAS Architectural Technology are tabulated below. Data for Ferris State University, the College of Technology and the three departments within the college are included for comparison purposes.

Program Teaching Costs, Academic Year 1997-1998:

	Average Instructor Cost per SCH	Average Department Cost per SCH	Average Dean's Cost per SCH	Total Cost per SCH
FSU	$134.40	$44.28	$15.61	$194.29
College of Technology	$159.62	$57.78	$14.93	$232.33
Transportation and Electronics Department	$183.95	$66.52	$14.91	$265.38
Design, Manufacturing and Graphic Arts Department	$154.85	$61.75	$15.01	$231.61
Construction and Facilities Department	$131.64	$42.89	$14.90	$189.43
ARCH AAS	$137.66	$45.64	$15.38	$198.68 71st out of 173 programs
16 ARCH courses	$161.26 34th out of 133 course prefixes			

Total program cost per SCH for the AAS Architectural Technology is below the College of Technology average, and very slightly above the university average.

S&E funding for the AAS Architectural Technology cannot be separated from the S&E funding for the BS, Facilities Management. Nevertheless, S&E funding is marginal. S&E data is tabulated in Appendix A. Two major areas of concern exist. First, the program is highly dependent on Voc Ed and year-end funds for equipment purchases. Voc Ed funding cannot be relied upon year after year. Year-end funds are becoming scarcer, given the new budget procedures in the Office of the Vice President Academic Affairs. Second, faculty development and travel funds are limited.

SECTION 12
Conclusions

- The AT program is central to the FSU mission.

  > Ferris State University will be a national leader in providing opportunities for innovative teaching and learning in career-oriented, technological and professional education.

  The program concentrates on the career needs of the students, the needs of the profession, and maintains technological effectiveness.

- The AT program provides true 2 + 2 programming in conjunction with the BS FM and the BS CM.

- The AT program serves the State of Michigan and the Midwest region well with highly qualified graduates for the architectural profession.

- The AT program enjoys a close, very supportive relationship with architectural and related firms, both large and small, in Michigan.

- Productivity is above the average for College of Technology

- Input from students, graduates, employers, the advisory committee and the academic recognition process all indicate a high quality of preparation due to the quality of teaching.

- Input from graduates, employers, and the advisory committee all indicate a high demand for graduates. This demand is founded on the strength of all facets of the program and the preparation of the graduates to work as members of the architectural team. Placement rates are 100% and starting salaries are competitive within the architectural profession.

- The faculty is currently investigating the expansion of the current program into some form of BS or advanced degree.

- The program serves non-majors through ARCH 244 – Historical Development of Western Architecture which is recognized as a cultural enrichment elective and ARCH 109 – Computer Graphics in Architecture which is a required course in the HVACR Program.

- Classroom and computer laboratory facilities and equipment are adequate, but in constant need of upgrading due to recent and continuing impact of technology on architecture and the constant upgrading of architectural computer software. One lab is crowded and does not function as well as it could. It is to the faculty's credit that their classes function as well as they do within the overcrowded lab.

- Library resources are adequate especially with the anticipated FLITE facility.

- The program is among the lowest cost associate degree programs in the College of Technology. Thirteen programs rank higher in cost and three rank lower (See Degree Program Costing Table in Appendix J. It ranks 71 of 173 programs on a university wide basis).

- The faculty are highly qualified and competent. They are deeply involved in non-teaching activities and are active in professional pursuits.

- Administrative effectiveness is adequate.

- The student, graduate, employer and advisory committee surveys all reinforce the need for continuous curriculum review and revision.

- The Advisory Committee Survey indicates a lack of awareness of the financial and physical facility aspects of the program, which will be remedied at the next advisory meeting.

- The Graduate Survey had a low response rate (8.8% of the group sampled), but historically there has been a low response. Graduates appear to be well-prepared to enter the profession (average preparation = 3.99) and the subject content is relevant (average relevance = 3.72).

SECTION 13
Recommendations

- If certain proposed modifications involving offering the BS FM at the Grand Rapids campus of FSU occur, that the AT Program be enhanced by the addition of one full-time faculty position.

- That the Architectural Technology Program enrollment of quality students be enhanced by developing, funding and conducting a targeted marketing and recruiting effort on a statewide and Midwest regional basis.

- That an equipment/acquisition and maintenance plan be developed by the faculty and appropriate funding be supported. Voc-ed may eventually no longer be a major resource.

- That all program needs including refurbishing and expansion of labs be included in the proposed College of Technology capital outlay project.

- That the faculty continue to review and revise the curriculum as appropriate to address issues raised in the student, graduate, employer and advisory committee surveys and to meet the continual changes in the profession. This effort is a current and continuing process.

- That the AT faculty educate the advisory committee on the issues indicated in the Advisory Committee Survey.

- That the AT Program continue to explore expanding educational opportunities to reflect the changing needs of the profession.

PROGRAM REVIEW PANEL EVALUATION

Program: ARCHITECTURAL TECHNOLOGY

Instructions: Circle the number which most closely describes t he program you are evaluating.

1. **Student Perception of Instruction** — Average Score 4.06

5	4.5 (1)	4 (7)	3	2	1

Currently enrolled students rate instructional effectiveness as extremely high.

Currently enrolled students rate the instructional effectiveness as below average.

2. **Student Satisfaction with Program** — Average Score 3.94

5	4.5 (1)	4 (6)	3 (1)	2	1

Currently enrolled students are very satisfied with the program faculty, equipment, facilities, and curriculum.

Currently enrolled students are not satisfied with program faculty, equipment, facilities, or curriculum.

3. **Advisory Committee Perceptions of Program** — Average Score 3.69

5 (1)	4.5 (1)	4 (2)	3 (4)	2	1

Advisory committee members perceive the program curriculum, facilities, and equipment to be of the highest quality.

Advisory committee members perceive the program curriculum, facilities, and equipment needs improvement.

4. **Demand for Graduates** — Average Score 4.5

5 (5)	4 (2)	3 (1)	2	1

Graduates easily find employment in field.

Graduates are sometimes forced to find positions out of their field.

5. **Use of Information on Labor Market** — Average Score 3.56

5	4 (4)	3.5 (1)	3 (4)	2	1

The faculty and administrators use current data on labor market needs and emerging trends in job openings to systematically develop and evaluate the program.

The faculty and administrators do not use labor market data in planning or evaluating the program.

6. Use of Profession/Industry Standards — Average Score 3.85

5	4 (6)	3.5 (1)	3 (1)	2	1

Profession/industry standards (such as licensing, certification, accreditation) are consistently used in planning and evaluating this program and content of its courses.

Little or no recognition is given to specific profession/industry standards in planning and evaluating this program.

7. Use of Student Follow-up Information — Average Score 3.44

5	4 (5)	3 (2)	2	1.5 (1)	1

Current follow-up data on completers and leavers are consistently and systematically used in evaluating this program.

Student follow-up information has not been collected for use in evaluating this program.

8. Relevance of Supportive Courses — Average Score 3.94

5 (1)	4.5 (1)	4 (5)	3	2 (1)	1

Applicable supportive courses are closely coordinated with this program and are kept relevant to program goals and current to the needs of students.

Supportive course content reflects no planned approach to meeting needs of students in this program.

9. Qualifications of Administrators and Supervisors — Average Score 3.94

5 (2)	4.5 (1)	4 (3)	3 (1)	2 (1)	1

All persons responsible for directing and coordinating this program demonstrate a high level of administrative ability.

Persons responsible for directing and coordinating this program have little administrative training and experience.

10. Instructional Staffing — Average Score 4.19

5 (3)	4.5 (1)	4 (4)	3 (1)	2	1

Instructional staffing for this program is sufficient to permit optimum program effectiveness.

Staffing is inadequate to meet the needs of this program effectively.

11. Facilities — Average Score 3.56

5	4 (5)	3.5 (1)	3 (1)	2 (1)	1

Present facilities are sufficient to support a high quality program.

Present facilities are a major problem for program quality.

12. Scheduling of Instructional Facilities — Average Score 4.25

5 (3)	4 (4)	3 (1)	2	1

Scheduling of facilities and equipment for this program is planned to maximize use and be consistent with quality instruction.

Facilities and equipment for this are significantly under-or-over scheduled.

13. Equipment — Average Score 2.94

5	4 (2)	3.5 (1)	3 (2)	2 (3)	1

Present equipment is sufficient to support a high quality program.

Present equipment is not adequate and represents a threat to program quality.

14. Adaption of Instruction — Average Score 3.94

5	4.5 (1)	4 (6)	3 (1)	2	1

Instruction in all courses required for this program recognizes and responds to individual student interests, learning styles, skills, and abilities through a variety of instructional methods (such as, small group or individualized instruction, laboratory or "hands on" experiences, credit by examination).

Instructional approaches in this program do no consider individual student differences.

15. Adequate and Availability of Instructional Materials and Supplies — Average Score 3.94

5 (1)	4.5 (1)	4 (4)	3 (2)	2	1

Faculty rate that the instructional materials and supplies as being readily available and in sufficient quantity to support quality instruction.

Faculty rate that the instructional materials are limited in amount, generally outdated, and lack relevance to program and student needs.

Program/Department: ARCHITECTURAL TECHNOLOGY
CONSTRUCTION & FACILITIES DEPARTMENT

Date submitted: _____ **Dean** _____

ENROLLMENT/PERSONNEL	FALL 1995	FALL 1996	FALL 1997	FALL 1998	FALL 1999
Tenure Track FTE	7	7	7	7	7
Overload/Supplemental FTEF					0
Adjunct/Clinical FTEF (unpaid)					0
Enrollment on-campus total*	98	108	105	81	
Freshman	58	55	47/1	34	
Sophomore	28	25	24/1	37	
Junior	8	17	8	14	
Senior	4	3	4	2	
To Be Determined		8	12/1		
Doctoral					
Enrollment off-campus*	9	0	0		

*Use official count (7 day count for semesters, 5-day count for quarters)

Financial

Expenditures*	FY 95	FY 96	FY 97	FY 98	FY 99
Supply & Expense	10,948	40,347	23,808.76	38110	39509
Equipment	1930	0	3,264.00	3078	11312
Gifts & Grants	0	0	120,000	40	0
Cash Donations		1198.00	256.00	1720	475

Use end of fiscal year expenditures

Other

	AY 94-95	AY 95-96	AY 96-97	AY 97-98	AY 98-99
Number of Graduates* - Total	12	22	28	26	27*
On Campus	12	22	28	26	27*
Off Campus					
Placement of Graduates					
Average Salary					
Productivity - Academic Year Average	294	335	360	377	332
Summer	10	13	0	0	0
Summer Enrollment					

- Use total for academic year (F, W, S)
- *Does not include Summer 99 graduates

FERRIS STATE UNIVERSITY

08APR99

Dear Graduate,

As part of the ongoing process of Ferris State University to improve our programs, the Architectural Technology Program is currently undergoing an Academic Senate Program Review. Part of this process is to solicit input from graduates relative to their perceptions of the program.

Would you please take a few moments to complete the enclosed questionnaire and return it to:

Ferris State University
C/O Bruce C. Dilg, NCARB
Swan Building Room 312
915 Campus Drive
Big Rapids, MI 49307

Your return of this questionnaire by April 25, 1999 would be appreciated.

Thank you and we hope your career is progressing well.

Very truly yours,

Bruce C. Dilg
Architectural Technology Faculty

CONSTRUCTION AND FACILITIES DEPARTMENT
-COLLEGE OF TECHNOLOGY
915 Campus Drive, Swan 312, Big Rapids, MI 49307-2291
Phone 616 592-2360 Fax 616 592-2931

ACADEMIC PROGRAM REVIEW
GRADUATE SURVEY

A. Education:

Name:_____

Degree(s) and Year(s) Received from Ferris State University:

ARCH TECH AAS – Year _____ FM BS – Year_____Other – Year_____(please Note major)

Other degrees, corresponding year received, and institutions since high school:

Degree	Year	College/University
_____	_____	_____
_____	_____	_____

B. Current Location Information:

Home Address Correction (if necessary):

_____

Home Phone:_____ Work Phone _____

Employer Company Name: _____

Position Title: _____

Company Address:_____

_____

E-Mail Address: _____

C. Initial Salary Range:
If you received an AAS in ARCH TECH from Ferris, and then got a job based on that degree, please circle the range of your initial salary (*Skip this question if you did NOT obtain a job based on a Ferris AAS in ARCH TECH or if you continued school toward a BS or BARCH degree)*

Below $20K	$25K to $30K	$35K to $40K	$45K to 50K
$20K to $25K	$30K to $35K	$40K to $45K	above $50K

If you continued your education beyond the first two years (or AAS) to receive an advanced degree as noted in question A, please circle the range of your initial salary. (*Skip this question if you did NOT obtain a job based on your advanced degree.*)

D. Current salary range:

Below $20K	$25K to $30K	$35K to $40K	$45K to 50K
$20K to $25K	$30K to $35K	$40K to $45K	above $50K

E. Career Avenue which most closely describes your daily activities (circle one):

CAD operator Drafter Project Architect Project Manager Spec Writer
Field Observation Detailer Facility Manager Mech/Elect Design
Structural Design/Drafting

F. Scientific and Technical Topics for Your Career:

Mark the two columns next to each topic as follows:

RELEVANCE
Under Column A, rate the relevance of the topic to your career using:
5=Very Important, 4=Important, 3=Relevant, 2=Not Very Relevant,
1=Unimportant

PREPARATION
Under Column B, rate the preparation that you received from the ARCH TECH program using:
5=Very Well Prepared, 4=Well Prepared, 3=Fairly Prepared, 2=Barely Prepared, 1=Poorly Prepared

A	B	
___	___	Architectural Graphics I
___	___	Structural Materials and Systems
___	___	English I
___	___	Interm. Algebra/Num. Trig.
___	___	Computer Graphics in Architecture I
___	___	Architectural Const. Documents I
___	___	Interior & Exterior Finishes and Systems
___	___	Computer Graphics in Architecture II
___	___	Historical Development of Western Architecture
___	___	English 2
___	___	Introductory Physics I
___	___	Architectural Construction Detailing
___	___	Mech. & Elect. Systems for Buildings
___	___	Statics and Structures
___	___	Communications

A	B	
___	___	Architectural Elective (Note what you took)_____
___	___	Arch. Construction Documents 2
___	___	Introduction to Psychology
___	___	Professional Practice
___	___	Architectural Elective (Note what you took)_____

G. COMMENTS

Please provide any additional comments concerning this survey, your field of study, or Ferris State University in the space provided.

Thank you for participating in our survey.

FERRIS STATE UNIVERSITY

March 9, 1999

W L Perry Assoc Inc
5025 Plainfield Ave NE #A
Grand Rapids, MI 49525

Dear Sir/Madam:

Ferris State University is currently conducting an academic review of our Architectural Technology Program. The purpose of the academic review is to periodically assess the performance of graduates, monitor the quality of the program, and provide a framework for future changes and revisions within the curriculum.

Your firm was identified as a first employer of one or more of our Associate of Applied Science in Architectural Technology graduates. We request your input concerning the performance of graduates of our program. Please complete the enclosed survey and return it in the enclosed envelope by March 31, 1999.

Sincerely,

Mel Kantor, AIA
Professor, Program Coordinator
616.592.2625

Mary Bockstahler
Assistant Professor
616.592.3584

CONSTRUCTION AND FACILITIES DEPARTMENT
COLLEGE OF TECHNOLOGY
915 Campus Drive, Swan 312, Big Rapids, MI 49307-2291
Phone 616 592-2360 Fax 616 592-2931

Date

<<EMPLOYER>>
<<ADDRESS>>
<<ADDRESS2>>
<<CITY>>, <<ST>> <<ZIP>>

Dear Sir/Madam:

Ferris State University is currently conducting an academic review of our architectural technology program. The purpose of the academic review is to periodically assess the performance of graduates, monitor the quality of the program, and provide a framework for future changes and revisions within the curriculum.

Your firm was identified as a first employer of one or more of our Associate of Applied Science in Architectural Technology graduates. We request your input concerning the performance of graduates of our program. Please complete the enclosed survey and return it in the enclosed envelope by XXXXXXX, 1999.

Sincerely,

Mel Kantor, AIA
Professor, Program Coordinator
616.592.2625

Mary Bockstahler
Assistant Professor
616.592.3584

atprsurE

FERRIS STATE UNIVERSITY - COLLEGE OF TECHNOLOGY
CONSTRUCTION AND FACILITIES DEPARTMENT

Program Review
Associate of Applied Science in Architectural Technology

Please rate the overall performance of graduates of the Architectural Technology program in the following technical/skill areas on the following scale.

	Competencies and Foundation Skills	excellent	good	average	below average	poor	don't know
1.	Uses written and oral communication skills effectively.	5	4	3	2	1	NA
2.	Possesses adequate technical skills. (Scheduling, budgeting, planning, etc.)	5	4	3	2	1	NA
3.	Possesses adequate mathematical skills.	5	4	3	2	1	NA
4.	Uses critical thinking, problem solving, and decision making skills.	5	4	3	2	1	NA
5.	Exhibits an appropriate level of responsibility and self management.	5	4	3	2	1	NA
6.	Chooses ethical courses of action.	5	4	3	2	1	NA
7.	Identifies, organizes, plans, and allocates resources effectively.	5	4	3	2	1	NA
8.	Participates as a team player.	5	4	3	2	1	NA
9.	Works well with individuals from diverse backgrounds.	5	4	3	2	1	NA
10.	Acquires, interprets, and uses information effectively.	5	4	3	2	1	NA
11.	Possesses the ability to gain rapport with "clients".	5	4	3	2	1	NA
12.	Uses technologies effectively. (e.g., computers, telecommunication, etc.)	5	4	3	2	1	NA
13.	Possesses leadership and negotiation skills.	5	4	3	2	1	NA

Dear AT Student:

Ferris State University is currently conducting an academic review of our architectural technology program. The purpose of the academic review is to periodically assess the performance of graduates, monitor the quality of the program, and provide a framework for future changes and revisions within the curriculum.

As a student currently enrolled in the program, your input is requested. Your responses will be used along with those of graduates, employers of graduates, and faculty to define a future vision for the program.

Answer the questions on this page by writing a brief answer in the space provided. Then, answer the questions on the following sheet by circling the number which best describes your perception of the question for the architectural technology program. You may circle ? if you do not believe that the question applies to you or that you do not have enough information to respond to the question.

To ensure that the survey is confidential, fold the surveys so that the blank side of the sheet is facing out before returning it to your faculty member.

Thank you for your help.

