Dental Technology

APRC 1997-1998

Section 1 of 05

97-98

The Dental Technology Review and Analysis contained in this document is organized according to the following outline:

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Introduction

This is a review process required by the Academic Program Review Council for the Associate of Applied Science Degree in Dental Technology in the College of Allied Health Science. This process is reflective of data collection, an assessment, evaluation, and a plan of action as the outcome.

The members of the Program Review Panel are as follows:

- Mary Waldron, Dental Technology Faculty
- Deborah Sokoloski, Dental Technology Faculty
- Dale Harrison, Dental Department Head
- Stephen Perialas, Associate Dean of the College of Allied Health Sciences and Interested Community Member
- Paul Jackson, College of Business, Marketing Department Faculty
- Roger Daugherty, Dental Technology Faculty and Program Review Panel Chair

Overview of the Program

Ferris State University has provided Dental Technology education for over 30 years. The Associate of Applied Science Degree has been presented to over 500 students who have successfully completed the course of study. The program is a two-year academic program, "professionally" accredited through the Commission on Dental Accreditation of the American Dental Association. We, as a faculty, have determined that program written goals exist, they contain realistic outcomes, and that written objectives have been developed and contain measurable objectives. **(SEE APPENDIX A)**

Ferris State University Dental Laboratory Technology Program

At Ferris, the faculty teach and are committed to the success of their students. The students become "family" and are truly cared about in our program.

Dental technology students are a diverse group ethnically, nationally and physically. Most are Michigan residents; they have also come from Arizona, California, Illinois, Indiana, Kansas, Ohio, Pennsylvania, and Wisconsin. We have had international students from Brazil, Canada, Columbia, Czechoslovakia, India, Israel, Lebanon, Mexico, Nigeria, Pakistan, Portugal, Romania, Saudi Arabia, Syria, Thailand, and Zambia. Students also come in wheelchairs or have other physical or learning disabilities and are accommodated. Many times, we learn what is important from our students.

Our students complete the Associate in Applied Science degree in Dental Technology. The degree involves a minimum of 580 lecture hours, 810 laboratory hours and a 400-hour internship. The course of study and practice includes Tooth Morphology, Dental Anatomy, Complete and Partial Dentures, Crown and Bridge, Ceramics, Orthodontics, and Pedodontics, Laboratory Management, Seminar, Specialization, Internship, English 1& 2, Algebra, Chemistry, Social Awareness and Cultural Enrichment electives.

Our students are taught by a Dental Technology faculty who are Certified Dental Technicians (CDT), who collectively, have two certifications in Complete Dentures, three with Crown and Bridge and Ceramics, one with Partial Dentures, and one with Orthodontics, with two holding Bachelors and two with Masters degrees. **(SEE APPENDIX B)** Upon graduation we have only touched the tip of the iceberg with what a graduate will need to be successful. We provide an educated entry level technician for the dental laboratory, who, we hope will seize the new opportunity of employment to

excel in their new role. This new employee can be a valuable asset to the laboratory in a very short time given encouragement and value for his/her education.

The student at Ferris, for the most part, comes here with no experience or background in dental technology. Some have never seen a dental laboratory, nor do they know what a dental technician does for a living. Some are second generation dental technology students whose parents own a dental laboratory or a parent is a dentist and some are second generation students whose brother, sister or parent are FSU dental technology graduates. It is a challenge from the beginning for both student and faculty. By the end of the first 15 week semester, a student is able to operate a dental lathe, manipulate many instruments correctly, light a bunsen burner, understand safety procedures in the laboratory, and why its necessary to wear safety glasses or use suction at the bench when grinding. These are the "basics" and very important for their success. He/She has also completed lecture/laboratory courses in Tooth Morphology and Dental Prosthodontics that provides information about tooth form, function, occlusion and complete denture fabrication. The student is able to carve coronal and occlusal anatomy of all 32 teeth and fabricate complete denture dental devices, i.e., stone casts, impressions trays, baseplates, occlusion rims, etc., and perform all the procedures to fabricate, repair, reline, and rebase complete dentures, including crossbite, immediate and overdentures. They have had only 90 hours of lecture and 255 laboratory hours at this time (all of our specialty lecture/laboratory courses involve four hours of lecture and 15 hours of laboratory per week). As the only ADA "Accredited" Dental Technology Program in the State of Michigan, working within the requirements of Accreditation and credit hours for the Associate in Applied Science degree, the student is prepared for the workforce.

The remaining three semesters of the program puts the student in "lock step" of professional courses that must be completed. The second semester concentrates on Dental Anatomy, lecture/laboratory courses in Orthodontics/Pedodontics and Fixed Prosthodontics. After completion, the student has had many experiences in fabricating

orthodontic and pedodontic appliances, crowns, bridges, inlays, onlays including a variety of waxing, casting, finishing and polishing and model and die techniques. We will introduce Concept, a composite system, this year. The third semester of the program requires lecture/laboratory courses in Ceramics and Partial Dentures and the final semester includes Laboratory Management, Dental Seminar, Specialization, and Internship. All of this is accomplished while completing all the General Education Courses. Working within the confines of Accreditation and limitation of credit hours for the Associate in Applied Science degree, we must teach the five specialties of dental technology in two years with emphasis on quality of instruction and product. Quality instruction and quality product must come first and must be emphasized, reinforced and repeated. The time to develop "speed" or meet the production requirements of all the laboratories in Michigan is not possible. He/She will learn the "laboratory specific production techniques" rapidly and be extremely valuable to any employer.

As Ferris is an institution that can grant Baccalaureate, Masters and Doctorates in specific professions, we exceed the goal of the National Association of Dental Laboratories, Inc. that supports and encourages a Bachelor's degree in Dental Technology (only seven of 30 dental technology programs in the United States are at B.S. granting institutions). The remaining Dental Technology Programs are offered at Community Colleges, Vocational-Technical Colleges and the Armed Forces. These institutions and the military are limited to granting the maximum of an Associate degree or a certificate.