1. What is your current academic status within the AT program?(circle answer)

   first year : second year

2. Why did you choose to attend FSU?

3. Are you satisfied with your decision to attend FSU? Why? Why not?

4. Why did you choose to study Architectural Technology?

5. Are you satisfied with your decision to study Architectural Technology? Why? Why not?

atcrsurS

FERRIS STATE UNIVERSITY - COLLEGE OF TECHNOLOGY
CONSTRUCTION AND FACILITIES DEPARTMENT

Program Review - Associate of Applied Science in Architectural Technology

Please answer the following question by circling the answer which is most true.

1. Who most influenced you to attend FSU.
   - A. high school counselor
   - B. parent(s)
   - C. friend
   - D. FSU staff on visit to FSU
   - E. other

2. If you answered "other" to question 1, please write what the other factor was in the space provided. _____

3. What most influenced you to attend FSU.
   - A. cost
   - B. reputation
   - C. program/degree offerings
   - D. location
   - E. other

4. If you answered "other" to question 3, please write what the other factor was in the space provided. _____

Please rate the overall performance of FSU and the Architectural Technology program in the areas listed below. Use the scale located on the right for your response.

	excellent	good	average	below average	poor	don't know
COURSES IN YOUR PROGRAM AREA ARE:						
5. Available and conveniently located.	5	4	3	2	1	?
6. Based on realistic prerequisites.	5	4	3	2	1	?
WRITTEN OBJECTIVES FOR COURSES IN YOUR PROGRAM:						
7. Are available to students.	5	4	3	2	1	?
8. Describe what you will learn in the course.	5	4	3	2	1	?
9. Are used by instructor to keep students aware of their progress.	5	4	3	2	1	?
TEACHING METHODS, PROCEDURES, AND COURSE CONTENT IN PROGRAM AREA:						
10. Meet projected student career needs, interests, and objectives.	5	4	3	2	1	?
11. Provide supervised practice for developing skills.	5	4	3	2	1	?
PROGRAM FACULTY:						
12. Know the subject matter and occupational requirements.	5	4	3	2	1	?
13. Available to provide help when needed.	5	4	3	2	1	?
14. Provide instruction so it is interesting and understandable.	5	4	3	2	1	?

	excellent	good	average	below average	poor	don't know
RELATED COURSE FACULTY (such as English, math, science, etc.)						
15. Know the subject matter and occupational requirements.	5	4	3	2	1	?
16. Are available to provide help when needed.	5	4	3	2	1	?
17. Provide instruction so it is interesting and understandable.	5	4	3	2	1	?
PROGRAM COMPUTER LABORATORIES:						
18. Have adequate lighting, ventilation, etc.	5	4	3	2	1	?
19. Include enough work stations for students enrolled in courses.	5	4	3	2	1	?
20. Are safe, functional, and well maintained.	5	4	3	2	1	?
21. Are open adequate hours.	5	4	3	2	1	?
22. Are open at times when students are most likely to use them.	5	4	3	2	1	?
OTHER PROGRAM LABORATORIES:						
23. Have adequate lighting, ventilation, etc.	5	4	3	2	1	?
24. Include enough work stations for students enrolled.	5	4	3	2	1	?
25. Are safe functional, and well maintained.	5	4	3	2	1	?
26. Are open adequate hours.	5	4	3	2	1	?
27. Are open at times when students are most likely to use them	5	4	3	2	1	?
RELATED COURSE CLASSROOMS:						
28. Have adequate lighting, ventilation, etc.	5	4	3	2	1	?
29. Include enough seats, desks, tables, etc. for students enrolled.	5	4	3	2	1	?
30. Are safe, functional, and well maintained.	5	4	3	2	1	?
OTHER PROGRAM CLASSROOMS:						
31. Have adequate lighting, ventilation, etc.	5	4	3	2	1	?
32. Include enough seats, desks, tables, etc. for students enrolled.	5	4	3	2	1	?
33. Are safe, functional, and well maintained.	5	4	3	2	1	?
PROGRAM INSTRUCTIONAL EQUIPMENT IS:						
34. Current and representative of industry.	5	4	3	2	1	?
35. In sufficient quantity to avoid long delays in use.	5	4	3	2	1	?
36. Safe and in good condition.	5	4	3	2	1	?
INSTRUCTIONAL MATERIALS (i.e., textbooks, reference books, etc.) ARE:						
37. Current and meaningful to the subject.	5	4	3	2	1	?
38. Available/conveniently located for use.	5	4	3	2	1	?
INSTRUCTIONAL SUPPORT SERVICES (i.e., tutoring, lab assistance, etc.) ARE:						
39. Available to meet student needs and interests.	5	4	3	2	1	?
40. Provided by knowledgeable and interested staff.	5	4	3	2	1	?
PLACEMENT SERVICES ARE AVAILABLE TO:						
41. Help students identify employment opportunities.	5	4	3	2	1	?
42. Help students prepare to apply for job applications.	5	4	3	2	1	?

Write Comments on back of sheet:

eprsurS

COLLEGE_____

FACULTY PERCEPTIONS OF OCCUPATIONAL EDUCATION PROGRAMS

INSTRUCTIONS TO RESPONDENTS

On the following pages you are asked to give your perceptions of your occupational program (such as registered nursing, automotive technology, secretarial science). The items you are asked to rate are grouped into the major components of the Program Review in Occupational Education (PROE) system, namely:

- Goals and Objectives
- Processes
- Resources

Rate each item by checking your best judgment on a five point scale ranging from poor to excellent. Only check one answer per item. A "Don't Know" column has been provided in the event you really don't have sufficient information to rate an item. Space has been provided for you to note comments that may help to clarify your ratings or to indicate modifications of a standard to make it more relevant for your program.

Criteria for excellent and poor ratings are provided for each item. *Excellent* represents a nearly ideal or exemplary situation; *poor*, one of serious inadequacy. As a guide, ratings may be made with the following in mind:

EXCELLENT means ideal, top 5 to 10%
GOOD is a strong rating, top 1/3rd
ACCEPTABLE is average, the middle 1/3rd
BELOW EXPECTATIONS is only fair, bottom 1/3rd
POOR is seriously inadequate, bottom 5 to 10%

This form may be completed as a *consensus* evaluation by the principal persons involved with a specific occupational program. Examples of such persons would be instructors, department or division chairpersons, program coordinators, and administrators such as occupational dean. If preferred, respondents may complete individual forms.

To help with tabulation of responses, please provide the information requested below before completing your rating.

PROGRAM TITLE ARCHITECTURAL TECHNOLOGY USOE CODE # __ __.__ __ __ __ __ __

PERSONS PARTICIPATING IN CONSENSUS EVALUATION OR INDIVIDUAL COMPLETING THIS FORM:

Name MEL KANTOR Title PROFESSOR/PROGRAM COORDINATOR

_____ _____

_____ _____

_____ _____

_____ _____

Thanks for your cooperation!

FACULTY PERCEPTIONS OF OCCUPATIONAL EDUCATION PROGRAMS

		Keypunch Instructions	Poor 1	Below Expectations 2	Acceptable 3	Good 4	Excellent 5	Don't Know	COMMENTS (Please note explanatory remarks or needs for improvement)
GOALS AND OBJECTIVES (Continued)									
8. Use of Profession/Industry Standards *Excellent*—Profession/industry standards (such as licensing, certification, accreditation) are consistently used in planning and evaluating this program and content of its courses. *Poor*—Little or no recognition is given to specific profession/industry standards in planning and evaluating this program.	8								NOT APPLICABLE
9. Use of Student Follow-Up Information *Excellent*—Current follow-up data on completers and leavers (students with marketable skills) are consistently and systematically used in evaluating this program. *Poor*—Student follow-up information has not been collected for use in evaluating this program.	9					✓			
PROCESSES									
10. Adaptation of Instruction *Excellent*—Instruction in all courses required for this program recognizes and responds to individual student interests, learning styles, skills, and abilities through a variety of instructional methods (such as small group or individualized instruction, laboratory or "hands on" experiences, open entry/open exit, credit by examination). *Poor*—Instructional approaches in this program do not consider individual student differences.	10				✓				
11. Relevance of Supportive Courses *Excellent*—Applicable supportive courses (such as anatomy and physiology, technical communications, technical mathematics) are closely coordinated with this program and are kept relevant to program goals and current to the needs of students. *Poor*—Supportive course content reflects no planned approach to meeting needs of students in this program.	11						✓		
12. Coordination with Other Community Agencies and Educational Programs. *Excellent*—Effective liaison is maintained with other programs and educational agencies and institutions (such as high schools, other community colleges, four year colleges, area vocational schools, proprietary schools, CETA) to assure a coordinated approach and to avoid duplication in meeting occupational needs of the area or community. *Poor*—College activities reflect a disinterest in coordination with other programs and agencies having impact on this program.	12			✓					
13. Provision for Work Experience, Cooperative Education or Clinical Experience. *Excellent*—Ample opportunities are provided for related work experience, cooperative education, or clinical experience for students in this program. Student participation is well coordinated with classroom instruction and employer supervision. *Poor*—Few opportunities are provided in this program for related work experience, cooperative education, or clinical experience where such participation is feasible	13								NOT APPLICABLE

FACULTY PERCEPTIONS OF OCCUPATIONAL EDUCATION PROGRAMS

	Keypunch Instructions	Poor 1	Below Expectations 2	Acceptable 3	Good 4	Excellent 5	Don't Know	COMMENTS (Please note explanatory remarks or needs for improvement)
PROCESSES (Continued)								
20. Adequacy of Career Planning and Guidance	20				4			
Excellent—Instructors or other qualified personnel providing career planning and guidance services have current and relevant occupational knowledge and use a variety of resources (such as printed materials, audiovisuals, job observation) to meet individual student career objectives. *Poor*—Career planning and guidance services are ineffective and staffed with personnel who have little occupational knowledge.								
21. Provision for Employability Information.	21				4			
Excellent—This program includes information which is valuable to students as employees (on such topics as employment opportunities and future potential, starting salary, benefits, responsibilities and rights). *Poor*—Almost no emphasis is placed on providing information important to students as employees.								
22. Placement Effectiveness for Students in this Program	22					* 5		* PROGRAM HAS A FUNCTIONING SYSTEM. UNIVERSITY DOES MISDISCHARGE JOB.
Excellent—The college has an effectively functioning system for locating jobs and coordinating placement for students in this program. *Poor*—The college has no system or an ineffective system for locating jobs and coordinating placement for occupational students enrolled in this program.								
23. Student Follow-up System	23				4			
Excellent—Success and failure of program leavers and completers are assessed through periodic follow-up studies. Information learned is made available to instructors, students, advisory committee members and others concerned (such as counselors) and is used to modify this program. *Poor*—No effort is made to follow up former students of this program.								
24. Promotion of this Occupational Program	24				4			
Excellent—An active and organized effort is made to inform the public and its representatives (such as news media, legislators, board, business community) of the importance of providing effective and comprehensive occupational education and specific training for this occupation to gain community support. *Poor*—There is no organized public information effort for this program.								
RESOURCES								
25. Provision for Leadership and Coordination	25					5		
Excellent—Responsibility, authority, and accountability for this program are clearly identified and assigned. Administrative effectiveness is achieved in planning, managing, and evaluating this program. *Poor*—There are no clearly defined lines of responsibility, authority, and accountability for this program.								

FACULTY PERCEPTIONS OF OCCUPATIONAL EDUCATION PROGRAMS

		Keypunch Instructions	Poor	Below Expectations	Acceptable	Good	Excellent	Don't Know	COMMENTS (Please note explanatory remarks or needs for improvement)
			1	2	3	4	5		
RESOURCES (Continued)									
33. Maintenance and Safety of Instructional Equipment *Excellent*—Equipment used for this program is operational, safe, and well maintained. *Poor*—Equipment used for this program is often not operable and is unsafe.	33				✓				
34. Adequacy of Instructional Facilities *Excellent*—Instructional facilities (excluding equipment) meet the program objectives and student needs, are functional and provide maximum flexibility and safe working conditions. *Poor*—Facilities for this program generally are restrictive, dysfunctional, or overcrowded.	34					✓			
35. Scheduling of Instructional Facilities *Excellent*—Scheduling of facilities and equipment for this program is planned to maximize use and be consistent with quality instruction. *Poor*—Facilities and equipment for this program are significantly under- or over-scheduled.	35						✓		
36. Adequacy and Availability of Instructional Materials and Supplies *Excellent*—Instructional materials and supplies are readily available and in sufficient quantity to support quality instruction. *Poor*—Materials and supplies in this program are limited in amount, generally outdated, and lack relevance to program and student needs	36						✓		
37. Adequacy and Availability of Learning Resources *Excellent*—Learning resources for this program are available and accessible to students, current and relevant to the occupation, and selected to avoid sex bias and stereotyping. *Poor*—Learning resources for this program are outdated, limited in quantity, and lack relevance to the occupation.	37					✓			
38. Use of Advisory Committees *Excellent*—The advisory committee for this program is active and representative of the occupation. *Poor*—The advisory committee for this program is not representative of the occupation and rarely meets.	38						✓		
39. Provisions in Current Operating Budget *Excellent*—Adequate funds are allocated in the college operating budget to support achievement of approved program objectives. Allocations are planned to consider instructor budget input. *Poor*—Funds provided are seriously inadequate in relation to approved objectives for this program.	39				✓				
40. Provisions in Capital Outlay Budget for Equipment *Excellent*—Funds are allocated in a planned effort to provide for needed new equipment and for equipment replacement and repair, consistent with the objectives for this program and based on instructor input. *Poor*—Equipment needs in this program are almost totally unmet in the capital outlay budget.	40	✓							

Melvin A Kantor

06/28/99 02:53:35 PM

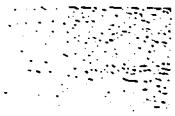
To: mmunski@steelcase.com
cc:

Subject: Academic Program Review

I'm putting together the preliminary draft of the final report. Would you send me a copy of the backup data and calculaations for your conclusions and a clean copy of your report. Please mail them to me at:

Mel Kantor, AIA, CFM
Architectural Technology Program
915 Campus Drive Swan 312
Big Rapids, Mi 49307

I hope everything is going well with you. Things here are pretty hectic with trying to get this report done, and a new dean starting in August. If you want information on how the dean selection went give me a call. I'm usually in the office from 7:00 until about 2:00.



Melvin A Kantor

04/19/99 09:29:05 AM

To: mmunski@steelcase.com
cc:

Subject: AT Advisory Committee Survey.

The survey results are fine. Obviously, we have to a better job of keeping the members informed regarding financial matters, facilities, etc, though I find it interesting that after having met with the students last year, they apparently didn't get comments regarding the facilities.

I will need copies of the backup information, and a master survey sheet indicating average score for each item. I believe I sent you a similar copy from Construction Management.

If you have any questions, please call.

MEL

thanks for all your efforts.

P.O. Box 1967 MC: CO-SN-02 PHONE: 616.696.4555 FAX: 616.696.4131

Steelcase

Fax

To: MEL KANTOR From: DR. M

Fax: 616.592.2931 Pages: 3

Phone: 616.592.2625 Date: 4.12.99

Re: SURVEY RESULTS CC:

☐ Urgent ☒ For Review ☐ Please Comment ☐ Please Reply ☐ Please Recycle

ENCLOSED ARE THE SURVEY RESULTS (2-PAGES). MY OVERALL ASSESSMENT IS THAT THE BOARD NEEDS TO KNOW MORE ABOUT THE PROGRAM IN GENERAL AND SEEMS INTERESTED.

FERRIS STATE UNIVERSITY

ARCHITECTURAL TECHNOLOGY (AT) PROGRAM

ADVISORY COMMITTEE SURVEY

11 responses / Results
no response 1, 1, 1 79% respon
14 total

Please circle the appropriate response, with a score of "5" being excellent, and "1" being poor. If a question is not applicable, or you don't know the answer, please respond N/A".

	EXCELLENT	GOOD	AVERAGE	BELOW AVERAGE	POOR	N/A
1. The AT program provides the skills and training needed by the profession.	100% (5) 7	(4) 8	3	2	1	N/A
2. There is a high demand for students from this program.	64% (5) 2	(4) 5	(3) 4 (36%)	2	1	N/A
3. Your company would hire a student from this program.	64% (5) 4	(4) 3	(3) 3 (27%)	2	1	N/A
4. The program provides an adequate number of graduates.	9% (5) 1	4	(3) 5 (45%)	2	(1) 45%	N/A
5. The program has adequate computer facilities.	18% (5) 1	(4) 1	(3) 4 (36%)	2	1 45%	N/A
6. The program has adequate laboratory facilities.	18% 5 0	(4) 2	(3) 1 9%	(2) 1	1 73%	N/A
7. The program has an adequate number of faculty.	18% 5 0	(4) 2	(3) 2 18%	2	1 64%	N/A
8. The program's curriculum meets the needs of the industry.	64% (5) 1	(4) 5	(3) 3 27%	2	1 9%	N/A
9. The program's faculty have adequate academic credentials and experience.	82% (5) 2	(4) 1	(3) 1 9%	2	1 9%	N/A
10. The program's faculty have adequate institutional support for professional development and continuing education.	18% (5) 1	(4) 1	(3) 2 18%	2	1 64%	N/A
11. The graduates of the program are properly prepared to go to work.	82% (5) 2	(4) 1	(3) 3 27%	2	1	N/A
12. The graduates of the program are competitive with graduates of similar programs from other universities.	55% (5) 4	(4) 2	(3) 2 18%	2	1 18%	N/A
13. The program receives adequate financial support from the university.	5	4	(3) 2 18%	2	1 82%	N/A

COMMENTS:

Thank you for participating in our survey.

100 AA skills & Traing
4A - meets needs of industry
82 AA prepare grad to go to work
82 DK receives adeq fin support from Univ

market ~~Students~~
64% AA - high demand? (market) ~~45% good~~ 64% above aver
64% AA - your company would hire ~~36% [illegible]~~ 64% " "
45% A / 45% BA - adequate # of grad 45 aver 36 didn't know
55 AA - grads are compet w/grad of other univ

Facilities
45% DK adequate computer
73 DK " lab

Faculty
64 DK - adequate #
82% AA - have adeq credentials & experience
64% DK - adeq inst support for PD & CE

have much to learn about your program. Also
I have not had one of your students in the office
except for Sean Agee and he was good! As
a result my answers are open to question!

Thank you for participating in our survey.

FAX TO: 616-698-4131

TOTAL P.02

graduates of similar programs from other
unive· ·ies.

13. The p. gram receives adequate financial support from the university. 5 3 2 1 (N/A)

COMMENTS:

THE PROGRAM NEEDS TO BE MARKETED TO THE INDUSTRY AND TO PROSPECTIVE STUDENTS. IT NEEDS TO BE DISCOVERED BY BOTH.

Thank you for participating in our survey.

13. The program receives adequate financial support
fro· ·he university.

COMMENTS:

ONE PROBLEM THAT CONCERNS ME GREATLY IS THAT ONLY A VERY FEW A.T. STUDENTS ARE INTERESTED IN CAREERS AS ARCHITECTURAL DRAFTSPERSONS.