The Associate in Applied Science Degree in Dental Technology will transfer into approximately 17 Bachelor of Science degree programs at Ferris. In two additional years of study, a student may achieve a B.S. degree. These B.S. degrees include: Accountancy, Advertising, Business Administration, Computer Information Systems, Finance, Hospitality Management, Human Resource Management, Insurance, Management, Marketing, Marketing Sales, Public Relations, Small Business Management, Technical Communications, Television Production, Health Care Systems Administration, and Allied

Health Education (B.S. and M.S. degrees) with additional opportunities for an Associate of Science in Pre-dentistry and a B.S. in Applied Biology for those interested in pursuing a D.D.S. at a dental school. And, the student can be an Associate degree graduate of any ADA Accredited Dental Technology Program from anywhere in the United State to qualify for these degrees opportunities at Ferris. Many of our graduates continue their education, historically earning degrees in Management, Marketing and Marketing Sales, Health Care Systems Administration, Allied Health Education, Pre-dentistry and Applied Biology.

Our graduates represent laboratory owners, managers, department heads, technicians, dentists, a physician, a veterinarian, sales and technical representatives in many fields, representatives of state and national dental organizations, and dental technology educators in Colorado, Florida, Indiana, Iowa, Michigan, Wisconsin and Lisbon, Portugal. Many graduates have taken advantage of the educational opportunities at Ferris and expanded their horizons far beyond their original expectations. The Ferris Dental Technology program provided that foundation for learning and exposed their students to unlimited opportunities for professional and personal growth.

Dental Laboratory Technology Education

The American Dental Association states that dental technicians can begin their career without a college degree. However, formal college-level education is strongly encouraged and supported by both the American Dental Association and American Association of Dental Schools. There are 30 dental technology education programs in the U.S. that are accredited by the American Dental Association's Commission on Dental Accreditation. Most dental laboratory technicians receive their education and training through a two-year program at a community college, vocational school, technical college or dental school. Dental technology presents equal career opportunities for women and men. In 1995/96, 45.9% of the students enrolled in dental technology programs were

women, while 54.1% were men. Minority students represented approximately 38% of enrollees in dental technology programs in 1995/96. There are excellent career opportunities for traditional and "nontraditional" dental technology students. Those individuals, who do not fit the usual profile of the dental technology student, might meet one or more of the following criteria: over 23 years of age; individuals seeking career change or job re-entry after a period of unemployment, or individuals with culturally diverse backgrounds. The 1995 dental technology first-year enrollment figure of 652 , as identified by the American Dental Association, is significantly less than the peak year of 1981, when there were 1,665 enrollees. These figures again demonstrate the need for dental technology personnel. **(SEE APPENDIX C)**

Dental Laboratory Technology

The Bureau of Labor Statistics states that dental laboratory technicians generally work in clean, well lighted, and well-ventilated areas. Technicians usually have their own workbench, which may be equipped with bunsen burners, grinding and polishing equipment, and hand instruments, such as wax spatulas and wax carvers.

The work is extremely delicate and quite time consuming. Salaried technicians usually work 40 hours a week, but self-employed technicians frequently work longer hours.

Dental laboratory technicians held about 49,000 jobs in 1994. Most jobs were in commercial dental laboratories, which usually are small, privately owned businesses with fewer than five employees. However, some laboratories are larger, a few employ over 50 technicians.

Some dental laboratory technicians worked in dentists' offices. Others worked for hospitals that provide dental services, including Department of Veterans Affairs hospitals. Some technicians work in dental laboratories in their homes, in addition to their regular

job. Approximately 1 technician in 7 is self employed, a higher proportion than in most other occupations.

Most dental laboratory technicians learn their craft on the job. They begin with simple tasks, such as pouring plaster into an impression, and progress to more complex procedures, such as making porcelain crowns and bridges. Becoming a fully trained technician requires an average of 3 to 4 years depending upon the individual's aptitude and ambition, but it may take a few more years to become an accomplished technician.

Training in dental laboratory technology is also available through community and junior colleges, vocational technical institutes, and the Armed Forces. Formal training programs vary greatly both in length and the level of skill they impact.

In 1995, 37 programs in dental laboratory technology were approved (accredited) by the Commission on Dental Accreditation in conjunction with the American Dental Association (ADA). These programs provide classroom instruction in dental materials science, oral anatomy, fabrication procedures, ethics, and related subjects. In addition, each student is given supervised practical experience in the school or an associated dental laboratory. Accredited programs generally take 2 years to complete and lead to an associate degree. At that time, they may take the National Board for Certification's Recognized Graduate Exam (the equivalency of the NBC's Comprehensive Exam). Graduates of 2-year training programs need two years of additional hands-on experience to become eligible for certification.

Certification, which is voluntary, is offered by the National Board for Certification in five specialty areas: Crown and Bridge, Ceramics, Partial Dentures, Complete Dentures and Orthodontic/Pedodontic Prosthetics. Annually, Ferris hosts the Recognized Graduate Examination to its graduates and the Comprehensive Examination to employed dental technicians from Michigan and other states. Approximately, every 2 to 3 years, Ferris hosts the National Board for Certification, Certified Dental Technician Examination in its laboratory facilities.

these standards to regulate the quality and appropriateness of the fabrication of prostheses for the body. They also decided to reimburse the technician directly, instead of the physician. **(SEE APPENDIX D)**

The enrollment into the program has declined in the last decade. **(SEE APPENDIX E)** This decline can be attributed to the lack of awareness by the general public of "what is dental technology?" and the relatively perceived low entry-level wage paid by the industry.

The faculty has a concern and realizes the difficulties associated with the low enrollment and has attempted to recruit with the limited resources available to them. It is through the assessment and evaluation of this program, evaluation of trends across the United States, and the evaluation of healthcare and dentistry, that Ferris State University has been a leader in providing this educational program to the dental profession and the residents of the State of Michigan. To prepare for a future of managed care, shifting healthcare trends, and intense scrutiny of how healthcare and dentistry is provided, it would benefit the University to continue this educational program.

Dental Technology Employer Survey

A telephone survey was conducted surveying Dental Laboratories in the State of Michigan. Research has showed that mailed surveys have a low return rate. A telephone survey would increase the validity. The survey was conducted by one individual to increase the reliability. The number of Dental Laboratories (5) that were surveyed may seem low but they represent a population of 33 dental technician graduates employed in the state of Michigan. The Dental Laboratories represent a cross section of the areas of practice for Dental Technology with a total employment of 180 technicians. The intent of the survey was to collect the following data:

- Starting wages for Ferris State University graduates
- Identifying the strengths of the Ferris State University Program
- The preparedness of the Ferris State University Dental Laboratory graduate for an entry level position
- Preference in hiring policies

(SEE APPPENDIX F)

THE EMPLOYER SURVEY RESULTS ARE AS FOLLOWS:

Ferris State University
Dental Technology
Employer Survey

1. Do you have any FSU Dental Technology graduates working in your Dental Laboratory?

   YES 100% NO 0% HOW MANY 33

2. Do you prefer to hire employees with a dental technology degree?

   YES 100% NO 0%

WHY:
- Desirable because of the commitment to the profession
- Shorter learning time on the average
- They have basic knowledge of all 5 areas
- Good foundation
- Because of their knowledge base they have better communication

3. What is your training as a Dental Laboratory Technician?

   OJT 25% FORMAL EDUCATION 75%

4. What is your starting wage for a Ferris State University graduate?

   25% $7-11 75% $8-9

5. What is your starting wage for an employee who will be trained on the job?

   25% $5-6 25% below $7 25% below $8 25% $7-11

6. Do you feel Ferris State University graduates are adequately trained for entry-level positions?

   100% YES

7. Would you identify the strengths of Ferris State University Dental Technology Program?

- Excellent training in terminology, morphology, laboratory, basic skills
- Knowledge of terminology, materials, willingness to learn to produce

8. What would you like to change about the FSU Dental Technology Program?

- More hands on laboratory work
- Productivity and the ability to produce to my laboratory standard
- More specialization
- More hands on, actual case work
- Require students to do more work, longer laboratory sessions

Dental Technology Alumni Survey

A telephone survey was conducted surveying the graduates who received the Associate of Applied Science Degree from Ferris State University in 1995 to 1997. Due to the low number of total graduates from this two year period (39 graduates), a telephone survey was conducted to assure a higher percent of response rate. This telephone survey was conducted to assure a higher percent of response rate. Research has shown that mailed surveys have a low return rate. A telephone survey would increase the validity. The survey was conducted by one individual to increase the reliability. The intent of the survey was to collect the following data:

- Student satisfaction with Ferris State University's Dental Technology Program
- Wages earned by the Ferris State University graduate in Dental Technology
- Benefits received by the Ferris State University in Dental Technology
- Perceived needs of continuing education
- Perceived need for the next level degree, a Bachelor Degree

Some general conclusions that can be drawn from the graduate survey are:

- The graduates are very pleased with the quality of their education they received from Ferris State University.
- The Ferris State University faculty were excellent
- The education was good for an entry level position
- The need for continuing education to remain current in the profession
- Most graduates did not want to continue their education to obtain a Bachelors Degree
- Wage earnings fell in an average range of $20,000.00 gross annually
- Employment was not difficult or a problem post graduation **(SEE APPENDIX F)**

Ferris State University
Dental Technology Program
Alumni Survey

1. During which period did you receive your A.A.S degree in Dental Technology from Ferris?

   A. 1995 - 2
   B. 1996 - 8
   C. 1997 - 2
   Total of 12 Alumni or 31% return rate.

2. Describe your Ferris Dental Technology education in relation to preparing you to work as a Dental Technician.

   A. Very well prepared. 33%
   B. Well prepared. 67%
   C. Adequately prepared.
   D. Poorly prepared.

3-8. Do you feel you need additional education in any of the following areas to improve your effectiveness as a dental technician?

3. yes, — Crown and Bridge 20%
4. yes, — Ceramics 20%
5. yes, — Complete Dentures 20%
6. no — Partial Dentures
7. no — Orthodontics and Pedodontics 10%
8. yes, — Other (please Identify) 30% All areas
   (cosmetics)

9. List any laboratory skill/s that you feel should have had more emphasis when you were a student.

   67% No Suggestions
   16% Speed and Quality
   16% Implants
   8% Laminates

10-12 Would you be interested in a continuing education program at Ferris in any of the following areas?

10. yes — C & B Waxing
11. yes — Ceramic Application
12. yes — Color
13. yes — Complete Dentures

14. yes — Partial Dentures
15. yes — Orthodontics/Pedodontics
16. yes — Implants
17. yes — Occlusion
18. yes — Laboratory Management
19. yes — Precision Attachments
20. yes — Asepsis
21. yes — OSHA/MIOSHA
22. yes — Other (Describe)

23. What do you consider a reasonable fee for a one-day dental technology continuing education program?

A.	$ 30-$ 49	
B.	$ 50-$ 99	67%
C.	$100-$199	33%
D.	$200 or over	

24-30. What is your primary employment setting?

24. yes — Commercial Dental Laboratory, 1-5 technicians
25. yes — Commercial Dental Laboratory, 6-15 technicians
26. no — Commercial Dental Laboratory, 16-50 technicians
27. yes— Commercial Dental Laboratory, 51 and over technicians
28. no — Federal/State/Military Dental Laboratory
29. no — Specialty Practice
30. Other (Please identify) Dental Sales Representative

31-40. What position do you presently hold?

31. yes — Dental Technician Specializing in Crown and Bridge 33%
32. yes — Dental Technician Specializing in Ceramics 25%
33. yes — Dental Technician Specializing in Complete Dentures 25%
34. yes — Dental Technician Specializing in Partial Dentures 8%
35. no — Dental Technician Specializing in Orthodontics/Pedodontics
36. no — Lab Department Supervisor
37. no — Dental Laboratory Owner
38. no — Dental Educator
39. yes — Other Dental Technology-Related Career: Sales 8%
40. no — Not currently in dental technology career field (if your answer is Yes, please go to #63)

41-47. What resources have you used for securing dental technology jobs?