PATRICK K. BIRTLES, ARCHI

Thank you for participating in our survey.

FAX TO: 616-698-4131

from the university. Don't Know

COMMENTS:

Keep to the basic's of the Industry - focus on "Thinking" a little more than doing

Thank you for participating in our survey.

FAX to: 616 · 698 · 4131

universities.

13. The program receives adequate financial support from the university. 5 4 (3) 2 1 N/A

COMMENTS:

Many of these answers are subjective / not substantiated by study or hard evidence. What does the marketplace say about demand for graduates? We hire very few true entry-level (2-yr. grad) employees.

Thank you for participating in our survey.

FAX to: 616 · 698 · 4131

universities.

13. The program receives adequate financial support from the university. 5 4 (3) 2 1 N

COMMENTS:

since I am retired it is difficult to know if an adequate number of graduates are produced. The "AT" program does give a student who may wish to go on to an Architecture School an excellent head start.

Thank you for participating in our survey.

FAX to: 616 · 698 · 4131

from the university.

COMMENTS:

SOME OF THE QUESTIONS I COULD NOT ANSWER SINCE AT EXACT KNOLEDGE OF THE FACILITIES IS SCANT.

PROGRAMS LIKE THESE REQUIRE CONSTANT ASSESSMENT OF THE NEEDS OF THE INDUSTRY. THE RATE OF CHANGE & TECHNOLOGY IS SO RAPID THAT CURRICULUM SHOULD BE REASSESSED ON A YEARLY BASIS - COMPETITION IS FIERCE & BY OFFERING SOMETHING BETTER & UNIQUE WILL HELP THE GRADUATES FIND WORK!

Thank you for participating in our survey.
616.698.4131 FAX RETURN

FERRIS STATE UNIVERSITY
COLLEGE OF TECHNOLOGY

ARCHITECTURAL TECHNOLOGY
ASSOCIATE IN APPLIED SCIENCE DEGREE
FALL SEMESTER
Curriculum Guide Sheet

NAME OF STUDENT _____ STUDENT I.D. _____

Total semester hours required for graduation: 66

NOTE: Meeting requirements for graduation indicated on this sheet is the responsibility of the student. Compliance with this agreement will assure the student completion of the program in the time frame indicated. Your advisor is available to assist you.

			CREDITS	COMMENTS	GRADE
FIRST YEAR - FALL SEMESTER (17 semester hours)					
ARCH	101	Architectural Graphics 1	4		
ARCH	112	Structural Materials and Systems	4		
ENGL	150	English 1	3		
MATH	116	Interm. Algebra/Num. Trigonometry	4		
ARCH	109	Computer Graphics in Architecture 1	2		
FIRST YEAR - WINTER SEMESTER (18 semester hours)					
ARCH	102	Architectural Construction Documents 1(ARCH 101)	4		
ARCH	115	Interior & Exterior Finishes & Systems (ARCH 112)	3		
ARCH	209	Computer Graphics in Architecture 2 (ARCH 109)	1		
ARCH	244	Historical Development of Western Architecture	3		
ENGL	250	English 2	3		
PHYS	211	Introductory Physics 1	4		
SECOND YEAR - FALL SEMESTER (16 semester hours)					
ARCH	203	Architectural Construction Detailing (ARCH 102, 112, 115)	4		
HVAC	337	Mech. & Electrical Systems for Bldgs. (PHYS 211,MATH 116)	3		
ARCH	223	Statics & Structures (ARCH 112, PHYS 211, MATH 116)	4		
COMM	105	Interpersonal Communication OR			
COMM	121	Fundamentals of Public Speaking	3		
____	___	Architectural Elective _____	2		
SECOND YEAR - WINTER SEMESTER (15 semester hours)					
ARCH	204	Arch. Const. Documents 2(ARCH 203,209,223, or instr. perm.)	4		
PSYC	150	Introduction to Psychology	3		
ARCH	216	Professional Practice	2		
ARCH	250	Systems Cost Estimating (ARCH 102, MATH 116, or permission)	3		
ARCH	241	Design Fundamentals (ARCH 244, or permission)	2		
____	___	Architectural Elective _____	1*		

***One Half Semester Course**

**** Applicable for students laddering into Construction Management.**

ARCH	260	Energy Conscious Design	2	**CONM	111	Construction Practices	3
*ARCH	270	Advanced Usage of CAD in Arch.	1	**CONM	122	Construction Surveying	3
*ARCH	280	Advanced Presentation	1	**CONM	212	Soils and Foundations	3
*ARCH	281	Advanced Presentation 2	1	CONM	224	Codes, Permits, & Gov't. Regulations	3
ARCH	285	House - The American Evolution	2	FMAN	280	Introduction to Facilities Mgt.	2

ARCH'L Electives are offered based upon faculty availability & student demand.

5/98
pm/cksh98f/arch

(OVER)

CURRICULUM REQUIREMENTS
ARCHITECTURAL TECHNOLOGY
ASSOCIATE IN APPLIED SCIENCE DEGREE
FALL SEMESTER

TECHNICAL			CREDIT HOURS
ARCH	101	Architectural Graphics 1	4
ARCH	102	Architectural Constr. Documents 1	4
ARCH	109	Computer Graphics in Arch. 1	2
ARCH	112	Structural Materials and Systems	4
ARCH	115	Int. & Ext. Finishes & Systems	3
ARCH	203	Architectural Construction Detailing	4
ARCH	204	Architectural Constr. Documents 2	4
ARCH	209	Computer Graphics in Architecture 2	1
ARCH	216	Professional Practice	2
ARCH	223	Statics and Structure	4
ARCH	241	Design Fundamentals	2
ARCH	250	Systems Cost Estimating	3
Technical Electives			
Architectural Electives			3
Technical Related			
HVAC	337	Mech. & Elec. Systems for Bldg.	3

GENERAL EDUCATION			CREDIT HOURS
Communication Competence			
ENGL	150	English 1	3
ENGL	250	English 2	3
Scientific Understanding			
PHYS	211	Introductory Physics 1	4
Quantitative Skills			
MATH	116	Interm. Algebra/Num. Trigonometry	4
Cultural Enrichment			
ARCH	244	Historical Devel. of West. Arch.	3
Social Awareness			
PSYC	150	Introduction to Psychology	3
General Education Electives			3
COMM	105	Interpersonal Communications OR	
COMM	121	Fundamentals of Public Speaking	3

A.A.S. Degree Minimum General Education Requirements in Semester Hours:

Cultural Enrichment Credits	3	Social Awareness Credits	3
Communications Credits	6	Scientific Understanding Credits	3-4

(OVER)

Architectural Technology

Associate in Applied Science • College of Technology

The four-semester curriculum of Architectural Technology is specifically designed to provide a strong background in basic architectural and construction subjects, with emphasis placed upon the development of architectural drafting skills and a knowledge of computer graphic techniques involved in the production of architectural working drawings.

Under the guidance of the faculty of professional architects, educational content is geared to the developing needs of contemporary architectural and construction work simulating the practical problems encountered by the architectural technician.

Initial employment with an architectural firm is a primary program objective.

Upon completion of this associate degree, graduates may enroll in the upper division sequence leading to the B.S. in facilities management or construction management. (Further preparation may be required for entry into the construction management program.)

Why Choose Architectural Technology?

The expansion in environmental technology, the growth in building demands, complex building systems, and a broadened range of architectural services have greatly increased the need for skilled architectural technical personnel to function in a support role with professional architects.

A beginning technician may draw building plans, elevations, sections and other construction documents. With experience, the architectural technician becomes involved in other phases of work such as assisting with project field observation, preparation of written specifications and presentation of designs.

There is no geographic limitation on employment opportunities and advancement in the field depends upon the development of technical expertise.

The following is a list of required courses:

Courses in major		Credit Hours
ARCH 101	Architectural Graphics 1	4
ARCH 102	Architectural Construction Documents 1	4
ARCH 109	Computer Graphics in Architecture 1	2
ARCH 112	Structural Materials and Systems	4
ARCH 115	Interior & Exterior Finishes & Systems	3
ARCH 203	Architectural Construction Detailing	4
ARCH 204	Architectural Construction Documents 2	4
ARCH 209	Computer Graphics in Architecture 2	1
ARCH 216	Professional Practice	2
ARCH 223	Statics and Structures	4
ARCH 244	Historical Development of Western Architecture	3
ARCH 250	Systems Cost Estimating	3
HVAC 337	Mechanical and Electrical Systems for Buildings	3
Choose three credits from the following:		
ARCH 260	Energy Conscious Design	2
ARCH 270	Advanced Usage of CAD in Architecture	1
ARCH 280	Advanced Presentation 1	1
ARCH 281	Advanced Presentation 2	1
ARCH 285	House - An American Evolution	2
*CONM 122	Construction Surveying	3
FMAN 280	Introduction to Facilities Management	2
*CONM 111	Construction Practices	3
*CONM 212	Soils and Foundations	3
CONM 224	Codes, Permits, and Govt. Regulations	3
General education		
ENGL 150	English 1	3
ENGL 250	English 2	3
MATH 116	Intermediate Algebra and Numerical Trigonometry	4
PHYS 211	Introductory Physics 1	4
PSYC 150	Introduction to Psychology	3
Choose one:		
COMM 105	Interpersonal Communication	3
COMM 121	Fundamentals of Public Speaking	3

Minimum semester credit hours required for architectural technology A.A.S. degree: 66

*Applicable for students laddering into construction management

Admission Requirements

To be admitted to the Architectural Technology program, a student must have a high school diploma with a 2.0 GPA, or its equivalent, a score of 19 in ACT Math and MATH 116 Placement.

Graduation Requirements

The architectural technology program at Ferris leads to an associate in applied science degree. Graduation requires a minimum 2.0 grade point average in core classes, in the major and overall. Graduates must complete all general education requirements as outlined in the General Education section of the University Catalog.

General Information

Ferris State University is in its second century as one of the nation's premier technical and professional universities. It provides the education to make its graduates immediately employable in their chosen fields.

Approximately 120 educational programs — including doctorates, master's, bachelor's, associate degrees and certificates — are offered through the colleges of Allied Health Sciences, Arts and Sciences, Business, Education, Michigan College of Optometry, Pharmacy and Technology.

A wide variety of student organizations are active on campus, encompassing social, athletic, political, artistic and religious activities and interests.

Arts and cultural events, varsity athletics and an extensive intramural sports program further enrich student life.

The University has on-campus residential facilities for about 40 percent of its nearly 10,000 students.

Founded in 1884 by Michigan educator and statesman Woodbridge N. Ferris, the University has developed a modern, 600-acre campus in Big Rapids, in west central Michigan's vacation-recreation country.

FERRIS STATE UNIVERSITY

Give us a call toll-free at 1-800-4-FERRIS (from MI, IL, IN, OH, WI), or (616) 592-2100. After June 5, call (231) 591-2100.

Visit our homepage <www.ferris.edu>.

obtained by writing to:

Admissions Office
Ferris State University
420 Oak Street
Big Rapids, MI
49307-2020.

Applications can also be submitted on-line at the FSU web site or call the toll-free phone number, both listed below.

Applications are also available at the offices of Michigan high school and community college counselors.

The completed application must be returned to the Admissions Office well in advance of the semester in which the student expects to enroll.

Financial aid

At Ferris, more than 70 percent of the students receive financial aid, including scholarships, grants-in-aid, long-term loans or part-time employment.

The University annually awards more than $43 million in total student aid.

For more information, write to:

Financial Aid Office
420 Oak Street/PRK 102
Big Rapids, MI 49307-2020
or call **1-800-940-4243** (MI, IL, IN, OH, WI) or **(616) 592-2110**.
After June 5, call
(231) 591-2110.

More information

For more information about this program, write to:
Program Coordinator
AT/FM Program
Ferris State University
Swan 312
915 Campus Drive
Big Rapids, MI 49307
or call (616) 592-3773. After June 5, call (231) 591-3773.

COURSE DESCRIPTIONS:

ARCH 101 - ARCHITECTURAL GRAPHICS 1

4 credits
2 Lecture Hours
6 Lab Hours
Prerequisites: None

A foundation in the graphic presentation of buildings based on architectural applications of the following methods: orthographic projection, sketching, paraline drawings and perspective. Emphasis is placed upon development of the line work, composition, lettering, and orthographic and perspective presentation. Drawing enhancements include the use of ink and color, shade and shadow, and poche techniques.

ARCH 102 - ARCHITECTURAL CONSTRUCTION DOCUMENTS 1

4 Credits
2 Lecture Hours
6 Lab Hours
Prerequisites: ARCH 101

Introduction to the development of architectural techniques and procedures involved in the production of architectural working drawings. Site plans, floor plans, building elevations, sections, wall sections, and details are covered. Emphasis is upon the theory of proper layout, indication, dimensioning, and notation required.

ARCH 109 - COMPUTER GRAPHICS IN ARCHITECTURE 1

2 Credits
1 Lecture Hour
3 Lab Hours
Prerequisites None

Development of architectural graphic concepts using microcomputer-based CADD (Computer-Aided Design/Drafting) Systems

ARCH 112 - STRUCTURAL MATERIALS, SYSTEMS, AND CODES

4 Credits
3 Lecture Hours
3 Lab Hours
Prerequisites: None

Study of properties, characteristics, limitations, selection criteria, and graphical interpretation of concrete, steel, masonry, and wood used in foundation, substructure, and superstructure building systems. Considers aesthetic, performance, maintainability, and cost/benefit aspects. Introduces major building codes, material and industry standards, and utilization of manufacturers' catalogs.

ARCH 115 - INTERIOR & EXTERIOR FINISHES & SYSTEMS

3 Credits
3 Lecture Hours
Prerequisites: None

Study of properties, characteristics, limitations, selection criteria, and graphical interpretation of common interior and exterior finish materials and systems utilized in exterior enclosure, roofing, interior construction, and conveying systems of buildings. Considers aesthetic, performance, code requirements, maintainability, and cost/benefit aspects.

ARCH 203 - ARCHITECTURAL CONSTRUCTION DETAILING

4 Credits
2 Lecture Hours
7 Lab Hours
Prerequisites: ARCH 102, ARCH 112, ARCH 115

Introduction to the process of developing construction details as part of working drawings. Emphasis will be placed on assembly of materials to produce buildings that function well in a design-sensitive manner. Product research, performance evaluation, cost/benefit studies, and presentations are included.

ARCH 204 - ARCHITECTURAL CONSTRUCTION DOCUMENTS 2

4 Credits
2 Lecture Hours
7 Lab Hours
Prerequisites: ARCH 203, ARCH 223, ARCH 209 or permission of instructor

The development of presentation drawings and architectural working drawings utilizing a CADD system. This will include preliminary structural and mechanical requirements for projects utilizing steel construction and/or reinforced concrete construction. Typical projects involve low-rise building applications and include commercial, institutional, and industrial building types.

ARCH 209 - COMPUTER GRAPHICS IN ARCHITECTURE 2

1 Credit (one-half semester course)
1 Lecture Hour
3 Lab Hours
Prerequisite: ARCH 109

Further development of concepts taught in ARCH 109 using an integrated system and multi-application software for architectural drawings, introduction to third-party software, nongraphic information support, integration of database and programming enhancement, and customization included.

ARCH 216 - PROFESSIONAL PRACTICE

2 Credits
2 Lecture Hours
Prerequisite: 3rd or 4th semester students only

Overview of legal relationships between owner, architect, and contractor, and a study of written contractual documents developed for an architectural project. Office procedures, A.I.A. standard documents, and currently accepted formats and systems are discussed. Student develops the technical section content of a specification based upon a previously completed project.

ARCH 223 - STATICS & STRUCTURES

4 Credits
4 Lecture Hours
Prerequisites: MATH 116, PHYS 211, ARCH 112

Provides an awareness of the primary structural systems, including wood, concrete, steel, and appropriate use of each. Basic static and strength of material principles are introduced and students are familiarized with references such as the AISC Steel Handbook and the ACI Code.

ARCH 241 - DESIGN FUNDAMENTALS

2 Credits
1 Lecture Hour
3 Lab Hours
Prerequisites: ARCH 244 or permission of instructor

Theories of the design process. Student projects are selected to develop an understanding of the design process and its relation to architecture.

ARCH 244 - HISTORICAL DEVELOPMENT OF WESTERN ARCHITECTURE

3 Credits
3 Lecture Hours
Prerequisites: None

Overview of the historical development of western architecture spanning primarily the ancient, classical, medieval, renaissance, and modern period. Emphasis upon the relationship of form and structure to the social, environmental, and technological factors of the culture from which the architecture came. Open to any student with an interest in this area

ARCH 250 - SYSTEMS COST ESTIMATING

3 Credits
2 Lecture Hours
2 Lab Hours
Prerequisites: ARCH 102, MATH 116

A course in basic methodology of construction cost estimating based on a systems approach. Problems will include takeoff and preparation of estimates that would be appropriate for use during the design stage of a project.

ARCH 260 - ENERGY CONSCIOUS DESIGN

2 Credits
2 Lecture Hours
Prerequisites: None

ARCH 270 - ADVANCED USE OF CADD IN ARCHITECTURE

1 Credit (one-half semester course)
2 Lecture Hours
Prerequisites: ARCH 209 or permission of instructor

Utilizes a micro-computer to construct three-dimensional buildings and site images.

ARCH 280 - ADVANCED PRESENTATION

1 Credit (one-half semester course)
2 Lecture Hours
Prerequisites: ARCH 101 or permission of instructor

Architectural presentation utilizing multiple techniques and media including perspectives, models, and other formats.

ARCH 281 - ADVANCED PRESENTATION 2

1 Credit (one-half semester course)
2 Lecture Hours
Prerequisites: ARCH 101 or permission of instructor

Architectural presentation utilizing models, multi-media, and other formats.

ARCH 285 - HOUSE . . . THE AMERICAN EVOLUTION

2 Credits
2 Lecture Hours
Prerequisite: Second year in the Architectural Technology Program or permission of the instructor

A survey of the development of various housing styles in America and their relationship to each other as well as social and economic developments. Students study the essence of architectural elements common in successful residential design. Students will design a house following the design conventions of the style of their choice for a given program.

ARCH 299 - SPECIAL STUDIES IN ARCHITECTURAL TECHNOLOGY

Credit Hours to be determined
Prerequisites: Consent of instructor and Department Head

Student-initiated studies focusing on a topic chosen by the individual or group. These studies involve problem identification, problem design, methodology, data collection, data analysis, and conclusions expressed in written, graphic, and/or oral reports.

FMAN 280 - INTRODUCTION OF FACILITIES MANAGEMENT

2 Credits
2 Lecture Hours
Prerequisites: None

Focuses on an awareness of the methods and concepts of the Facilities Management processes. Defines Facilities Management services, processes, reviews the history and future of facilities management, and how it fits into the organization. Examines career opportunities within Facilities Management.