41. yes — Ferris Placement Office
42. yes — Ferris Dental Technology Faculty

43. no — Employment Agency
44. no — Michigan Association of Commercial Dental Laboratories
45. no — Dental Supply Company/Sales Representative
46. yes — Newspaper/Journal Ads
47. no — Other Dental Technicians

48. What is your gross dental technology income per <u>week</u>?

A.	Less than $220	8% (part-time)
B.	$220-$319	
C.	$320-419	50%
D.	$420-519	25%
E.	$520 or over	17%

49. What employment benefits do you receive?

50.	yes — General health insurance	58%
51.	yes — Dental insurance	50%
52.	yes — Free dental care by employer	17%
53.	yes — Life insurance	17%
54.	yes — Vacation days, number per year?	7 (avg.)
55.	yes — Sick days, number per year?	3.5 (avg.)
56.	yes — Profit sharing	17%
57.	yes — Paid time off for continuing education	50%
58.	yes — Course fees for continuing education	33%
59.	yes — Employer Paid Retirement Plan	33%
60.	no — Participative Retirement Plan	
61.	no — Other (please identify)	

62. You are a (give most appropriate answer)

A.	Certified Dental Technician (CDT)	
B.	Recognized Graduate (RG)	100%
C.	Not CDT nor RG	

63. How long have you been employed as a dental technician?

A.	Less than one year	25%
B.	One to two years	67%
C.	Two to four years	17%
D.	Four to six years	
E.	Six to ten years	

64. Are you currently enrolled in a degree program?

A.	Yes	
B.	No	100%

65. Have you earned a higher degree than the B.A./B.S.?

A.	Yes	
B.	No	100%

66. Do you live in the State of Michigan?

A.	Yes	67%
B.	No	33%

67. Is there anything you would change in regards to your dental technology education?

68. Identify what you feel was a very positive aspect of your dental technology education?

- Good basic education
- good education in terminology
- good basic skills taught
- excellent faculty

69. Do you have any suggestions or changes for the Dental Technology Program?

- more denture repairs, relines, and rebases
- paid internships
- more concentration on productivity
- working on more actual cases

Random Sample Alumni Survey of Graduates

A random sampling was conducted of graduates between the years of 1980 - 1995 of those people whom we have current phone numbers and/or places of employment, to measure the wages in relation to the number of years working in the dental laboratory technology industry. Each alumnus was asked strictly wage earnings and benefits and were assured confidentiality. Each alumnus receives full benefits in addition to their wages listed below:

$+100,000 - $66,000	17%	(3)
$50,000 - $65,000	30%	(5)
$30,000 - $49,000	23%	(4)
$25,000 - $29,000	30%	(5)

DENTAL TECHNOLOGY - LABORATORY FACILITY AND EQUIPMENT

The Dental Technology program occupies two 20-student stationed laboratories. One is equipped for first year students and is, what we call, the "removable prosthetics lab" , while the other is equipped for the second year students, the "fixed prosthetics lab". Each student station is equipped with the daily use items and has adequate work space, local exhaust and suction system for safety, lighting, bunsen burner, dental engine, handpiece, lathe, and locked storage drawers for the student's purchased tools and materials kit.

Each lab also has a microscope with monitor that enhances the detailed instruction. Both are capable of being connected to another monitor. In addition, the microscope in the fixed prosthetics lab is also capable of being connected to a computer in order to capture various microscopic pictures for use with multimedia presentations.

The theory sections which accompany the lab courses are usually held in the building's lecture classrooms.

The laboratory equipment is regularly maintained. Replacement or state-of-the-art updating is procured through vocational education funds, industry and manufacturer's donations and program budget. Adjoining the lab is a secure storage room for materials and equipment.

Large equipment which is used on a periodic basis are stationed throughout the laboratories to accommodate and monitor work flow. A majority of these stations accommodate several students at a time which is standard procedure that duplicates the layout of the industry and commercial dental laboratories.

DTEC 115	Removable Prosthetics, VFS 208 Packing bench, Boilout station, Curing units, Plaster benches, Polishing areas, Cleaning and Ultrasonic, Asepsis area, Sinks and Model trimmers, Omnivacs.
DTEC 126	Orthodontics/Pedodontics, VFS 208 Pressure pots, soldering torches
DTEC 239	Partial Dentures, VFS 208 Burnout ovens, casting machines, high speed lathes
DTEC 127	Fixed Prosthetics, VFS 206 Plaster and investing benches, burnout, torches, casting area, Pindex system, sinks and model trimmers, cleaning area, steam system, field microscopes, Concept system, sandblasting bench
DTEC 238	Ceramics, VFS 206 Porcelain oven stations
DTEC 250	Specialization, VFS 206, 208
DTEC 292	Internship Commercial Dental Laboratories and Dentist offices

Dental Technology Advisory Committee Survey

The information for the Advisory Committee Perception Survey was obtained though written returns and a telephone survey. Research has showed that mailed surveys have a low return rate. A telephone survey would increase the validity. The survey was conducted by one individual to increase the reliability. Five Advisory Board members were surveyed. With the return of 4 this was a 80% return rate. The members represent a cross section of the committee, two dentists and three dental technicians.