HVAC 337 - MECHANICAL & ELECTRICAL SYSTEMS FOR BUILDINGS

3 Credits
3 Lecture Hours
Prerequisites: PHYS 211 and MATH 116

Awareness of heating, ventilating, and air-conditioning systems, water supply, sanitary, storm, and fire protection systems, electrical distribution, lighting, and acoustical systems for buildings. Emphasis is on system integration, energy considerations and their effects on building planning, detailing, and construction. Discusses equipment, code requirements, and building applications.

Appendix H

PROGRAM REVIEW PANEL EVALUATION

Program: _____

Instructions: Circle the number which most closely describes t he program you are evaluating.

1. Student Perception of Instruction — Average Score _____

5	4	3	2	1
Currently enrolled students rate instructional effectiveness as extremely high.				Currently enrolled students rate the instructional effectiveness as below average.

2. Student Satisfaction with Program — Average Score _____

5	4	3	2	1
Currently enrolled students are very satisfied with the program faculty, equipment, facilities, and curriculum.				Currently enrolled students are not satisfied with program faculty, equipment, facilities, or curriculum.

3. Advisory Committee Perceptions of Program — Average Score _____

5	4	3	2	1
Advisory committee members perceive the program curriculum, facilities, and equipment to be of the highest quality.				Advisory committee members perceive the program curriculum, facilities, and equipment needs improvement.

4. Demand for Graduates — Average Score _____

5	4	3	2	1
Graduates easily find employment in field.				Graduates are sometimes forced to find positions out of their field.

5. Use of Information on Labor Market — Average Score _____

5	4	3	2	1
The faculty and administrators use current data on labor market needs and emerging trends in job openings to systematically develop and evaluate the program.				The faculty and administrators do not use labor market data in planning or evaluating the program.

6. Use of Profession/Industry Standards Average Score _____

5	4	3	2	1

Profession/industry standards (such as licensing, certification, accreditation) are consistently used in planning and evaluating this program and content of its courses.

Little or no recognition is given to specific profession/industry standards in planning and evaluating this program.

7. Use of Student Follow-up Information Average Score _____

5	4	3	2	1

Current follow-up data on completers and leavers are consistently and systematically used in evaluating this program.

Student follow-up information has not been collected for use in evaluating this program.

8. Relevance of Supportive Courses Average Score _____

5	4	3	2	1

Applicable supportive courses are closely coordinated with this program and are kept relevant to program goals and current to the needs of students.

Supportive course content reflects no planned approach to meeting needs of students in this program.

9. Qualifications of Administrators and Supervisors Average Score _____

5	4	3	2	1

All persons responsible for directing and coordinating this program demonstrate a high level of administrative ability.

Persons responsible for directing and coordinating this program have little administrative training and experience.

10. Instructional Staffing Average Score _____

5	4	3	2	1

Instructional staffing for this program is sufficient to permit optimum program effectiveness.

Staffing is inadequate to meet the needs of this program effectively.

11. Facilities Average Score _____

5	4	3	2	1

Present facilities are sufficient to support a high quality program.

Present facilities are a major problem for program quality.

12. Scheduling of Instructional Facilities Average Score _____

5	4	3	2	1

Scheduling of facilities and equipment for this program is planned to maximize use and be consistent with quality instruction.

Facilities and equipment for this are significantly under-or-over scheduled.

13. Equipment Average Score _____

5	4	3	2	1

Present equipment is sufficient to support a high quality program.

Present equipment is not adequate and represents a threat to program quality.

14. Adaption of Instruction Average Score _____

5	4	3	2	1

Instruction in all courses required for this program recognizes and responds to individual student interests, learning styles, skills, and abilities through a variety of instructional methods (such as, small group or individualized instruction, laboratory or "hands on" experiences, credit by examination).

Instructional approaches in this program do no consider individual student differences.

15. Adequate and Availability of Instructional Materials and Supplies Average Score _____

5	4	3	2	1

Faculty rate that the instructional materials and supplies as being readily available and in sufficient quantity to support quality instruction.

Faculty rate that the instructional materials are limited in amount, generally outdated, and lack relevance to program and student needs.

MEL KANTOR, AIA, CFM

4314 MILLPOND DRIVE
ROCKFORD, MICHIGAN 49341
616.866.1151 HOME
231.591.2625 OFFICE
231.591.2931 FAX

PRESENT POSITIONS:

- **Professor,** Architectural Technology and Facilities Management Programs, Ferris State University (1974 - Present)
- **Program Coordinator,** Architectural Technology and Facilities Management Programs, Ferris State University (1996 - Present)
- **Architectural/Facilities Management Consultant,** Mel Kantor, AIA Architect (Private consulting practice, 1984 - Present)

PAST POSITIONS:

- **Program Coordinator**, Architectural Technology and Facilities Management Programs, Ferris State University (1984 - 1987 & 1992 - 1995)
- **Architect/Principal**, Gienapp/Kantor AIA - Architects (1976 - 1984)
- **Architect/Senior Associate,** Herbert Shaffer Associates, Chicago, Illinois (1967 - 1974)
- **Architect**, James M. Turner & Associates, Architects, Hammond, Indiana (1961 -1967)
- Draftsperson, Coleman & Coleman, Architects, Chicago, Illinois (1959 - 1961)

EDUCATION:

- Bachelor of Architecture Degree - University of Illinois, 1960
- Graduate courses in Sociology (approx. 20 credit hours) - Central Michigan University

CONTINUING EDUCATION:

- University of Wisconsin
- University of Michigan
- Massachusetts Institute of Technology
- Rensselar Polytechnic Institute
- Ferris State University
- Lawrence Technological University
- Northwestern Michigan University
- Oak Ridge Associated Universities
- Grand Rapids Community College
- Archibus FM Corporation
- Northwestern Michigan University
- FM Systems Software Seminars
- Federal Emergency Management Agency
- National Passive Solar Energy Conferences
- Cad Design Systems, Inc.
- International Facilities Management Association
- AEC Systems, Inc. Conferences
- Tennessee Valley Authority
- Microcad Institute
- American Institute of Architects
- Eastern Michigan University
- NEOCON Conferences
- Northwood University

A detailed list of courses, conferences, etc., is available on request.

ARCHITECTURAL REGISTRATIONS:

- National Council of Architectural Registration Boards Certification
- State of Illinois
- State of Michigan

FACILITIES MANAGEMENT CERTIFICATION:

- Certification as a facilities manager (CFM) from the International Facilities Management Association.

PROFESSIONAL MEMBERSHIPS:

- American Institute of Architects (AIA)
- Michigan Society of Architects (MSA)
- Grand Valley Chapter - American Institute of Architects (GVAIA)
- International Facilities Management Association (IFMA)
- Facility Management Educators' Council
- West Michigan Chapter – IFMA

RECENT PROFESSIONAL ACTIVITIES (Non-Academic):

• Member and Chairperson	City of Big Rapids Plan Board (1981 -1989)
• Director	Grand Valley Chapter - American Institute of Architects (1985 - 1987) (1993 - 1996) (1998 - Present)
• Member	Program Committee , GVAIA (1990 - 1992)
• Chairperson	GVAIA Education Committee (1993 - 1996) (1997 – Present)
• Member	International Facilities Management Educators' Council
• Secretary	International Facilities Management Association - West Michigan Chapter (1997 - 1999)
• President	International Facilities Management Association - West Michigan Chapter (1999 - Present)
• President	International Facilities Management Educators' Council (1995 - 1999)
• Member	Grand Rapids Downtown Development Board Affordable Housing Task Force (1993 - 1995)
• Member	Urban Institute of Contemporary Art Design Committee (1996 - Present)
• Architectural Consulting	Residential and commercial architectural, interior design consulting, Michigan and Illinois
• Facilities Management Consulting	Institutional and Corporate Facilities Management Consulting

RECENT ACADEMIC ACTIVITIES:

• Sabbatical Research	Low-cost Cadd Systems and Review of Autocad Manuals
• Basic Autocad Seminar	presented to high school educators (1995)

- Vocational/Industrial Council of America — Wrote and proctored the architectural portion of the State of Michigan exam for approximately the last twelve years (resigned in 1996)

- Involved with other AT/FM faculty in the development of a Baccalaureate in Architectural Technology (currently on indefinite hold)

- Developed the curriculum for a Baccalaureate Program in Facilities Management which began in the fall of 1989.

- Judge for the LCC High School Design Competition for the last eight years.

- Judge of several VICA Architectural Competitions

- Judge of two Rockford High School Design Competitions

- Judge – Grand Rapids Home Builders Association, Awards of Excellence 1996 - 1998

- Developed course in Advanced Architectural Presentation

- NEOCON Presentations on Facilities Management Education – 1997 – 1998

- In a joint effort with two facilities management colleagues, the Facilities Management program received International Facilities Management recognition for meeting IFMA'S academic standards. The program was one of the initial five internationally to receive this honor.

AWARDS:

- Received 1996 Architectural College Educator of the Year Award at the Lansing Community College Architectural Design Competition

- Received 1996 State of Michigan Vocational Industrial Councils of America Service Award

- Received 1999 AIA Grand Valley Chapter's Presidents' Award

BRUCE C. DILG

6710 HUNGERFORD LAKE DR..
BIG RAPIDS, MI 49307
(231)592-2631 (W) (231) 592-8265 (H) EMAIL DILGB@COT01.FERRIS.EDU

PROFESSIONAL EXPERIENCE

FERRIS STATE UNIVERSITY *JAN 1987 to Present*
BIG RAPIDS, MI

ASSOCIATE PROFESSOR ARCHITECTURAL TECHNOLOGY

PROGRAM COORDINATOR 1988-1991

COURSES TAUGHT INCLUDE ADVANCED ARCHITECTURAL DETAILING, ADVANCED WORKING DRAWINGS, BEGINNING-ADVANCED AND 3D MODEL/RENDERING IN AUTOCAD, MECHANICAL/ELECTRICAL SYSTEMS FOR BUILDINGS, PROFESSIONAL PRACTICE, CONSTRUCTION MATERIALS, ARCHITECTURAL DESIGN FOR FACILITY MANAGERS

DEVELOPED BACHELOR OF SCIENCE DEGREE IN ARCHITECTURAL TECHNOLOGY, SUMMER 1995.

ARCOM ARCHITECTS *JUN 1979 to Present*
BIG RAPIDS, MI

SOLE PROPRIETOR

BEGAN FIRM WITH PARTNER IN LANDER, WY, CONTINUED WHEN ARRIVING IN MICHIGAN. PROJECTS HAVE INCLUDED JAILS, SCHOOLS, OFFICES, CHURCHES, INTERIORS AND CUSTOM RESIDENCES UP TO 2.5 MILLION DOLLARS.

CENTRAL WYOMING COLLEGE *SEP 1985 to DEC 1986*
RIVERTON, WY 82521

INSTRUCTOR DRAFTING TECHNOLOGY

COURSES TAUGHT INCLUDED ARCHITECTURAL DRAFTING, SURVEYING, STRUCTURAL DESIGN, ENGINEERING GRAPHICS AND AUTOCAD

JOHN HACKLER AND CO. ARCHITECTS *1967 to 1969, 1971 to 1979*
PEORIA, IL 61602

SENIOR ASSOCIATE - PRODUCTION MANAGER

PROJECT MANAGER ON SEVERAL AIA AWARD WINNING PROJECTS INCLUDING NATIONAL AIA/ALA BIANNUAL AWARD FOR EXCELLENCE.

COMPONENT BUILDING SYSTEMS *1970 to 1971*
CHICAGO, IL

RESPONSIBLE FOR DEVELOPING EXTERIOR WALL DETAILS ON JOINT VENTURE OF PARIS ARCHITECTS, CHICAGO CONTRACTOR AND CONSULTING ENGINEERS ON AMERICANIZATION OF 1967 REYNOLDS ALUMINUM AWARD WINNING PROJECT IN ROUEN, FRANCE.

SCHMIDT, GARDEN AND ERIKSON ARCHITECTS *1970*
CHICAGO, IL

RESPONSIBLE FOR DEVELOPING EXTERIOR WALL DETAILS ON 40 MILLION DOLLAR HOSPITAL IN INDIANAPOLIS, INDIANA.

PROFESSIONAL EXPERIENCE (cont)

ILLINOIS CENTRAL COLLEGE *1968, 1969*
EAST PEORIA, IL
ADJUNCT INSTRUCTOR OF ARCHITECTURAL BLUEPRINT READING.

RICHARD ENGBERG AND ASSOC., CONSULTING ENGINEERS *1964 to 1967*
PEORIA, IL
INITIAL DRAFTING JOB, TURNED INTO FULL TIME DESIGNER OF HVAC AND PLUMBING SYSTEMS UP TO 150 TON ABSORPTION UNIT SYSTEMS.

REGISTRATIONS

REGISTERED PROFESSIONAL ARCHITECT - ILLINOIS, WYOMING, MICHIGAN

NATIONAL COUNCIL OF ARCHITECTURAL REGISTRATION BOARD CERTIFIED

REGISTERED TEACHER 6-12, WYOMING, ILLINOIS

EDUCATION

FERRIS STATE UNIVERSITY *1987 to 1993*
BIG RAPIDS, MI 49307
MASTER OF SCIENCE OCCUPATIONAL EDUCATION/DISTINCTION

UNIVERSITY OF ILLINOIS SCHOOL OF ARCHITECTURE *1970*
CHICAGO, IL

BRADLEY UNIVERSITY *1961 to 1965*
PEORIA, IL 61602
BACHELOR OF SCIENCE INDUSTRIAL EDUCATION

PRESENTATIONS/PUBLICATIONS

INNOVATIONS IN BUILDING DESIGN COLLECTIVE BARGAINING SEMINAR, MICHIGAN STATE BUILDING AND CONSTRUCTION TRADES COUNCIL, JAN 1989

STRUCTURAL FRAMING SEMINAR BUILDING INSPECTORS OF NORTHWESTERN MICHIGAN, JAN 1990

STRUCTURAL FRAMING SEMINAR BUILDING INSPECTORS OF SOUTHWESTERN MICHIGAN, APR 1990

C.A.D. IN ARCHITECTURE A.T.E.A. CONFERENCE, NOV 1990

ADVANCED AUTOCAD FOR HIGH SCHOOL TEACHERS FERRIS STATE UNIVERSITY, OCT 1994, 1995

CHANGES IN ARCHITECTURE TUBELITE/INDAL SALES CONFERENCE, AUG 1993

STUDENT MOTIVATION DELTA SIGMA PI BUSINESS FRATERNITY, NOV 1993

WHAT GRADUATES DON'T KNOW SIDEBAR TO "THE SCHOOLS: HOW THEY'RE FAILING THE PROFESSION (AND WHAT WE CAN DO ABOUT IT)" BY MICHAEL CROSBIE, PROGRESSIVE ARCHITECTURE, SEP 1995

PROFESSIONAL ACTIVITIES

GERMANTOWN HILLS PLANNING COMMISSION - CHAIRMAN 1976/77

PEORIA SECTION AIA - PRESIDENT 1977

NCARB DESIGN EXAM EVALUATOR - CHERRY HILL, NJ - JUL 1978

LANDER PLANNING COMMISSION - VICE PRESIDENT 1985/86

JUDGE - MICHIGAN ASSOCIATION VOCATIONAL INDUSTRIAL CLUBS OF AMERICA - MAY 1987

A/E/C CONFERENCE - WASHINGTON, DC - JUN 1987

INSTRUCTOR - AutoCAD FOR FERRIS INSTRUCTORS - FALL 1987

INSTRUCTOR - AutoCAD SEMINAR - MAY 1988

AutoCAD TRAINING - HERMAN MILLER CORPORATION - HOLLAND, MI - JUL 1988

AIA CONDOC SEMINAR - BALTIMORE, MD - DEC 1989

AutoCAD TRAINING - MID MICHIGAN ENGINEERS, BIG RAPIDS, MI - FEB 1989

SPECIFICATION CONSULTANT - PROGRESSIVE ARCHITECTS - GRAND RAPIDS, MI JUL 1989

CAD EVALUATION CONSULTANT - SVERDRUP CORPORATION - ST. LOUIS, MO. AUG 1989

REVIEWER - STUDENT OCCUPATIONAL COMPETENCY ACHIEVEMENT TEST, NOCTI - JAN 1990

JUDGE ASSOCIATED BUILDING CONTRACTORS CONSTRUCTION AWARDS PROGRAM - 1989 thru 1995

TEACHING THINKING SKILLS WORKSHOP - FERRIS STATE UNIVERSITY - BIG RAPIDS, MI - SEP 1990

AMERICAN COLLEGIATE SCHOOLS OF ARCHITECTURE TECHNOLOGY CONFERENCE - HARVARD UNIVERSITY - CAMBRIDGE, MA - FEB 1991

INSTRUCTOR FSU FACULTY AutoCAD - AUG 1991

A/E/C CONFERENCE - DALLAS, TX - JUN 1992

MEMBER - AMERICAN COLLEGIATE SCHOOLS OF ARCHITECTURE - 1992,93

MONDAY NIGHT TECHNOLOGY INSTRUCTOR - 1993,94,95,96

NEOCON - CHICAGO, IL - JUN 1993

AIAS STUDENT CHAPTER ADVISOR - 94/94, 95/96, 96/97

AAHE FORUM ON EXEMPLARY TEACHING (SELECTED REPRESENTATIVE) - WASHINGTON, D.C. - MAR 1995

PRIVATE ARCHITECTURAL PRACTICE (ARCOM ARCHITECTS) SINCE 1979

HARVARD UNIVERSITY GRADUATE SCHOOL OF DESIGN, JUL 1996 - HOW TO AVOID BUILDING ENVELOPE PROBLEMS

M.I.T.E.S. EDUCATION AWARDS PROGRAM - REGIONAL JUDGE 1996,1997, STATE JUDGE 1997

RECOGNITIONS

WHO'S WHO IN THE MIDWEST - 1979

WHO'S WHO IN THE WEST - 1985

CERTIFICATE OF RECOGNITION, FERRIS STATE UNIVERSITY BOARD OF CONTROL, MAY 1993
FOR ACHIEVING NATIONAL RECOGNITION AS A RESULT OF HIS SUPERVISING STUDENTS IN THE RENOVATION OF RESIDENTIAL HOUSING FOR THE BENEFIT OF HABITAT FOR HUMANITY THUS ENHANCING THE ACADEMIC REPUTATION OF THE UNIVERSITY

DISTINGUISHED TEACHING AWARD - MILWAUKEE SCHOOL OF ENGINEERING - 1997

UNIVERSITY COMMITTEE ACTIVITIES

CONSTRUCTION DEPARTMENT COMPUTER COMMITTEE

COLLEGE OF TECHNOLOGY CURRICULUM COMMITTEE

PROGRAM COORDINATORS COMMITTEE

UNIVERSITY MASTER PLAN COMMITTEE

INTERNAL COMMUNICATION COMMITTEE

SYMPHONY (COMMUNITY BUILDING) COMMITTEE

UNIVERSITY SIGNAGE COMMITTEE

CENTENNIAL DINING ROOM COMMITTEE

UNIVERSITY RECREATION DIRECTOR SEARCH COMMITTEE - CHAIR

UNIVERSITY WELCOME CENTER STUDY COMMITTEE - CHAIR

UNIVERSITY GENERAL EDUCATION EVALUATION COMMITTEE

COMPUTER INFORMATION SYSTEMS PROGRAM REVIEW COMMITTEE

OTHER UNIVERSITY/CIVIC ACTIVITIES

UNIVERSITY THEATRE (ACTING)

COMMUNITY THEATRE (ACTING)

COMMUNITY BIG RAPIDS ARTS CHORALE

UNIVERSITY MENS GLEE CLUB

BIG BROTHERS/BIG SISTERS

PARTNERS IN EDUCATION - BIG RAPIDS HIGH SCHOOL

FSU FOOTBALL SCOREBOARD OPERATOR

MECOSTA/OSCEOLA MATH SCIENCE CENTER/RESEARCH PROJECT MENTOR

YOUNG LIFE - BOARD MEMBER

MECOSTA/OSECOLA MATH SCIENCE CENTER - ARCHITECTURAL DESIGN FOR GIFTED SENIORS

REFERENCES

MR. GARY GERBER, RA
6803 BLUE RIDGE NE
BELMONT, MI 49306
(616) 363-6805 (H) (616) 592-2631

MR. MITCH LECLAIRE, PE
915 CHERRY
BIG RAPIDS, MI 49307
(616) 796-0736 (H) (616) 592-2748 (W)

MR. JIM SHANE, AIA
14500 190TH
BIG RAPIDS, MI 49307
(616) 796-5471

JOE M. SAMSON
7405 Arbol Drive NE;Rockford, Michigan 49341
Phone: 616-874-8070
Registered Architect: Ohio and Michigan
Certified Facility Manager-1997(by International Facilities Management Association)
(Note: Achievements since last promotion application shown in italics.)