(SEE APPENDIX F)

ADVISORY COMMITTEE PERCEPTION OF THE DENTAL TECHNOLOGY PROGRAM COLLEGE OF ALLIED HEALTH SCIENCE 1997

1 — POOR
2 — BELOW EXPECTATIONS
3 — ACCEPTABLE
4 — GOOD
5 — EXCELLENT
NA

1. Instructional program content and quality are:

*Based on performance objectives that represent job skills and knowledge required for successful job level employment.	3-25%	4-25%	5-50%
*Designed to provide students with practical job applications experience.	3-25%	4-75%	
*Responsive to upgrading and retraining needs of employed persons.	2-25%	4-25%	5-50%
*Periodically reviewed and revised to keep current with changing jobs practices and technology.	3-50%	4-25%	5-25%

2. Instructional equipment is:

*Well maintained	5-75%	NA-25%
*Current and representative of that used on the job	4-25%	5-75%

3. Instructional facilities:

*Provide adequate lighting, ventilation, heating power, and other utilities	5-100%	
*Allocate sufficient space to support quality instruction	5-100%	
*Meet essential health and safety standards	4-25%	5-75%

4. Placement

*Services are available to students completing the program	4-50%	5-50%	
*Job opportunities exist for students completing the program or leaving the marketable skills.	3-25%	4-25%	5-50%

5. Follow-up studies on program completers and leavers (students with marketable skills):

*Demonstrate that students are prepared for entry level employment.	3-25%	5-25%	NA-50%
*Collect information on job success and failure of former students	5-25%	NA-75%	
*Provide information used to review and, where warranted, revise the program.	2-25%	5-25%	NA-50%

FACULTY PERCEPTIONS OF THE DENTAL TECHNOLOGY PROGRAM

The "Fishbone", a brainstorming tool, was used to gather ideas and opinions of the faculty's perceptions of the Dental Technology program. The following is a narrative of what was expressed from those items gathered.

The faculty feel that the Dental Technology program at Ferris State University is well known among the Dental Laboratory industry. Although the National Association of Dental Laboratories (NADL) supports regulation of dental laboratory technicians, there has not been much advancement to reach this goal at the state or national level. The NADL Educator's Section continues to address the problem of enrollment, recruitment, and retention of accredited dental laboratory programs and the FSU Dental Technology faculty continue to participate in these discussions.

Development of curriculum, recruitment of students, and other such matters requires an interactive close working relation among the faculty and the Dept. Head/Dental Technology Coordinator. The faculty look to the Dept. Head for an even larger percentage of leadership time to be given to Dental Technology, given his already demanding schedule.

The faculty themselves could have better communication with each other by committing to a longer work day to communicate events and plans for the program. To aid this problem, instruction of the Dental Technology program should be and needs to be offered in other locations and on weekends providing certificates for areas taught. The faculty

productivity continues to increase with the cross-teaching responsibilities of the majority of the dental technology faculty in the Dental Hygiene and Health Information programs.

The faculty feel that the loss of the internship program for 2 years may have contributed to the low enrollment of the program. With the internship program being reinstated, the faculty looks forward to a more positive enrollment. The internship program has also helped with employment opportunities.

Dental Technology, unlike many other professions, has low public visibility. Dental Technology's low visibility is due in part, to the restriction of dentist/laboratory transactions. These factors being: no contact with the public, limited contact with the dental para-professionals, and the nature of the independent business (operating off-site commercial labs versus the in-office dental lab), and state practice acts prohibit patient treatment contact. The dental technician must fabricate appliances via the dentist's prescription and can only advertise in trade journals. The low enrollment also may be due to perceived low entry level wages which are often listed in the range of $19,000 - $22,000. Unfortunately, this does not promote well upon the program.

(SEE APPENDIX A)

FACULTY PERCEPTIONS OF THE DENTAL TECHNOLOGY EDUCATION PROGRAM

The following is a tabulation of responses of the perceptions of the Dental Technology program as viewed by the faculty (a total of three people).

	Poor	Below	Acceptable Expectations	Good	Excellent
	1	2	3	4	5
GOALS AND OBJECTIVES:					
1. Program Goals				1	2
2. Course Objectives					3
3. Competency Based Performance Objectives				3	
4. Use of Competency Based Performance Objectives				2	1
5. Use of Information on Labor Market Needs				3	
6. Use of Profession/Industry Standards				2	1
7. Use of Student Follow-up Information				2	1
PROCESSES:					
8. Adaptation of Instruction					3
9. Relevance of Supportive Courses				3	
10. Coordination with Other Community Agencies and Educational Programs				3	

11. Provision for Work Experience, Cooperative Eduction, or Clinical Experience			3
12. Program Availability and Accessibility		3	
13. Provision for the Disabled		1	2
14. Provision for the Handicapped			3
15. Efforts to Achieve Sex Equity			3
16. Provision for Program Advisement			3
17. Provision for Career Planning and Guidance			3
18. Adequacy of Career Planning and Guidance		3	
19. Provision for Employability Information			3
20. Placement Effectiveness for Students in this Program		1	2
21. Student Follow-up System		2	1
22. Promotion of the Dental Technology Program	1	2	
RESOURCES:			
23. Provision for Leadership and Coordination	2	1	
24. Qualifications of Administrators and/or Supervisors	2	1	
25. Instructional Staffing		2	1
26. Qualifications of Instructional Staff		1	2

27. Professional Development Opportunities			3
28. Use of Instructional Support Staff	1	1	1
29. Use of Clerical Support Staff		1	2
30. Adequacy and Availability of Instructional Equipment		2	1
31. Maintenance and Safety of Instructional Equipment		2	1
32. Adequacy of Instructional Facilities		1	2
33. Scheduling of Instructional Facilities		2	1
34. Adequacy and Availability of Instructional Materials and Supplies		2	1
35. Adequacy and Availability of Learning Resources		1	2
36. Use of Advisory Committees		2	1
37. Provisions in Current Operating Budget		2	1
38. Provisions in Capital Outlay Budget for Equipment		1	2

SURVEY REPORT OF DENTAL TECHNOLOGY

The survey was based on the students perceptions of the Dental Technology program of their educational experience at Ferris State University. The survey responses include graduates within the last five years, first year students and second year students. We feel that having the internship course back into the program will have very positive effects on placement, career directions and recruiting. Cost, evening courses and placement scored lower but questions directly related to the dental faculty, objectives and courses score much higher. Overall, the surveys rank the majority of responses in the good and excellent range. First year 88.8%, second year 81.1%, alumni 81.8 %.