PROFESSIONAL EXPERIENCE:

FERRIS STATE UNIVERSITY
College of Technology; Construction and Facilities Department
Architectural Technology and Facilities Management Programs
Big Rapids, Michigan 49307

***ASSOCIATE PROFESSOR**-(September '94-Present)*
Continue to teach within program area. The following are key activities:

- *Developed Minor Degree option for Facilities Management Program. Approved 1996.*
- *Organized FM curriculum revision process with Vicky Hardy and Mel Kantor. Approved 1998.*
- *Adapted FMAN 331 and FMAN 451 to distance learning methods and taught both courses via distance learning.*
- *Worked with architectural technology faculty to develop proposal for baccalaureate degree in architectural technology. Developed and proposed to faculty concept of tracks for the degree. Developed survey for professionals regarding their need for graduates of proposed program. (this proposal has not moved outside the program)*

ASSISTANT PROFESSOR-Tenured '93 (September '88-September '94)
Teach in an Architectural Technology Associate Degree program which prepares students to work in the architectural field or go on to further studies. Courses taught include architectural graphics and presentation techniques, beginning computer graphics, working drawings in both first and second year courses, and contract documents and specifications. Also, teach facilities programming and facilities operations in a Baccalaureate Facilities Management Program.

CLEVELAND METROPOLITAN GENERAL HOSPITAL
Department of Facilities Planning
3395 Scranton Road, Cleveland, Ohio 44109

ARCHITECT-(April '88-July '88)
Served as liaison between hospital and consulting architects and designers. Developed conceptual design programs for implementation of hospital master plan.

A. A. LUKETIC ASSOCIATES, INC; ARCHITECTS-(1987-1988)
3385 Biltz Road, Kent, Ohio 44240

Subcontractor to firm specializing in residential and small commercial projects.

UNIVERSITY HOSPITALS OF CLEVELAND
Department of Planning and Construction
2074 Abington Road, Cleveland, Ohio 44106

PROJECT COORDINATOR-(January '83-August '86)
Responsible for remodeling and new construction within the hospital, program development, content of working drawings and specifications, cost estimates for administration, competitive bidding, letting of contracts, scheduling and supervision of work, payment approval, and supervision of drafters.

DRAFTER-(June '81-January '83)
Responsible for the preparation of working drawings for construction projects within the hospital.

ROBERT L. HUNKER ASSOCIATES, INC.
Box 178, Peninsula, Ohio 44264

ARCHITECTURAL DESIGNER-(November '78-June '81)
Design and preparation of working drawings, specifications, bids, material and cost estimates for commercial and residential projects. Client contact, construction supervision, and work with survey crews to lay out allotments.

HWH ASSOCIATES, INC.
1150 West 3rd St., Cleveland, Ohio 44113

ARCHITECTURAL DRAFTER-(June '77-November '78)
Prepared architectural, structural, and mechanical working drawings for industrial projects. Prepared material estimates.

NORTHEAST OHIO AREAWIDE COORDINATING AGENCY
1501 Euclid Avenue, Cleveland, Ohio 44115

PLANNING INTERN-(Summer '76)
Developed computerized community participation correspondence system for federally funded 208 Wastewater Management Program.

PROFESSIONAL ACTIVITIES AND AFFILIATIONS:

- ***Member,*** *Facilities Management Educators' Council. ('91-Present)*
- ***Member,*** *International Facilities Management Association. ('89-Present)*
- ***Secretary-Treasurer,*** *Facilities Management Educators' Council. ('94-'96)*
- **Member,** Architects/Designers/Planners for Social Responsibility. ('89-'95)
- **Member,** City of Kent, Ohio; Board of Zoning Appeals. (August '86-August '88)

ACADEMIC BACKGROUND:
KENT STATE UNIVERSITY
Kent, Ohio 44242

MASTER OF ARCHITECTURE-3.67 GPA (Spring '88)
Thesis Title: "Post-Occupancy Evaluation as a Function of the Design-Construction Process: A Study of Office Spaces as Perceived by the Designer, Client, and User."

TEACHING ASSISTANT-(Fall '86-Spring '87)

BACHELOR OF ARCHITECTURE-3.18 GPA (Spring '77)
Tau Sigma Delta Honorary

GRADUATE SCHOOL OF BUSINESS-(Spring '81-Spring '85)
24 Graduate hours completed

CONTINUING EDUCATION:

Handling Asbestos: Your Rights and Responsibilities Workshop. *Sponsored by the Michigan Department of Environmental Quality. Grand Rapids, MI (March '98)*

"Archibus Training the Trainers Seminar"*, Presented by Archibus in Boston, MA. Part of grant obtained by Mel Kantor, seeded by initiatives identified at "Faculty Summer Institute". (June '97)*

"FM-Systems Seminar"*, Presented by Mike Schley of FM-Systems, a seminar on computer based Facility Planning and Management. Sponsored by Joe Samson and Vicky Hardy with funds from the "Faculty Summer Institute". (April '97)*

"Environmentally Conscious Interior Design"*, Presented by Denise Guerin, PhD of the University of Minnesota at Eastern Michigan University, Ypsilanti, MI. (March '97)*

"Faculty Summer Institute", Presented by the Center for Teaching, Learning, and Faculty Development at Ferris State University. (June '96)

"Facility Executive Perspectives on Workplace for the Next Millenium", Presented in Chicago, IL by the International Society of Facility Executives (MIT), 336 Main Street, Cambridge, MA 02142-1014. (June '96)

"Focus on Facilities", Seminar sponsored by Northern Illinois IFMA Chapter, Chicago, IL. (October '94)

"AutoCAD Advanced Drafting", Grand Rapids Community College Autodesk Training Center. (March '94)

"A Better Environment-By Design", A seminar on environmentally sensitive design and construction. Sponsored by Michigan Construction Users Council. Lansing, MI. (December '93)

"Creating Learning Organizations: Growth Through Quality:, PBS produced conference featuring Drs. Deming and Senge. Teleconference at FSU. (February '93)

"FSU Technology/Business Faculty Seminar". Sponsored by FSU. (October '92)

"Construction Department AutoCAD Seminar". Sponsored by FSU Construction Department. (Summer '91)

"Facilities Strategic Planning Seminar". Sponsored by International Facilities Management Association. Chicago, IL. (July '90)

"Gerholtz Institute AutoCAD Seminar". FSU. (Fall '89)

"The Life Safety Code Seminar". Sponsored by the National Fire Protection Agency. Albany, NY. (Spring '86)

CONFERENCES AND CONVENTIONS ATTENDED:

World Workplace; *Annual conference and convention for the International Facility Management Association. Chicago, IL (October '98)*

A/E/C Systems '98; *Seminar of computer and software systems for architects, engineers, and contractors. Chicago, IL (June '96)*

Facilities Management Educators' Council. *Conferences.* Lansing, MI (September '91), Grand Rapids, MI (September '92), *Buffalo, NY (September '93), Lansing, MI (May '94)*

IFMA Student Conference; Lansing, MI (September '91), Grand Rapids, MI (September '92), *Lansing, MI ('94)*

NEOCON; Chicago, IL. (June '90, '91, '92)

COURSES TAUGHT:

ARCH 101 - Architectural Graphics (4 ch): Taught every Fall Semester.
Utilized the concepts of team projects and cooperative learning to master the basics of architectural drafting.

ARCH 102 - Working Drawings 1 (4 ch): Taught every Winter Semester.
Utilized the concepts of team projects and cooperative learning to design and develop a set of working drawings for a small building.

ARCH 109 - Computer Graphics in Architecture 1 (2 ch): Taught most fall Semesters and some Winter semesters.
Developed HVAC related projects for HVAC sections of course.

ARCH 285 - House: An American Evolution (2 ch): Taught most fall Semesters.
Continue to teach this course which I developed.

FMAN 331 - Facility Programming and Design Management (3 ch): Taught Winter Semester at FSU and at night at the ATC.

Selected and integrated new text into course. Revised course to conform with curriculum revisions for Facilities Management program.

FMAN 451 - Building Diagnostics and Operations (3 ch): Taught Fall Semester at FSU and Summer Semester at the ATC.

Revised course to conform with curriculum revisions for Facilities Management program. Integrated cost and time estimating system into course.

TEACHING METHODOLOGY AND RELATED:

FM Minor Degree Option: *Developed Minor Degree option for Facilities Management Program. Approved 1996.*

FM Curriculum Revisions: *Organized FM curriculum revision process with Vicky Hardy and Mel Kantor. Approved 1998.*

Distance Learning: *Adapted FMAN 331 and FMAN 451 to distance learning methods and taught both courses via distance learning.*

Architectural Technology Baccalaureate Development: *Worked with architectural technology faculty to develop proposal for baccalaureate degree in architectural technology. Developed and proposed to faculty concept of tracks for the degree. Developed survey for professionals regarding their need for graduates of proposed program. (this proposal has not moved outside the program)*

BOOK REVIEWS:

WEST PUBLISHING CO.
454 Central Avenue, Highland Park, IL 60035

Architectural Drafting Fundamentals; Mark Schwendau.
-Overall evaluation of proposal for text. (July '93)

Construction Materials; William P. Spence.
-Reviewed entire draft. (February '93)

AEC Drafting Fundamentals; Jules Chiavaroli.
-Reviewed final draft. (July '94)
-Reviewed revised draft of Chapters 13-16. (October '93)
-Reviewed revised draft of Chapters 8-12. (August '93)
-Reviewed revised draft of Chapters 1-7. (July '93)
-Reviewed entire draft. (December '92)
-Reviewed revised draft of Chapters 1-9. (April '92)
-Reviewed original draft of Chapters 1-9. (April '91)

PUBLICATIONS AND PRESENTATIONS:

"World Workplace '98 Session Moderator"; *Provided introduction as well as facilitated educational sessions at the convention. "Computer Maintenance Management System Implementation" by Kalman Feinberg, Facilities Management Engineering Inc., Teaneck, NJ and "Managing the Moves/Adds/Change Process" by Sonya Toblada, Facility Resources Inc., Atlanta, GA; Chicago, IL. (October '98)*

"CAD Basics II", *Presented with Diane Nagelkirk at "Architectural Graphics Design Seminar"; FSU, Big Rapids, MI. (April '97)*

"How Would an Architect Do That?"; *Presented with Diane Nagelkirk and Dave Tulos at "Architectural Graphics Design Seminar"; FSU, Big Rapids, MI. (October '94)*

"Drafting Techniques for Communicating Architectural and Building Technology Concepts"; Presented with Diane Nagelkirk at "Back to the Future II"; FSU, Big Rapids, MI. (March '93)

"Post-Occupancy Evaluation of Buildings and Its Impact on Users"; Presented at Environment-Behavior Applications in the Design Field; Kent State University; Kent, OH. (November '91).

"Architecture of the '90s: A Vision of an Environmentally and Socially Responsible Built Environment"; Presented with Diane Nagelkirk at ATEA Workshop sponsored by FSU, Big Rapids, MI. (November '90)

"Conflicting Environmental Priorities of Designers, Clients, and Users of Office Spaces: A Survey of Eight Office Settings"; Design Methods and Theories, Vol. 22, No. 3, '88, page 878.

"Post-Occupancy Evaluation of Environmental Systems in Commercial and Institutional Office Buildings"; Co-author with Jack Alan Kremers, Prof. of Architecture, Kent State University; Presented at the Energy Conference sponsored by the Tennessee Valley Authority; Chattanooga, TN. (May '88)

CONSULTING:

MICHIGAN OCCUPATIONAL COMPETENCY ASSESSMENT CENTER; Big Rapids, MI (May '99)
Administered and graded performance portion of architectural drafting portion of test.

SHIAWASSEE COUNTY COMMUNITY MENTAL HEALTH CENTER; Owosso, MI ('98-'99)
Developed methodology to audit and develop preventive maintenance plans and budgets for the health center which consists of 4 leased spaces within the city of Owosso.

MECOSTA COUNTY GENERAL HOSPITAL; Big Rapids, MI ('97)
Long Term Site Development and Master Planning for hospital complex, along with preliminary budgeting and recommendations on atmosphere and visitor wayfinding.

OTTAWA INTERMEDIATE SCHOOL DISTRICT; Holland, MI ('97)
Space Planning for Grand Haven and Holland CBI (Community Based Instruction) facilities

OTTAWA INTERMEDIATE SCHOOL DISTRICT; Holland, MI ('97)
Master Planning for Educational Services Building.

HASHIMI RESIDENCE; Big Rapids, MI ('97)
Schematic Design, Design Development for new residence.

FRASER RESIDENCE ADDITION; Big Rapids, MI. ('97)
Schematic Design, Design Development for living area for physically disabled daughter.

BRASSEUR RESIDENCE; Hastings, MI. ('94-'95)
Schematic design, Design Development, Contract Documents for 8500 square foot home.

BEURKENS SUMMER HOME; Chippewa County, MI. (Summer '93)
Feasibility, Schematic Design.

PELLISIER RESIDENCE; Rockford, MI. (Spring '93)
Design drawings for renovation of laundry and storage area.

GORNEY RESIDENCE; Grand Rapids, MI. (Summer '92)
Design and schematic drawings for a contemporary residence.

MULLINS CABIN; Portage County, OH. (Summer '90)
Design and working drawings for a small rural cabin.

WVIZ-TV25; Cleveland, OH. ('85)
Design and schematic drawings for addition and renovation to office area and transmission areas.

CHURCH OF THE BLESSED HOPE; Chesterland, OH. ('84)
Design and working drawings for addition to church.

Several other private residences in the northeast Ohio area.

SERVICE AND COMMITTEE MEMBERSHIPS:

Program:

- *Develop exit interview for graduating AT and FM students. Compile results and prepare annual reports. (Spring '92-Present)*
- *Developed standards for Facilities Management transfer students with input of AT/FM faculty. ('94-Present)*
- *Worked with architectural technology faculty to develop proposal for baccalaureate degree in architectural technology. Developed and proposed to faculty concept of tracks for the degree. Developed survey for professionals regarding their need for graduates of proposed program. (this proposal has not moved outside the program)*
- *Member lab maintenance committee. (Fall '92-Present)*
- *Faculty Co-advisor International Facilities Management Association, FSU Student Chapter. ('90-Present)*
- *Architectural Technology and Facilities Management Library Liaison. ('89-Present)*
- *Organized first and second "Architectural Graphics and Design Seminar" for high school drafting*

instructors with presentations by FSU Architectural Technology faculty. (October '94, '95)
- *Developed proposal for Minor Degrees in Facilities Planning Management and Facilities Operations Management with Vicky Hardy. (Approved Spring '96)*
- *Prepared program display for Construction Specification Institute Convention. ('96)*
- *Record, prepare, and distribute minutes of AT/FM program meetings. (Fall '91-Spring '94)*
- *Member course scheduling committee. (Fall '92-Spring '94)*
- *Participated in Homecoming Chili Cookoff (Fall '97)*
- *Participated in "Autumn Adventure". (October '93, '94, '95, '98)*
- Organized field trip for students to Cleveland, Ohio. (April '93)
- Faculty Co-advisor American Institute of Architectural Students. ('89-'90)
- AIAS student field trip to Columbus, IN. (April '91)
- Organized departmental display for Michigan Society of Architects Convention. (Fall '88-'89)
- Organized student/program advisory board interaction sessions for '89 advisory board meeting.