DENTAL TECHNOLOGY SURVEY OF STUDENT PERCEPTIONS

The survey was based on current first and second year student perceptions of the Dental Technology program and their educational experience. The survey was conducted the third week of the semester with the same 43 question survey given to both groups. The option of "Don't Know" was used on 21% of the questions for first year and 7% for the second year. Areas such as cost, evening courses and placement scored lower but the instructional courses scored higher. Overall, the surveys ranked the majority of responses in the good and excellent range, 88.8% for the first year class and 81.1% for the second year. This corresponds to previous surveys conducted closer to graduation where no response of "Don't Knows" were given and the percentage of favorable responses were 81.1%. **(SEE APPENDIX F)**

A composite of these surveys are as follows:

- Course in your program are based on realistic prerequisite:

	Good	**Poor**	**Don't Know**
1st Year:	72.7%	0%	18.2%
2nd Year:	90%	0%	0%

- Written objectives are available to students:

	Good	Poor	Don't Know
1st Year:	81.9%	0%	9%
2nd Year:	71.4%	7%	0%

- Written objectives describe what you will learn:

1st Year:	90.9%	0%	0%
2nd Year:	71.4%	0%	9%

- Instructors know the subject matter and occupation requirements:

1st Year:	90.9%	0%	9%
2nd Year:	80%	0%	0%

- Instruction is interesting and understandable:

1st Year:	100%	0%	0%
2nd Year:	92.8%	0%	0%

- Instructional facilities are safe, functional, and well maintained:

1st Year:	100%	0%	0%
2nd Year:	71.5%	0%	0%

- Facility provides adequate lighting, ventilation, etc.

1st Year:	100%	0%	0%
2nd Year:	78.6%	0%	0%

STUDENT PERCEPTIONS OF THE DENTAL TECHNOLOGY PROGRAM

3rd week of class 1st year
September 10, 1997

	Poor . . .			Excellent	Don't
	1	2	3	4	5	Know
COURSES IN YOUR OCCUPATIONAL PROGRAM ARE:						
1. Available and conveniently located.			1	1	8	1
2. Based on realistic prerequisites.			1	1	7	2
3. Available at moderate cost.			2	6	2	2
WRITTEN OBJECTIVES FOR COURSES IN YOUR PROGRAM:						
4. Are available to students.			1	5	4	1
5. Describe what you will learn in the course.				6	4	1
6. Are used by the instructor to keep you aware of your progress.				5	2	4
TEACHING METHODS, PROCEDURES, AND COURSE CONTENT						
7. Meet your occupational needs, interests, and objectives				5	5	
8. Provide supervised practice for developing job skills				3	7	1
RELATED COURSES (such as English, math, science,) ARE:						
9. Pertinent to occupational instruction.		3	3	1	3	1
10. Current and meaningful to you.		4	2	2	2	1
WORK EXPERIENCE (or clinical experience) IN YOUR PROGRAM IS:						
11. Readily available at convenient locations.				1	3	7
12. Readily available to both day and evening students.				1	2	8
13. Coordinated with classroom instruction.				1	2	8
14. Coordinated with employer supervision.					3	8
CAREER PLANNING INFORMATION:						
15. Meets your needs and interests.		1		3	3	4
16. Helps you plan your program.		1		4	3	3
17. Helps you make career decisions and choices.			1	5	2	3
18. Helps you understand your rights and responsibilities.			1	5	2	3
19. Helps you evaluate job opportunities, i.e., salary, etc.				7	2	2
20. Is provided by knowledgeable, interested staff.			1	5	3	2
21. Explains non-traditional occupational opportunities.			1	6	1	3
JOB SUCCESS INFORMATION ON FORMER STUDENTS:						
22. Is provided to help you make career decisions.	1	1		3		6
23. Indicates number of job opportunities in your occupation.	1			6		4
24. Identifies where these job opportunities are located.	1			4		6
25. Tells about job advancement opportunities.	1			2	3	5

	Poor . . .			Excellent	Don't
	1	2	3	4	5	Know
PLACEMENT SERVICES ARE AVAILABLE TO:						
26. Help you find employment opportunities.				2	4	5
27. Prepare you to apply for a job.				2	4	5
OCCUPATIONAL INSTRUCTORS:						
28. Know the subject matter and occupational requirements.				2	8	1
29. Are available to provide help when needed.				1	10	
30. Provide instruction so it is interesting and understandable.				2	9	
INSTRUCTIONAL SUPPORT SERVICES (tutoring, lab assistance) ARE:						
31. Available to meet your needs and interest.			1	2	7	1
32. Provided by knowledgeable, interested staff.			1	2	6	2
INSTRUCTIONAL LECTURE AND LABORATORY FACILITIES:						
33. Provide adequate lighting, ventilation, etc.				1	10	
34. Include enough work stations for students enrolled.				1	10	
35. Are safe, functional, and well maintained.				2	9	
36. Are available on an equal basis for all students.				1	9	
INSTRUCTIONAL EQUIPMENT IS:						
37. Current and representative of industry.			1	3	4	3
38. In sufficient quantity to avoid long delays in use.		1	2	1	7	
39. Safe and in good condition.			2	3	6	
INSTRUCTIONAL MATERIALS (i.e., textbooks, reference books, etc.) ARE:						
40. Available and conveniently located for use.	1	1	2	3	4	
41. Current and meaningful to the subject.			1	4	6	
42. Not biased toward "traditional" gender roles.		1	1	2	7	
43. Available at reasonable cost.		2	5	1	3	