Department:
- *Mentor and Chair of Tenure Committee for Victoria Hardy. ('94-Present)*
- Member Search Committee for Construction Department Head. (April-May '91)
- Mentor to Dave Batie. ('90-'91)
- Member of committee to write proposal for a "Summer Institute" program at FSU. (Fall '90)

College:
- *Member College of Technology Promotion Committee (Fall '97-Spring '00)*
- *Chair of College of Technology Promotion Committee ('98-'99 Academic Year)*
- *Cooked at COT Student Picnic ('96, '97)*
- *Represented Construction Department in writing of program goals for State Grant Request for proposed Technology Building Addition. (October '94)*
- Worked with College of Technology to develop Alumni Survey. ('90)

University:
- *Member of Student Fees Committee. ('97-'99)*
- *Member of University Recreation Advisory Committee.* (March '93-*March '94*)
- Member Campus Facilities Master Planning Committee. ('90-'93)
- Member International Education Committee. ('90-'91)
- Member FSU Academic and Administrative Computer Activities Steering Committee. ('89-'90)

Community:
- *Volunteer Landscaping Coordinator for Project One (similar to Habitat) Davis Street house in Grand Rapids. (May '99).*
- *Carpentry volunteer for Project One Davis Street house in Grand Rapids. (Fall '98)*
- *Michigan Association of Vocational Industrial Clubs of America; Developed design and drafting project for state architectural competition. (April '97)(April '98)(April '99)*
- *Grand Rapids Home Builders Association. Judge for Awards of Excellence. (June '91, '92, '93, '94, '95, '96, '97)*
- *Olde Millpond Condominium, Building and Grounds Committee. Chair (April '94-July '95) Member* (October '92-*July '95)*
    - *instrumental in negotiating maintenance contracts.*
    - independently developed computerized spread sheet to schedule and budget long term maintenance. (Summer '93)
- *Olde Millpond Condominiums, Board of Directors. Member (April '94-July '95) Associate Member* (May '92-*April '94)*
- *Monday Night Technology at FSU. (January '95)*
    - *helped 7th and 8th graders attending a seminar developed by Bruce Dilg.*
- Building review and schematic design for Downtown Development Authority; City of Coopersville. Joint project with Mel Kantor and Diane Nagelkirk. (September '92-August '93)
    - Schematic design for new city signage. (Summer '93)
    - Schematic design for apartments over Annabelle's Dress Shop. (Summer '93)

- Schematic design for renovation to facade of Safeway Lumber. (Summer '93)
- Rockford City Schools; Judge for Architectural Drafting Competition. (April '91, April '92)
- Michigan Association of Vocational Industrial Clubs of America; Judge for state architectural competition. (May '89, May '92)

References Available on Request.

CURRICULUM VITAE

DIANE L. NAGELKIRK

2536 Michigan N.E. · Grand Rapids, Michigan 49506 · 616 957-0276

EDUCATION

LAWRENCE TECHNOLOGICAL UNIVERSITY, Southfield, Michigan
Bachelor of Architecture, 1984

LAWRENCE TECHNOLOGICAL UNIVERSITY, Southfield, Michigan
Bachelor of Science in Architecture, 1982

CALVIN COLLEGE, Grand Rapids, Michigan
Sociology Major, 1975-1979

PROFESSIONAL EXPERIENCE

FERRIS STATE UNIVERSITY, Big Rapids, Michigan
Architectural Technology/Facilities Management Program
Associate Professor, September 1995-present

FERRIS STATE UNIVERSITY, Big Rapids, Michigan
Architectural Technology/Facilities Management Program
Program Coordinator, Associate Professor, January 1995-August 1996

FERRIS STATE UNIVERSITY, Big Rapids, Michigan
Architectural Technology/Facilities Management Program
Assistant Professor, September 1988-December 1994

WBDC GROUP, INC., Grand Rapids, Michigan
Health Care Division
Associate Architect, August 1987-August 1988

DSO REID ARCHITECTS, INC., Grand Rapids, Michigan
Associate Architect, September 1985-July 1987

VERMURLEN ARCHITECTURE, Grand Rapids, Michigan
Associate Architect, December 1984-August 1985

LAWRENCE TECHNOLOGICAL UNIVERSITY, Southfield, Michigan
Office of Public Relations
Graphic Artist, March 1981-June 1984

PROFESSIONAL REGISTRATION

- Licensed Architect, State of Michigan

PROFESSIONAL ASSOCIATIONS

- American Institute of Architects, Grand Valley Chapter
- Michigan Society of Architects
- National Trust for Historic Preservation
- National Association of Women in Construction
- American Association of University Women

PROFESSIONAL CONSULTATION

- Private Design Practice, Grand Rapids, Michigan
  May 1992-present
- Design Pinnacle, Grand Rapids, Michigan
  Design Consultant
  May 1998-present
- Dan Vos Construction, Inc., Grand Rapids, Michigan
  Design Consultant
  May 1997- July 1997
- Ferris State University, Big Rapids, Michigan
  Summer Orientation & Registration Advisor
  1993, 1994, 1995
- National Occupational Competency Testing Institute, Big Rapids, Michigan
  Architectural Drafting Test Consultant
  February 1993
- Mel Kantor, AIA, Grand Rapids, Michigan
  Design Consultant
  May 1991-August 1994
- Greiner Inc., Grand Rapids, Michigan
  Computer Aided Design Consultant
  October 1991-May 1992
- Mitch Witkowski, AIA, Grand Rapids, Michigan
  Design Consultant
  May 1991-August 1991
- Universal Forest Products, Inc., Grand Rapids, Michigan
  Structural Design Consultant
  May 1990-August 1990

PROFESSIONAL PRESENTATIONS

- Ferris State University, Architectural Graphics Design Seminar
  A Seminar for Educators by Educators, Big Rapids, Michigan
  "CAD Basics II", April 9, 1997
- Ferris State University, Architectural Graphics Design Seminar
  A Seminar for Educators by Educators, Big Rapids, Michigan
  "CAD Basics", October 25, 1995
- Ferris State University, Architectural Graphics Design Seminar
  A Seminar for Educators by Educators, Big Rapids, Michigan
  "How would an Architect do that?", October 25, 1994
- American Technical Education Association
  Back to the Future II Technical Update Conference, Big Rapids, Michigan
  "Drawing Techniques for Communicating Architectural and Building Technology concepts", March 11, 1993
- American Technical Education Association
  Great Lakes Regional Conference, Big Rapids, Michigan
  "Architecture of the 90's: A Vision of an Environmentally and Socially Responsible Built Environment.", November 1, 1990

COURSES TAUGHT

Quarter System

• ARC 101	Architectural Graphics
• ARC 102	Architectural Presentation
• ARC 103	Working Drawings 1
• ARC 112	Structural Materials & Systems
• ARC 109	Intro. to Computer Graphics in Architecture
• ARC 123	Structural Analysis
• ARC 205	Working Drawings 3
• ARC 209	Advanced Computer Graphics in Architecture
• ARC 223	Steel & Concrete Design
• ARC 144	Design Fundamentals

Semester System

• ARCH 101	Architectural Graphics 1
• ARCH 102	Architectural Construction Documents 1
• ARCH 109	Computer Graphics in Architecture 1
• ARCH 209	Computer Graphics in Architecture 2
• ARCH 241	Design Fundamentals
• ARCH 244	Historical Development of Western Architecture
• ARCH 290	Advance Presentation
• ARCH 280	Advance Presentation 2 (model making)

CONTINUING EDUCATION

- Environmental Design Research Conference
  Orlando, Florida
  June 2-6, 1999

- Diversity and Learning Conference
  Philadelphia, Pennsylvania
  November 12-15, 1998

- Ferris State University
  Faculty Summer Institute: Development and Technology of Web-based instruction
  July, 1998

- CareerTrack Seminars
  How to Build a Successful Web Site
  May 8, 1998

- Ferris State University
  Computer Information Systems Management, Master of Science degree program
  CISM 615, Fall 1995
  CISM 700, Winter 1996
  CISM 710, Fall 1996

- Restoration & Renovation Chicago Conference
  October 16-18, 1997

- Pace University
  British Columbia, Vancouver
  Case-based Learning in College Education
  August, 1997

- Ferris State University
  Creating your own Web Page
  April, 1997

- Midwestern University
  Downers Grove, Illinois
  Infusing Critical Thinking into College and University Instruction
  August 14 & 15, 1996

- Ferris State University
  Faculty Summer Institute: Developing the Learner Centered Classroom
  June, 1996

- American Institute of Architects National Convention
  Minneapolis, Minnesota
  May 1996

- University of Wisconsin
  Milwaukee, Wisconsin
  Innovative Environments for Dementia Care: Planning, Design & Evaluation
  October 27, 1994

- University of Michigan
  Ann Arbor, Michigan
  American Institute of Architects, Design Computing in the 90's and beyond
  October 1, 1994

- Grand Rapids Community College
  AutoCAD Advance Drafting Short Course Seminar
  March 1994

- SkillPath Seminars
  Troubleshooting & Maintenance of IBM PCs & Compatibles
  February 1994

- Team Building & Personal Profile Workshop
  Applied Technology Center
  January 1993

- Niacon '92
  World Exposition of Workplace Planning and Design
  June 1992

- Women's Professional Development Conference
  Ferris State University Lifelong Learning, Leadership 2000: Preparation for the Future
  May 1, 1992

- Construction Specification Institute Product Show
  Grand Rapids, Michigan
  April 1992

- CareerTrack Seminars
  High Impact Communication Skills
  February 4, 1992

- Ferris State University
  AutoCAD Short Course Seminar
  August 1991

- Women's Professional Development Conference
  Ferris State University Lifelong Learning
  New Images of Leadership & Progressive Teaching Techniques
  April 12, 1991

- Fred Stitt Architectural Technology & Education Seminar
  April 1991

- American Institute of Architects
  Performance of Roof Systems Seminar
  January 1991

- American Institute of Steel Construction, Inc.
  Allowable Stress Design Specification & Ninth Edition Steel Manual Seminar
  March 29, 1990

- Ferris State University
  AutoCAD Short Course Seminar
  March-April 1989
- Michigan Society of Architects Convention
  1989, 1992

COMMUNITY SERVICE

- Michigan Industrial and Technology Education State Design Competition
  Judge 1997, 1999
- Michigan High School Summer Institute for Arts and Sciences
  Architectural Tour Guide 1997
- Vocational Industrial Clubs of America, Michigan Design Competition
  Project Consultant 1997
- Lansing Community College Design Competition
  Judge 1995
- Girl Scouts/Grand Valley AIA Architecture Workshop
  Presenter, Facilitator 1992
- "Girls+Math+Science=Choices" Conference for Big Rapids middle school girls.
  Presenter 1991-1992
- Architectural Services for City of Coopersville, Coopersville, MI
  Design Consultant 1991
- Architectural Services for Mel Trotter Ministries, Grand Rapids, MI
  Design Consultant 1990
- Montcalm Intermediate School District's "Challenge for Success" Conference
  Presenter 1990
- Vocational Industrial Clubs of America, Michigan Design Competition
  Judge 1990-1994
- Rockford Senior High School Architectural Design Competition
  Judge 1987-1991
  Judge & Project Consultant 1988-1991

GARY R. GERBER
Associate Professor
Ferris State University
Johnson 208
Big Rapids, MI 49307

EDUCATION:

Ferris State College 1975
Big Rapids, MI
School of Technology
Associate Degree in Architectural Drafting

University of Michigan 1978
Ann Arbor, MI
School of Architecture
B.S. in Architecture

Grand Valley State University 1995
Allendale, MI
School of Business
Masters in Business Administration

WORK EXPERIENCE:

Assistant Professor
Architectural Technology
Ferris State University
Big Rapids, MI
1989 to present

Architect and Director of Design Services
Square Real Estate Inc.
Grand Rapids, MI
1985-1989

Architectural Draftsperson
Daverman Associates Inc.
Grand Rapids, MI
1983-1985

Architectural Energy Specialist
Daverman Associates Inc.
Grand Rapids, MI
1980-1982

Building Designer and Construction Foreman
Gerber Construction Co. Inc.
Reed City, MI
1978-1980

Carpenter and Architectural Draftsman
North American Building Systems
Reed City, MI
1972-1978 (part time)

PROFESSIONAL
ORGANIZATIONS &
REGISTRATIONS

Registered Professional Architect
State of Michigan

Construction Specification Institute

CONSULTING
EXPERIENCE
MULTI-UNIT HOUSING

Design Arch. Lexington Suites Motel
Cascade, MI

Architect Heritage Acres Condominiums
Reed City, MI

Architect Crosswinds Estates Condominiums
Ludington, MI

Architect Pere Marquette Quad cabin
Baldwin, MI

COMMERCIAL & INSTITUTIONAL CONSTRUCTION

Architect - Michigan Works Office Building
Reed City, MI

Architect - Wexford/Missaukee Family I
Independence
Agency
Cadillac, MI

Architect - Young Insurance \ Rockford Travel Bldg
Rockford, MI

Architect - Reed City Public Schools
Weight Room Addn
Storage Additions
Concession Stand
Reed City, MI

Architect - Nabco Inc. Corporate Office Remodeling
Reed City, MI

Consultant- Hardwood Grill Restaurant
Restaurant Remodeling
Gruner Prussner and Lloyd
Mishawaka, IN

Architect - Assessment Center Addition
Eagle Village
Hersey, MI

Architect - Dining Center Addition
Eagle Village
Hersey, MI

Architect - Porteous Law Office
Reed City, MI

Architect - Evart Products Material Marshalling Area,
Evart, MI

Architect - The Bagel Beanery,
Grand Rapids, MI

Architect - Rails to Trails Bridge,
Reed City, MI

Architect - Kellog Square Retail Mall
Kentwood, MI

Architect - Fables Woodland Mall Remodeling
Kentwood, MI

Architect - Smyrna Bible Church Addition
Smyrna, MI

CONTINUING
EDUCATION:

Management Computer Controls-Estimating Software Training (12/96)
Mich. State University-Construction Cost Estimating (3/96)
Grand Rapids Junior College - Architectural Rendering
AIA - Small Architects Program for Systems Drafting
AEC Systems conference-June 1993 Anaheim CA
AEC Systems conference-June 1994 Washington DC
AEC Systems conference-June 1996 Anaheim CA
AEC Systems conference-June 1998 Chicago

PUBLISHED
PROJECTS

Kitchen remodeling at Comstock Park Residence
Better Homes and Gardens - July 1985
Grand Rapids Press - September 1986

Whitford Residence Remodeling
Qualified Remodeler - August 1984
The Family Handyman - April 1984
Redwood News - Fall/Winter 1986

Hot tub & screen porch at Blue Ridge Residence
Grand Rapids Press - May 1990

Mary Bockstahler, AIA
18177 Meadow Lane
Big Rapids, Michigan 49307
Home (231) 592-1976
Office (231) 591-3584
Fax (231) 591-2931

PRESENT POSITION:

Assistant Professor, Architectural Technology and Facilities Management Programs, Ferris State University (1997- Present)

PAST POSITIONS:

- **Project Architect**, Schemata Inc., Grand Rapids, Michigan (1994 – 1997)
- **Project Architect**, Czerew Architects, Grand Rapids, Michigan (1990 to 1994)
- **Intern Architect**, Wassenaar + Czerew Architects, Grand Rapids, Michigan (1989 to 1990)
- **Intern Architect**, DeWinter Associates, Inc., Grand Rapids, Michigan (1989)
- **Intern Architect**, MHB Design Group, Inc., Grand Rapids, Michigan (Summer 1988 &1987)
- **Draftsperson**, Greiner, Inc., Grand Rapids, Michigan (1987)
- **Draftsperson**, Comp – Aire Systems, Inc., Grand Rapids, Michigan (1984 –1987)
- **Draftsperson**, M.C. Smith & Associates, Inc., Grand Rapids, Michigan (1984)

EDUCATION

- Masters in Architecture - College of Architecture and Urban Planning, University of Michigan, 1988
- Bachelor of Science in Architecture - College of Architecture and Urban Planning, University of Michigan, 1984
- Associate Degree in Art - Grand Rapids Junior College, Michigan, 1982

CONTINUING EDUCATION

- Ferris State University
- Northwestern Michigan University
- Northwood University
- American Institute of Architects

PROFESSIONAL REGISTRATION

- **Licensed Architect**, State of Michigan

PROFESSIONAL MEMBERSHIPS

- American Institute of Architects (AIA)
- Michigan Society of Architects (MSA)
- Grand Valley Chapter – American Institute of Architects (GVAIA)

RECENT ACADEMIC ACTIVITIES:

- Judge - Grand Rapids Home Builders Association, Awards of Excellence 1998-1999

- Judge - MITES (Michigan Industrial and Technology Education Society) High School Competition 1999

PROPOSAL

Planning Considerations for the Facilities Management Degree and Certificate Programs to be offered at Ferris State University's Grand Rapids Campus and Facilities Management Support/Minor Courses at Ferris State University's Big Rapids Campus

December 16, 1998

Prepared by:
Mel Kantor, AIA, CFM – Program Coordinator/Professor
Joe Samson, CFM, Associate Professor
Victoria Hardy, CFM, Assistant Professor
Charles Matrosic, PE, Department Head/Assistant Dean

1. PROJECTED ENROLLMENT BASED ON FEASIBILITY DATA GATHERED BY FSU-GR STAFF:

   - This proposal is predicated on the outcome of a feasibility study to be performed by the FSU – Grand Rapids staff with involvement of the Facilities Management faculty.

   - The study should investigate the potential enrollment from community colleges and universities offering architecture, architectural technology, architectural drafting, pre-architecture, and interior design programs. All of these have the potential of direct articulation into to Facilities Management.

   - The potential of enrollment through the Great Lakes Consortium should be investigated.

2. PROPOSED TIMETABLE FOR PLANNING, NECESSARY APPROVALS, MARKETING AND IMPLEMENTATION:

   - FM at FSU – GR Feasibility Study & Planning — December '99 – May '99
   - FM at FSU – GR Approvals — June '99 – July '99
   - FM at FSU – GR Marketing — August '99 – August '2000
   - FM at FSU – GR Facility Development — January '2000 – August '2000
   - FM at FSU – GR Starts GR — August '2000

3. COURSES TO BE TAUGHT AT FSU – GR:

   - See Faculty Load Model (Baccalaureate – Grand Rapids Campus, Certificate Courses – Grand Rapids, Support/Minor Courses including College of Business – Big Rapids) at the end of this proposal for a detailed list of courses and sections required.

   - See Facilities Management Check Sheets, Baccalaureate and Minors, for overview of course offerings by semesters.

   - This proposal is based on the assumption that all required support courses (HVAC, ENGL, MGMT, PSYC, STQM, BLAW, ECON, ACCT, BIOL and General Education) will be available at FSU – GR or can be taken at other nearby institutions.

4. ARTICULATION OPPORTUNITIES WITH OTHER COLLEGES AND UNIVERSITIES:

   - Articulation discussions are on going with the Architectural Drafting Program at Grand Rapids Community College, and the Architectural Program and Interiors Design Program at Lansing Community College. All three programs are very interested in articulation and preliminary examination of the programs indicates

very close conformity to the prerequisites of the Facilities Management Program.

- Preliminary discussions have also taken place with *Harrisburg, PA Community College and College of Dupage, IL*

- Contact has also been established with the *Waukesha County Technical College,* Pewaukee, WI and the FM Program Coordinator will be visiting the College in early February.

- Articulation opportunities also exist with all Michigan Community Colleges offering Architectural Technology Programs.

- Currently, any graduate from an accredited associate degree Architectural Technology Program is eligible for admission to the FM Program. Graduates from other technical programs may be eligible for admission upon review and approval of credentials by the program faculty.

- In all cases, graduates of the FM Program must meet all of Ferris' general education requirements.