STUDENT PERCEPTIONS OF THE DENTAL TECHNOLOGY PROGRAM

3rd week of class 2nd year
September 10, 1997

	Poor . . .			Excellent	Don't
	1	2	3	4	5	Know
COURSES IN YOUR OCCUPATIONAL PROGRAM ARE:						
1. Available and conveniently located.	1		5	3	5	
2. Based on realistic prerequisites.			5	5	4	
3. Available at moderate cost.			7	3	2	1
WRITTEN OBJECTIVES FOR COURSES IN YOUR PROGRAM:						
4. Are available to students.	1		3	3	7	
5. Describe what you will learn in the course.			4	3	7	
6. Are used by the instructor to keep you aware of your progress.	1	1	3	5	4	
TEACHING METHODS, PROCEDURES, AND COURSE CONTENT						
7. Meet your occupational needs, interests, and objectives		1	4	7	2	
8. Provide supervised practice for developing job skills			3	5	6	
RELATED COURSES (such as English, math, science,) ARE:						
9. Pertinent to occupational instruction.	2	1	3	4	2	
10. Current and meaningful to you.	1	2	3	4	3	
WORK EXPERIENCE (or clinical experience) IN YOUR PROGRAM IS:						
11. Readily available at convenient locations.	1	1	2	3	4	3
12. Readily available to both day and evening students.	1	1	6	1	3	2
13. Coordinated with classroom instruction.		1	4	3	4	2
14. Coordinated with employer supervision.		1	3	3	3	3
CAREER PLANNING INFORMATION:						
15. Meets your needs and interests.			6	6	1	1
16. Helps you plan your program.		1	6	3	2	2
17. Helps you make career decisions and choices.		3	4	4	1	3
18. Helps you understand your rights and responsibilities.	1	1	5	3	2	2
19. Helps you evaluate job opportunities, i.e., salary, etc.		4	3	4	1	1
20. Is provided by knowledgeable, interested staff.		1	3	4	4	1
21. Explains non-traditional occupational opportunities.	1	2	6	1	2	1
JOB SUCCESS INFORMATION ON FORMER STUDENTS:						
22. Is provided to help you make career decisions.			6	6	1	1
23. Indicates number of job opportunities in your occupation.	1		6	3	1	1
24. Identifies where these job opportunities are located.		1	7	3	1	1
25. Tells about job advancement opportunities.		1	6	4	1	1

	Poor . . .			Excellent		Don't
	1	2	3	4	5	Know
PLACEMENT SERVICES ARE AVAILABLE TO:						
26. Help you find employment opportunities.	1		5	2	3	3
27. Prepare you to apply for a job.	1	1	3	3	3	3
OCCUPATIONAL INSTRUCTORS:						
28. Know the subject matter and occupational requirements.			2	4	8	
29. Are available to provide help when needed.			2	6	6	
30. Provide instruction so it is interesting and understandable.			1	8	5	
INSTRUCTIONAL SUPPORT SERVICES (tutoring, lab assistance) ARE:						
31. Available to meet your needs and interest.	3	1	4	2	3	1
32. Provided by knowledgeable, interested staff.	2	1	3	2	4	2
INSTRUCTIONAL LECTURE AND LABORATORY FACILITIES:						
33. Provide adequate lighting, ventilation, etc.			2	4	7	
34. Include enough work stations for students enrolled.		2	1	4	6	
35. Are safe, functional, and well maintained.			3	4	6	
36. Are available on an equal basis for all students.		1	2	4	6	
INSTRUCTIONAL EQUIPMENT IS:						
37. Current and representative of industry.		3	4	5	2	
38. In sufficient quantity to avoid long delays in use.	1	3	3	4	3	
39. Safe and in good condition.			4	5	5	
INSTRUCTIONAL MATERIALS (i.e., textbooks, reference books, etc.) ARE:						
40. Available and conveniently located for use.		1	3	3	6	
41. Current and meaningful to the subject.		1	2	3	8	
42. Not biased toward "traditional" gender roles.			3	3	8	1
43. Available at reasonable cost.	1		3	3	2	5

National Board for Certification
Recognized Graduate Examination

The National Board for Certification prepares and distributes a report to the accredited dental technology programs concerning the performance of their graduates on the Recognized Graduate examination. For schools where three or more students took the RG exam, the National Board for Certification has provided the performance profile of the school's students showing their average scores compared to the national averages. The Ferris State University graduates overall exceeded national averages. The 1996 Ferris State graduates exceeded 14 out of the 16 total areas tested. The 1997 Ferris State graduates exceeded 15 out of the 16 total areas tested. **(SEE APPENDIX G)**

Recommendations

The faculty of the Dental Technology Program, Ferris State University proposes the following plan of action to ensure the continued need to provide dental laboratory technology education in the State of Michigan. To capture a greater student population the faculty request the program be moved to Grand Rapids, Michigan and operate in conjunction with the newly acquired Kendall School of Design. The program would no longer operate at the Big Rapids campus. Ferris will continue to offer the Dental Technology profession the only accredited two-year program in the State of Michigan.

The faculty further proposes the development of a certificate program with the ability of a "ladder" to the Associate of Applied Science Degree. The faculty suggests using Ferris State University extension courses, Kendall courses and a possibility of Grand Rapids Community College for the general education courses, while the Ferris State Dental Technology faculty will teach all clinical courses.

Particulars of the Certificate Program will be developed with approval of the certificate concept. The Certificate Program is a certificate of basic laboratory procedures for Basic Removable Prosthetics and Basic Fixed Prosthetics, both of which are products consistent with Goal 4 of the Unit Action Plan of the Allied Dental Department. This will include instruction in a specific area of Dental Technology for approximately fifteen weeks. When the student completes the requirements for a successful academic year, they will be eligible for a certificate in Dental Technology from Ferris State University. The student may enter the work force or continue for an Associate of Applied Science Degree. The admission requirements for the certificate program will parallel with Ferris State University's current admission criteria.

The transition to the Grand Rapids Kendall campus and the new certificate program will require a recruitment plan to be designed by the Dental Technology faculty members. This plan will incorporate a market for vocational rehabilitation centers, and vocational

career centers. Our goal is to develop cooperative articulation agreements with various Career Centers and offer Dental Technology to qualified high school students who may start the certificate program their senior year of high school. In order to initiate this recruitment plan, the faculty will modify their traditional 5-day teaching schedule to accommodate the needs of recruiting. They will also coordinate their schedules into a 4-day teaching schedule staggered between the first and second year student schedules to allow two faculty members to recruit one day per week on different days.