5. PROPOSED SCHEDULE FOR COURSE OFFERINGS BY SEMESTER AS WELL AS PREFERRED DAYS AND TIMES:

- Development of a specific schedule for course offerings is premature at this time. It is the intention of the Facilities Management Program to offer the Grand Rapids Baccalaureate in Facilities Management as a daytime program, the Grand Rapids Certificate Program as an evening program, and support courses on the FSU – Big Rapids campus at times appropriate to meet the demands of the programs our courses support, including the Recreation & Leisure Management Program and the proposed Resort Management Program.

6. STAFFING NEEDS FOR DELIVERING THE PROGRAM

a. Grand Rapids:

- Initially will be staffed by existing FM faculty with selected courses taught by qualified adjunct faculty. See the Faculty Load Model, which is part of this proposal.

b. Big Rapids:

- Based upon current demands, courses will be taught by existing FM faculty.

- At this time, due to the difficulty in obtaining adjuncts for the Big Rapids campus, adjuncts will not be used.

- Due to the impact on the current AAS – Architectural Technology, an additional FTEF position will be required on the Big Rapids campus. See the Faculty Load Model, which is part of this proposal.

c. **Current or projected UCEL sites:**

- The Facilities Management Program has recently completed the offering of the Certificate Program at Dow Chemical in Midland, Michigan. The program was offered with a combination of long-distance learning via simultaneous video delivery between Grand Rapids and Midland, alternating between sites.

  The program has no current or projected sites, but as another project is initiated it will be incorporated into the schedule (assuming available faculty and technical resources).

d. **Potential for linking sites for simultaneous delivery:**

- The FM Program has already effectively offered several courses, to the ATC and Dow Chemical – Midland, via long-distance simultaneous delivery.

- Providing course work by this method has great potential but is dependent on the availability of resources and appropriate technologies at both sites.

e. **Potential for Internet delivery of courses:**

- Long-distance learning via the Internet has great potential for the FM Program, but at this time, initiatives in this direction are premature. In the future, after current program initiatives have been completed, coursework via the Internet may be developed.

  FM faculty are actively involved in the International Facility Management Association (IFMA) and its continuing education initiatives. IFMA members have shown a noticeable interest in long-distance learning and the FM Program is investigating providing this resource to the profession.

- FM faculty interest and research into Internet and other long-distance teaching models is currently in progress. Faculty have taken long-distance education seminars at Ferris and Northwestern Michigan University and as time permits will continue this endeavor.

- The above is dependent upon the availability of technology resources to accommodate this initiative.

All of the above is predicated on the provision of faculty resources appropriate to meet current and future course demands.

7. LABORATORY, ACADEMIC EQUIPMENT, AND COMPUTER REQUIREMENTS:

- No laboratory facilities are required.

- Academic equipment in standard classroom facilities:

  - overhead projector
  - white board and markers
  - availability of LCD projector and computer on a limited basis
  - TV monitor and VCR on a limited basis

- Computer requirements:

  - Computer classroom, for a minimum of 3 courses per year, with 16 to 20 networked Pentium computers with Windows 95, CD-ROM, sound, Microsoft Office, Microsoft Project, Autocad 14, and FM software installed as needed.

- FM Resource Room – a small dedicated room with shelving to hold catalogs, professional publications, and miscellaneous documents, three networked computers, and a conference table with seating for six.

- Faculty offices for three faculty and one adjunct faculty.

8. LIBRARY RESOURCE REQUIREMENTS:

- Available library resources should be sufficient.

- The FSU – BR "FLITE" facility, the Kendall library, the Grand Rapids Community College library, and the Grand Rapids main library should provide adequate resources.

- The FM Resource Room mentioned in 7. above will provide certain specialized resources.

9. ADDITIONAL INFORMATION:

- FSU – BR on campus students desire for the FM Baccalaureate will be accommodated by a combination of support/minor courses offered on campus, and taking courses only available at the FSU – GR campus. It is possible that students desiring a BS in Facilities Management may attend FSU – GR for the entire junior and senior years.

- Potential competition for the FM program in West Michigan is virtually non-existent. Grand Valley State University no longer has an FM program. Michigan State's program is at the master's level. The only other FM program in the state is at Eastern Michigan University on the East Side of the state and has a narrow focus on energy system management.

- Discussion of the potential move of the FM Baccalaureate program to Grand Rapids has taken place with the FM Advisory Board and with other facilities professionals locally and nationally, and there has been enthusiastic support of locating the program in Grand Rapids.

10. IMPACT OF THIS PROPOSAL ON THE ARCHITECTURAL TECHNOLOGY AND FACILITIES MANAGEMENT PROGRAMS:

- Moving the Facilities Management Program to the FSU – Grand Rapids Campus will necessitate additional coordination activities between the Big Rapids and Grand Rapids campuses. This and the nurturing of the program in Grand Rapids will require additional student recruiting, recruiting of adjunct faculty, student advising, travel time between campuses, time on both campuses, marketing, etc. This necessitates a fifty- percent teaching and fifty-percent release time for coordination load for the Facilities Management Program Coordinator. This position will no longer serve both the AT and Fm programs, but will only coordinate the activities of the FM program. An AT coordinator will be required as discussed below.
- The providing of several facilities management support courses to the proposed College of Business' Resort Management Program will result in more of a teaching load for the Facilities Management faculty, thereby reducing faculty availability in teaching of some Architectural Technology courses. Examination of the AT & FM Course Model and the Faculty Load Model indicate the need for an additional faculty position (67 percent teaching and 33 percent release time for program coordination).
- Revision to seniority groupings is not being dealt with at this point, but must be addressed at some future time.

FACULTY LOAD MODEL ... TOTALS PER FACULTY MEMBER – AT & FM								
	FALL		WINTER		TOTAL		SUMMER	
FACULTY	CREDIT HOURS	CONTACT HOURS	CREDIT HOURS	CONTACT HOURS	CREDIT HOURS	CONTACT HOURS	CREDIT HOURS	CONTACT HOURS
BOCKSTAHL-ER	2/4/4 10	4/6/9 19	3/4/2 9	3/9/4 16	17	35		
DILG	4/4/1 9	6/9/2 17	3/4/2/1/1/ 11	3/9/2/1/2 17	20	34		
GERBER	4/2/4 10	8/4/8 18	4/3/2/2 9	8/4/2/4 18	19	36		
HARDY	3/3/3/3/3 15	3/3/3/3/3 15	3/3/2/3 11	3/4/2/3 12	26	27		
KANTOR FMAN PROG. COORD. 50 %	3/3 6	3/3 6	3/3 6	4/3 7	12	13		
NAGELKIRK	4/2/3 9	8/4/3 15	4/3/3/1 11	8/3/3/2 16	20	31		
SAMSON	2/2/3/3/2 12	4/2/3/3/2 14	2/3/3/1/2 11	4/3/3/1/4 15	23	29		
NEW AT FAC. – 33 % PROG. COORD.	4/4C 8	8/8C 14	4/1/4C 9	8/2/6C 16	17	30		
FMAN ADJUNCT			3 3	3 3	3	3		

AT & FM COURSE MODEL (BACCALAUREATE- GRAND RAPIDS CAMPUS, CERTIFICATE - GRAND RAPIDS CAMPUS, SUPPORT/MINOR COURSES – BIG RAPIDS CAMPUS)

FALL SEMESTER							
COURSE NO.	COURSE TITLE	SECT. NO.	CREDIT HOURS	CONT. HOURS	FACULTY MEMBER	CAMPUS BR / GR	COMMENTS
ARCHITECTURAL TECHNOLOGY COURSES							
ARCH 101	ARCH'L GRAPHICS 1	1	4	8	*NEW AT FAC.*	BR	
ARCH 101		2	4	8	NAGELKIRK	BR	
ARCH 101		3	4	8	GERBER	BR	
ARCH 109	COMP'T'R GRAPHICS 1	1	2	4	SAMSON	BR	
ARCH 109		2	2	4	BOCKSTAHLER	BR	
ARCH 109		3	2	4	NAGELKIRK	BR	
ARCH 109		4	2	4	GERBER	BR	
ARCH 112	STRUCT. MAT'LS & SYS.	1	4	6	BOCKSTAHLER	BR	
ARCH 112	STRUCT. MAT'LS & SYS.	2	4	6	DILG	BR	
ARCH 112	STRUCT. MAT'LS & SYS	3	4	6	GERBER	BR	
ARCH 203	ARCH'L CONSTR. DET.	1	4	9	DILG	BR	
ARCH 203		2	4	9	BOCKSTAHLER	BR	
ARCH 209	COMP'T'R GRAPHICS 2	1	1	2	DILG	BR	
ARCH 223	STATICS & STRUCT.	1	4	4	EASTLEY	BR	C. M. FACULTY
ARCH 244	HIST. DEV. WEST. ARCH	1	3	3	NAGELKIRK	BR	
ARCH 285	HOUSE-AMER. EVOL.	1	2	2	SAMSON	BR	
HVAC 337	MECH. & ELEC. SYS.	1	3	3	KORCAL	BR	HVAC FACULTY
HVAC 337		1	3	3	LAFFERTY	BR	HVAC FACULTY
BACCALAUREATE – GRAND RAPIDS							
FMAN 321	PRINCIPLES OF FMAN	1	3	3	HARDY	GR	
FMAN 431	SPACE PLANNING	1	3	3	KANTOR	GR	
FMAN 441	PROP. DEV. & PLNG.	1	3	3	HARDY	GR	
FMAN 451	BLDG DIAG. & OPER.	1	3	3	KANTOR	GR	
CERTIFICATE COURSES – GRAND RAPIDS							
FMAN 321	PRINCIPLES OF FMAN	2	3	3	SAMSON	GR	
FMAN 322	PROJECT MGMT.	1	3	3	HARDY	GR	

SUPPORT COURSES – BIG RAPIDS							
FMAN 280	INTRO. TO FMAN	1	2	2	SAMSON	BR	ARCH. ELECTIVE
FMAN 321	PRINCIPLES OF FMAN	2	3	3	HARDY	BR	
FMAN 441	PROP. DEV. & PLNG.	2	3	3	HARDY	BR	
FMAN 451	BLDG DIAG. & OPER.	2	3	3	SAMSON	BR	

FACULTY MEMBER INDICATED AS TEACHING A PARTICULAR COURSE OR SECTION IS SUBJECT TO CHANGE AS NEEDS DEMAND.

SEE FACULTY LOAD MODEL FOR TEACHING LOADS.

AT & FM COURSE MODEL (BACCALAUREATE – GRAND RAPIDS CAMPUS, CERTIFICATE – GRAND RAPIDS CAMPUS, SUPPORT/MINOR COURSES – BIG RAPIDS CAMPUS)

WINTER SEMESTER							
COURSE NO.	COURSE TITLE	SECT. NO.	CREDIT HOURS	CONT. HOURS	FACULTY MEMBER	CAMPUS BR / GR	COMMENTS
ARCHITECTURAL TECHNOLOGY COURSES							
ARCH 102	ARCH'L CONSTR.	1	4	8	*NEW AT FAC.*	BR	
ARCH 102	GRAPHICS	2	4	8	NAGELKIRK	BR	
ARCH 102		3	4	8	GERBER	BR	
ARCH 109	COMP'T'R GRAPHICS 1	1	2	4	GERBER	BR	HVAC STUDENTS
ARCH 109		2	2	4	SAMSON	BR	HVAC STUDENTS
ARCH 115	INT. & EXT. FINISHES &	1	3	3	BOCKSTAHLER	BR	
ARCH 115	SYSTEMS	2	3	3	DILG	BR	
ARCH 204	ARCH'L CONST. DOC.	1	4	9	DILG	BR	
ARCH 204		2	4	9	BOCKSTAHLER	BR	
ARCH 209	COMPUTER GRAPHICS	1	1	2	*NEW AT FAC.*	BR	
ARCH 209	IN ARCHITECTURE	2	1	2	DILG	BR	
ARCH 209		3	1	2	NAGELKIRK	BR	
ARCH 218	PROF. PRACTICE	1	2	2	DILG	BR	
ARCH 241	DESIGN FUNDAMENT.	1	2	4	BOCKSTAHLER	BR	
ARCH 241		2	2	4	SAMSON		
ARCH 244	HISTORICAL DEVEL. OF	1	3	3	NAGELKIRK	BR	
ARCH 244	WESTERN ARCH.	2	3	3	NAGELKIRK	BR	
ARCH 250	SYSTEMS COST. EST.	1	3	4	GERBER	BR	1 LECTURE/2 LABS
ARCH 250		2	3	2			
ARCH 270	ADVANCED AUTOCAD	1	1	1	DILG	BR	8 WEEKS – 2 HRS/WEEK
ARCH 280/281	ADVANCED PRESENT.	1	1	1		BR	8 WEEKS – 2 HRS/WEEK
BACCALAUREATE – GRAND RAPIDS							
FMAN 309	COMPUTER APPLIC.	1	3	4	KANTOR	GR	
FMAN 322	PROJECT MGMT.	1	3	3	HARDY	GR	
FMAN 331	FACILITY PROGRAM'G	1	3	3	KANTOR	GR	
FMAN 432	INTERIOR DESIGN	1	3	3	FM ADJUNCT	GR	
FMAN 499	CAPSTONE ASSESS.	1	3	4	HARDY	GR	
HVAC 483	HVACR BLDG. SYSTEMS	1	3	3	KORCAL	GR	HVACR FACULTY

CERTIFICATE COURSES – GRAND RAPIDS							
FMAN 331	FACILITY PROGRAM'G	1	3	3	SAMSON	GR	
SUPPORT COURSES – BIG RAPIDS							
FMAN 280	INTRO. TO FMAN	1	2	2	HARDY	BR	ARCH ELECTIVE
FMAN 322	PROJECT MGMT.	2	3	3	HARDY	BR	
FMAN 331	FACILITY PROGRAM'G	2	3	3	SAMSON	BR	

FACULTY MEMBER INDICATED AS TEACHING A PARTICULAR COURSE OR SECTION IS SUBJECT TO CHANGE AS NEEDS DEMAND.

SEE FACULTY LOAD MODEL FOR TEACHING LOADS.

AT & FM COURSE MODEL (BACCALAUREATE – GRAND RAPIDS CAMPUS, CERTIFICATE – GRAND RAPIDS CAMPUS, SUPPORT/MINOR COURSES – BIG RAPIDS CAMPUS)

SUMMER SEMESTER							
COURSE NO.	COURSE TITLE	SECT. NO.	CREDIT HOURS	CONT. HOURS	FACULTY MEMBER	CAMPUS BR / GR	COMMENTS
ARCHITECTURAL TECHNOLOGY COURSES							
NO COURSES TAUGHT DURING SUMMER SEMESTER							
BACCALAUREATE – GRAND RAPIDS							
FMAN 393	FAC. MGT. INTERNSHIP	1	4		HARDY	GR	
CERTIFICATE COURSES – GRAND RAPIDS							
FMAN 451	BLDG DIAG & OPER	1	3	3	SAMSON	GR	
SUPPORT COURSES – BIG RAPIDS							
NO COURSES TAUGHT DURING SUMMER SEMESTER							

FACULTY MEMBER INDICATED AS TEACHING A PARTICULAR COURSE OR SECTION IS SUBJECT TO CHANGE AS NEEDS DEMAND.

SEE FACULTY LOAD MODEL FOR TEACHING LOADS.

FERRIS STATE UNIVERSITY
COLLEGE OF TECHNOLOGY

FACILITIES MANAGEMENT
BACHELOR OF SCIENCE DEGREE
FALL SEMESTER
Curriculum Guide Sheet

NAME OF STUDENT _____ STUDENT I.D. _____

Total semester hours required for graduation: 68

NOTE: Meeting the requirements for graduation indicated on this sheet is the reponsibility of the student. Compliance with this agreement will assure the student completion of the program in the time frame indicated. Your advisor is available to assist you.

			CREDIT SEMESTER	GRADE
THIRD YEAR - FALL SEMESTER (15 Semester Hours)				
FMAN	321	Principles of FMAN (enrolled in FMAN or permission)	3	
ENGL	311	Advanced Technical Writing (ENGL 250)	3	
MGMT	301	Applied Management (junior standing or permission)	3	
PSYC	326	Industrial-Organizational Psychology (PSYC 150)	3	
STQM	260	Introductory Statistics (MATH 115)	3	
			(15)	
THIRD YEAR - WINTER SEMESTER (15 Semester Hours)				
FMAN	309	Comp Appl. for FMAN (ARCH 109/FMAN 321/or permission)	3	
FMAN	322	Project Management (FMAN 321 or permission)	3	
FMAN	331	Facility Prog. & Design Process (FMAN 321)	3	
BLAW	221	Elementary Business Law	3	
ECON	221	Principles of Economics I (MATH 110)	3	
			(15)	
THIRD YEAR - SUMMER SEMESTER (4 Semester Hours)				
FMAN	393	F-M Internship (Enrolled in FMAN Program or permission)	4	
			(4)	
FOURTH YEAR - FALL SEMESTER (18 Semester Hours)				
FMAN	431	Concepts of Space Planning (FMAN 309, 331)	3	
FMAN	441	Property Development & Planning (FMAN 321, BLAW 221)	3	
FMAN	451	Bldg. Diagnostic & Operations (FMAN 321 or permission)	3	
ACCT	201	Principles of Accounting I (MATH 110)	3	
ECON	222	Principles of Economics 2 (ECON 221)	3	
_____	___	Cultural Enrichment Elective*	3	
			(18)	
FOURTH YEAR - WINTER SEMESTER (15 Semester Hours)				
FMAN	432	Interior Design for Facility Managers (FMAN 431)	3	
FMAN	499	Capstone Assessment Thesis (FMAN 393 and senior status)	3	
HVAC	483	HVACR Building Systems	3	
BIOL	111	Environmental Biology	4	
_____	___	Cultural Enrichment Elective*	3	
			(16)	

*One Cultural Enrichment Course must also meet the Global Consciousness Requirements (See pg. 62-63 of college catalog).

FERRIS STATE UNIVERSITY
COLLEGE OF TECHNOLOGY

ARCHITECTURAL TECHNOLOGY
ASSOCIATE IN APPLIED SCIENCE DEGREE
FALL SEMESTER
Curriculum Guide Sheet

NAME OF STUDENT _____ STUDENT I.D. _____

Total semester hours required for graduation: 66

NOTE: Meeting requirements for graduation indicated on this sheet is the responsibility of the student. Compliance with this agreement will assure the student completion of the program in the time frame indicated. Your advisor is available to assist you.

FIRST YEAR - FALL SEMESTER (17 semester hours)	CREDITS	COMMENTS	GRADE
ARCH 101 Architectural Graphics 1	4		
ARCH 112 Structural Materials and Systems	4		
ENGL 150 English 1	3		
MATH 116 Interm. Algebra/Num. Trigonometry	4		
ARCH 109 Computer Graphics in Architecture 1	2		
FIRST YEAR - WINTER SEMESTER (18 semester hours)			
ARCH 102 Architectural Construction Documents 1(ARCH 101)	4		
ARCH 115 Interior & Exterior Finishes & Systems (ARCH 112)	3		
ARCH 209 Computer Graphics in Architecture 2 (ARCH 109)	1		
ARCH 244 Historical Development of Western Architecture	3		
ENGL 250 English 2	3		
PHYS 211 Introductory Physics 1	4		
SECOND YEAR - FALL SEMESTER (16 semester hours)			
ARCH 203 Architectural Construction Detailing (ARCH 102, 112, 115)	4		
HVAC 337 Mech. & Electrical Systems for Bldgs. (PHYS 211,MATH 116)	3		
ARCH 223 Statics & Structures (ARCH 112, PHYS 211, MATH 116)	4		
COMM 105 Interpersonal Communication OR			
COMM 121 Fundamentals of Public Speaking	3		
____ ___ Architectural Elective _____	2		
SECOND YEAR - WINTER SEMESTER (15 semester hours)			
ARCH 204 Arch. Const. Documents 2(ARCH 203,209,223, or instr. perm.)	4		
PSYC 150 Introduction to Psychology	3		
ARCH 216 Professional Practice	2		
ARCH 250 Systems Cost Estimating (ARCH 102, MATH 116, or permission)	3		
ARCH 241 Design Fundamentals (ARCH 244, or permission)	2		
____ ___ Architectural Elective_____	1*		

*One Half Semester Course

** Applicable for students laddering into Construction Management.

ARCH 260	Energy Conscious Design	2	**CONM 111	Construction Practices	3
*ARCH 270	Advanced Usage of CAD in Arch.	1	**CONM 122	Construction Surveying	3
*ARCH 280	Advanced Presentation	1	**CONM 212	Soils and Foundations	3
*ARCH 281	Advanced Presentation 2	1	CONM 224	Codes, Permits, & Gov't. Regulations	3
ARCH 285	House - The American Evolution	2	FMAN 220	Introduction to Facilities Mgt.	2

ARCH'L Electives are offered based upon faculty availability & student demand.

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(OVER)

FERRIS STATE UNIVERSITY
COLLEGE OF TECHNOLOGY

FACILITIES MANAGEMENT MINOR DEGREE
FACILITY OPERATIONS MANAGEMENT MINOR
FALL SEMESTER 96/97
Curriculum Guide Sheet

This minor degree is open to all students enrolled at Ferris State University pursuing Baccalaureate or higher degrees in majors other than Facilities Management, and who expect to be involved in the planning of the physical aspects of the facilities in which they practice. Students with minimal technical and construction knowledge would be required to attend a workshop to develop necessary competencies in these areas.

Required semester hours needed: 18; GPA of 2.0 or more in minor degree courses; 50% of credits must be 300+ level and 50% of credits must be taken at FSU.

Required Courses		Grades
ARCH 250	Systems Cost Estimating (MATH 116;ARCH 102; or permission)	3 _____
FMAN 280	Introduction to Facilities Management	2 _____
FMAN 321	Principles of Facilities Management (enrolled in an FMAN program or permission)	3 _____
FMAN 322	Project Management (FMAN 321)	3 _____
FMAN 441	Property Development and Planning (FMAN 321)	3 _____
FMAN 451	Facility Management and Operations (FMAN 321)	3 _____
ELECTIVE	Three additional hours from courses listed below	3 _____

Elective Courses:		
ARCH 109	Computer Graphics in Architecture 1	2 _____
ARCH 115	Interior and Exterior Finishes and Systems	3 _____
ARCH 209	Computer Graphics in Architecture 2 (ARCH 109)	1 _____
HVAC 337	Mechanical and Electrical Systems for Buildings (PHYS 211, MATH 116)	3 _____
FMAN 431	Space Planning and Computer Applications (ARCH 109, FMAN 331)	3 _____
FMAN 331	Facility Programming and Design Management (FMAN 321)	4 _____
HVAC 483	HVACR Building Systems	3 _____

Permission:
Permission will be given to minor degree students to register for certain courses with technical prerequisites if the student can demonstrate basic competency in the area. This may be done if the student has had previous practical experience, similar courses, or can demonstrate certain skills such as 1) print reading, 2) knowledge of terms, 3) knowledge of general architectural concepts, and 4) knowledge of general construction concepts.

Student competency will be determined by the Architectural Technology/Facilities Management faculty. The methodology used to determine competency will be to review course descriptions of relevant courses, review samples of student work, and "technical" interviews of students. This method is similar to how students transferring into Facilities Management from other institutions are currently evaluated. The difference will be that lower levels of competency will be required for minor degree students, and minor degree students will not be required to earn credit for all courses associated with the four year Architectural Technology/Facilities Management curriculum.

Students who cannot demonstrate basic competency will be required to attend a workshop concurrent with FMAN 280, which should be the first course taken in the Minor Degree Curriculum.

Workshop Description:
The workshop will be scheduled on a weekly basis with individual students or groups of students. They will be led by faculty members from the Architectural Technology andFacilities Management programs. A series of exercises will be developed for students attending the workshops. Attendance will be required until the competencies are developed.

FERRIS STATE UNIVERSITY
COLLEGE OF TECHNOLOGY

FACILITIES MANAGEMENT MINOR DEGREE
FACILITY PLANNING MANAGEMENT MINOR
FALL SEMESTER 96/97
Curriculum Guide Sheet

This minor degree is open to all students enrolled at Ferris State University pursuing Baccalaureate or higher degrees in majors other than Facilities Management. Students with minimal technical and construction knowledge would be required to attend a workshop to develop necessary competencies in these areas. (See "Permission" below)

Required semester hours needed: 18; GPA of 2.0 or more in minor degree courses; 50% of credits must be 300+ level and 50% of credits must be taken at FSU.

Required Courses:

ARCH	115	Interior and Exterior Finishes and Systems	3 _____
ARCH	250	Systems Cost Estimating (MATH 116, ARCH 102; or permission)	3 _____
FMAN	280	Introduction to Facilities Management	2 _____
FMAN	321	Principles of FMAN (enrolled in FMAN or permission)	3 _____
FMAN	322	Project Management (FMAN 321)	3 _____
FMAN	331	Facility Programming and Design Management (FMAN 321)	4 _____

Permission:

Permission will be given to minor degree students to register for certain courses with technical prerequisites if the student can demonstrate basic competency in the area. This may be done if the student has had previous practical experience, similar courses, or can demonstrate certain skills such as 1) print reading, 2) knowledge of terms, 3) knowledge of general architectural concepts, and 4) knowledge of general construction concepts.

Student competency will be determined by the Architectural Technology/Facilities Management faculty. The methodology used to determine competency will be to review course descriptions of relevant courses, review samples of student work, and "technical" interviews of students. This method is similar to how students transferring into Facilities Management from other institutions are currently evaluated. The difference will be that lower levels of competency will be required for minor degree students, and minor degree students will not be required to earn credit for all courses associated with the four year Architectural Technology/Facilities Management curriculum.

Students who cannot demonstrate basic competency will be required to attend a workshop concurrent with FMAN 280, which should be the first course taken in the Minor Degree Curriculum.

Workshop Description:

The workshop will be scheduled on a weekly basis with individual students or groups of students. They will be led by faculty members from the ARCH and FMAN programs. A series of exercises will be developed for students attending the workshops. Attendance will be required until the competencies are developed.

Table III

Degree Program Costing
Total Cost per SCH Ranked High to Low
1997-98

	Program Name	Program Credits Required	Instructor Cost per SCH	Dept Cost per SCH	Dean's Cost per SCH	Total Cost per SCH
	Optometry OD (Yrs 3,4,5 & 6)	163	$462.84	$48.14	$82.18	**$593.16**
	Pharmacy/All Options Pharm.D (Yrs 6 & 7)	71	$395.63	$43.97	$49.42	**$489.02**
	Public Relations Certificate	12	$303.87	$54.69	$14.22	**$372.78**
	Computer Networks & Systems BS (Embedded Systems	136	$294.94	$61.79	$14.27	**$370.99**
	Dental Technology AAS	61	$219.84	$111.42	$22.83	**$354.08**
	Quality Technology Certificate	12	$245.92	$83.54	$18.10	**$347.57**
	Criminal Justice Administration MS	30	$279.29	$43.54	$18.73	**$341.57**
	Opticianry AAS	68	$250.18	$34.78	$56.55	**$341.51**
	Insurance Certificate	12	$274.44	$36.05	$15.70	**$326.19**
1	Printing Technology AAS	65	$238.74	$67.80	$15.98	**$322.53**
	Real Estate Certificate	9	$257.91	$31.34	$14.22	**$303.46**
	Indust & Environ Hlth Mgt (Gen Env Hlth option) BS	134	$230.39	$52.21	$18.74	**$301.35**
	Advanced Studies in Global Logistics Certificate	12	$234.98	$48.85	$14.22	**$298.06**
	Advertising Certificate	14	$216.12	$54.69	$14.22	**$285.03**
	Computer Networks & Systems BS (Indust Automation Ti	136	$208.40	$61.79	$14.27	**$284.45**
	Computer Networks & Systems BS (Communications Tra	13[illegible]	$206.01	$61.79	$14.27	**$282.06**
2	Automotive Service Technology AAS	68	$185.87	$78.64	$16.04	**$280.55**
	Quality Improvement for Managers Certificate	9	$214.05	$49.13	$16.19	**$279.37**
	Computer Networks & Systems BS (Information Systems	137	$202.51	$59.09	$14.30	**$275.90**
3	Automotive Body AAS	63	$181.50	$76.87	$15.88	**$274.25**
	Marketing Research Certificate	12	$210.56	$48.25	$14.22	**$273.03**
	Visual Communication BS (Yrs 3 & 4)	64	$208.58	$47.96	$13.13	**$269.67**
	Mainframe Computer Certificate	12	$200.65	$48.60	$14.22	**$263.47**
	International Business Certificate	12	$215.33	$31.34	$14.22	**$260.89**
4	Heavy Equipment Technology AAS	67	$167.66	$74.36	$15.56	**$257.58**
	Biotechnology BS	130	$214.36	$30.85	$9.20	**$254.41**
	Manufacturing Engineering Technology BS (Yrs 3 & 4)	79	$168.44	$69.36	$15.86	**$253.67**
	Nursing AAS	72	$160.16	$72.70	$20.68	**$253.54**
	Advanced Studies in Investment Analysis Certificate	12	$207.83	$31.34	$14.22	**$253.38**
	Electrical/Electronics Engr Technology BS (Yrs 3 & 4)	69	$174.18	$62.53	$14.30	**$251.01**
5	Automotive Service Technology AAS (Ford ASSET opt)	68	$154.52	$78.64	$16.04	**$249.20**
6	Automotive Service Technology AAS (Chrysler Apprentic	68	$154.52	$78.64	$16.04	**$249.20**
7	Automotive Service Technology AAS (General Motors AS	68	$154.52	$78.64	$16.04	**$249.20**
	Welding Technology AAS	68	$165.06	$66.72	$15.47	**$247.25**
	Career and Tech Educ/Career & Tech Instr MS	32	$172.17	$54.20	$20.69	**$247.07**
8	Technical Drafting and Tool Design AAS	67	$167.90	$63.09	$15.07	**$246.06**
9	Industrial Electronics Technology AAS	67	$161.76	$68.19	$14.94	**$244.88**

* Instructor Cost - ***Salary & Fringe***
** Depatment Cost - ***Departmental Level Non Instructor Compensation, Supplies and Equipment***
*** Dean's Cost - ***Dean's Level Non Instructor Compensation, Supplies and Equipment***

Source: Office of Institutional Research, g:\...\progc[illegible]\9798\tcpschrank.rsl

Table III

Degree Program Costing
Total Cost per SCH Ranked High to Low
1997-98

	Program Name	Program Credits Required	Instructor Cost per SCH	Dept Cost per SCH	Dean's Cost per SCH	Total Cost per SCH
	Nursing BSN (Yrs 3 & 4)	84	$116.78	$57.87	$16.21	**$190.86**
	Medical Technology (Career Mobility) BS (Yrs 3 & 4)	72	$127.54	$46.36	$16.10	**$190.00**
	Construction Management BS (Highway/Bridge Track)	130	$131.68	$41.73	$14.65	**$188.06**
	Accountancy (Public Accounting Track) BS	124	$134.42	$38.64	$13.06	**$186.12**
	Product Design Engineering Technology BS (Yrs 3 & 4)	68	$106.99	$63.78	$14.81	**$185.58**
	Automotive and Heavy Equipment Mgt BS (Yrs 3 & 4)	67	$108.72	$61.75	$14.70	**$185.17**
	Accountancy (Cost/Managerial Track) BS	124	$131.71	$39.83	$13.61	**$185.14**
	Career and Tech Educ/Administrative Cert MS	32	$109.17	$54.86	$20.79	**$184.82**
	Computer Literacy Certificate	12	$121.90	$48.60	$14.22	**$184.72**
	Small Business Management Certificate	12	$128.77	$41.49	$14.22	**$184.48**
	Professional Tennis Management BS	126	$129.31	$41.86	$12.99	**$184.16**
15	Mechanical Engineering Technology AAS	65	$117.24	$52.87	$13.73	**$183.85**
	Construction Field Engineering Certificate	15	$110.69	$55.02	$18.10	**$183.81**
	Retailing BS	127	$130.39	$40.67	$12.16	**$183.22**
	Accountancy/Computer Information Systems BS	139	$128.03	$40.60	$13.00	**$181.63**
	Ornamental Horticulture Technology AAS	60	$132.65	$38.52	$10.26	**$181.43**
	Hospitality Management BS (Yrs 3 & 4)	63	$125.27	$43.28	$12.52	**$181.07**
16	HVACR Technology AAS	68	$119.43	$45.97	$14.94	**$180.35**
	Advertising BS	125	$125.66	$41.69	$12.79	**$180.15**
	CJ/Law Enforcement Option BS (Yrs 3 & 4)	67	$118.66	$42.69	$18.48	**$179.82**
	Direct Marketing Certificate	12	$110.05	$53.57	$15.70	**$179.32**
	Accountancy (Professionally Directed Track) BS	124	$126.81	$38.59	$12.92	**$178.33**
	Social Work BSW	128	$130.57	$37.98	$9.70	**$178.24**
	Computer Information Systems/Marketing BS	145	$122.24	$42.01	$13.44	**$177.69**
	Music Industry Management BS	124	$122.23	$41.19	$12.59	**$176.01**
	Finance BS	125	$130.39	$32.64	$12.84	**$175.87**
	Insurance/Real Estate BS	124	$128.24	$34.40	$13.14	**$175.78**
	Wage Earning Home Economics Education BS (Yrs 3 & 4	98	$115.07	$44.44	$15.95	**$175.45**
	HVACR Engineering Technology BS (Yrs 3 & 4)	65	$116.43	$43.31	$14.91	**$174.65**
	Marketing/Sales BS	124	$120.46	$41.08	$13.00	**$174.54**
	Health Information Management BS	123	$118.82	$34.92	$20.07	**$173.81**
	Food Service Management AAS	63	$117.75	$42.52	$12.97	**$173.24**
	Technical Education BS (Yrs 3 & 4)	98	$112.47	$44.35	$15.98	**$172.80**
	Allied Health Education BS (Yrs 3 & 4)	99	$111.33	$44.69	$16.11	**$172.14**
	Construction Management BS from Arch Tech (Yrs 3 & 4	83	$113.91	$42.80	$15.14	**$171.86**
	Insurance BS	124	$119.23	$36.14	$13.80	**$169.17**
17	Building Construction Technology AAS	63	$112.20	$42.18	$14.74	**$169.11**

* Instructor Cost - ***Salary & Fringe***
** Department Cost - ***Departmental Level Non Instructor Compensation, Supplies and Equipment***
*** Dean's Cost - ***Dean's Level Non Instructor Compensation, Supplies and Equipment***

Source: Office of Institutional Research, g:\...\progcost\9798\tcpschrank.rsl

Table III

Degree Program Costing
Total Cost per SCH Ranked High to Low
1997-98

Program Name	Program Credits Required	Instructor Cost per SCH	Dept Cost per SCH	Dean's Cost per SCH	**Total Cost per SCH**
Technical and Professional Communication BS	121	$102.88	$31.10	$10.72	**$144.70**
Business Administration BS	124	$98.01	$33.54	$12.48	**$144.04**
Pre-Teaching (Elementary or Secondary) AA	65	$94.68	$36.38	$12.42	**$143.49**
English Education BS	120	$87.76	$37.94	$13.60	**$139.30**
Pre-Criminal Justice AA	64	$88.77	$36.13	$12.85	**$137.75**
Directed Studies AA	60	$91.89	$33.73	$11.48	**$137.09**
Career Exploration AA	60	$89.84	$32.05	$14.63	**$136.52**
General Business AAS	63	$88.39	$35.46	$12.53	**$136.37**
Collegiate Skills Program AA	60	$88.21	$31.05	$16.52	**$135.78**
Applied Biology (Pre-Veterinary Medicine Track) BS	120	$88.92	$32.55	$10.12	**$131.59**
Applied Biology BS	120	$88.86	$32.73	$10.00	**$131.59**
Applied Biology (Pre-Medicine Track) BS	120	$88.86	$32.73	$10.00	**$131.59**
Applied Biology (Sports Medicine Track) BS	120	$88.86	$32.73	$10.00	**$131.59**
Applied Biology (Pre-Dentistry Track) BS	120	$88.86	$32.73	$10.00	**$131.59**
Applied Biology (Pre-Physical Therapy Track) BS	120	$87.96	$32.91	$9.93	**$130.79**
Radiography AAS	78	$62.92	$43.28	$24.24	**$130.44**
Applied Speech Communication AA	60	$87.09	$31.51	$10.28	**$128.88**
Respiratory Care AAS	69	$63.16	$41.11	$22.10	**$126.38**
Pre-Social Work AA	60	$84.62	$31.21	$10.21	**$126.04**
Pre-Law AA	60	$84.57	$31.20	$10.25	**$126.02**
Liberal Arts AA	60	$84.42	$31.20	$10.25	**$125.87**
Pre-Mortuary Science AS	60	$85.55	$29.11	$9.80	**$124.46**
Pre-Optometry AS	60	$85.55	$29.11	$9.80	**$124.46**
Pre-Engineering AS	60	$85.39	$29.11	$9.80	**$124.31**
Pre-Pharmacy AS	60	$85.39	$29.11	$9.80	**$124.31**

* Instructor Cost - ***Salary & Fringe***
** Depatment Cost - ***Departmental Level Non Instructor Compensation, Supplies and Equipment***
*** Dean's Cost - ***Dean's Level Non Instructor Compensation, Supplies and Equipment***

Source: Office of Institutional Research, g:\...\progcost\9798\tcpschrank.rsl