The transition to the Kendall campus will emphasize the artistic skills and abilities required for a student to pursue Dental Technology, the metropolitan setting will provide greater access to dental laboratories for an internship program and interfacing with the dental laboratory professionals as role models. The "laddering" concept has been very successful in other allied health programs. This proposal will continue the only accredited Dental Technology program in the State of Michigan, reflect the mission and philosophy of Ferris State University, and provide an alternative to traditional degrees in a University setting.

Dental Technology

APRC 1997-1998

section 2 of 5

APPENDIX A

FERRIS STATE UNIVERSITY

INSTRUCTIONS TO RESPONDENTS

On the following pages, you are asked to give your perceptions of Dental Technology, such as goals and objectives, processes, and 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 a 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 chair-persons, 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.

FACULTY PERCEPTIONS OF THE DENTAL TECHNOLOGY EDUCATION PROGRAMS

	Poor 1	Below Expectations 2	Acceptable 3	Good 4	Excellent 5	Don't Know	Comments
GOALS AND OBJECTIVES 1. Program Goals Excellent - Written goals for this program state realistic outcomes (such as planned enrollments, completions, placements) and are used as one measure of program effectiveness. Poor - No written goals exist for this program.							
2. Course Objectives Excellent - Written measurable objectives have been developed for all occupational courses in this program, and are used to plan and organize instruction. Poor - No written objectives have been developed for courses in this program.							

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200 Ferris Drive, Big Rapids, MI 49307-2740
Phone 616 592-2270

	Poor 1	Below Expectations 2	Acceptable 3	Good 4	Excellent 5	Don't Know	Comments
3. Competency Based Performance Objectives Excellent - Competency based performance objectives are on file in writing, consistent with employment standards, and tell students what to expect and help faculty pace instruction. Poor - Competency based performance objectives have not been developed for courses in this program.							
4. Use of Competency Based Performance Objectives Excellent - Competency based performance objectives are distributed to students and used to assess student progress. Poor - Competency based performance objectives are not used with students for progress evaluation nor are students aware that they exist.							
5. Use of Information on Labor Market Needs Excellent - Current data on labor market needs and emerging trends in job openings are systematically used in developing and evaluating this program. Poor - Labor market data is not used in planning or evaluation.							
6. 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.							
7. 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.							
PROCESSES 8. 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.							

	Poor 1	Below Expectations 2	Acceptable 3	Good 4	Excellent 5	Don't Know	Comments
9. 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.							
10. 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.							
11. 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.							
12. Program Availability and Accessibility Excellent - Students and potential students desiring enrollment in this program are identified through recruitment activities, treated equally in enrollment selection, and not discouraged by unrealistic prerequisites. The program is readily available and accessible at convenient times and locations. Poor - This program is not available or accessible to most students seeking enrollment. Discriminatory selection procedures are practiced.							

	Poor 1	Below Expectations 2	Acceptable 3	Good 4	Excellent 5	Don't Know	Comments
13. Provision for the Disadvantaged Excellent - Support services are provided for disadvantaged (such as socioeconomic, cultural, linguistic, academic) students enrolled in this program. Services are coordinated with occupational instruction and results are assessed continuously. Poor - No support services are provided for disadvantaged students enrolled in this program.							
14. Provision for the Handicapped Excellent - Support services are provided for handicapped (physical, mental, emotional, and other health impairing handicaps) students enrolled in this program. Facilities and equipment adaptations are made as needed. Services and facilities modifications are coordinated with occupational instruction and results are assessed continuously. Poor - No support services or facilities and equipment modifications are available for handicapped students enrolled in this program.							
15. Efforts to Achieve Sex Equity Excellent - Emphasis is given to eliminating sex bias and sex stereotyping in this program: staffing, student recruitment, program advisement, and career counseling; access to and acceptance in programs; selection of curricular materials; instruction; job development and placement. Poor - Almost no attention is directed toward achieving sex equity in this program.							
16. Provision for Program Advisement Excellent - Instructors or other qualified personnel advise students (day, evening, weekend) on program and course selection. Registration procedures facilitate course selection and sequencing. Poor - Instructors make no provision for advising students on course and program selection.							
17. Provision for Career Planning and Guidance Excellent - Day, evening, and weekend students in this program have ready access to career planning and guidance services. Poor - Little or no provision is made for career planning and guidance services for students enrolled in this program.							

	Poor 1	Below Expectations 2	Acceptable 3	Good 4	Excellent 5	Don't Know	Comments
18. Adequacy of Career Planning and Guidance 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.							
19. Provision for Employability Information 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.							
20. Placement Effectiveness for Students in this Program 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.							
21. Student Follow-Up System 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.							
22. Promotion of the Dental Technology Program 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.							

	Poor 1	Below Expectations 2	Acceptable 3	Good 4	Excellent 5	Don't Know	Comments
RESOURCES 23. Provision for Leadership and Coordination 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.							
24. Qualifications of Administrators and/or Supervisors Excellent - All persons responsible for directing and coordinating this program demonstrate a high level of administrative ability. They are knowledgeable in and committed to occupational education. Poor - Persons responsible for directing and coordinating this program have little administrative training, education, and experience.							
25. Instructional Staffing Excellent - Instructional staffing for this program is sufficient to permit optimum program effectiveness (such as through enabling instructors to meet individual student needs, providing liaison with advisory committees, and assisting with placement and follow-up activities). Poor - Staffing is inadequate to meet the needs of this program effectively.							
26. Qualifications of Instructional Staff Excellent - Instructors in this program have two or more years in relevant employment experience, have kept current in their field, and have developed and maintained a high level of teaching competence. Poor - Few instructors in this program have relevant employment experience or current competence in their field.							
27. Professional Development Opportunities Excellent - The college encourages and supports the continuing professional development of faculty through such opportunities as conference attendance, curriculum development, work experience. Poor - The college does not encourage or support professional development of faculty.							

	Poor 1	Below Expectations 2	Acceptable 3	Good 4	Excellent 5	Don't Know	Comments
28. Use of Instructional Support Staff Excellent - Paraprofessionals (such as aides, laboratory assistants) are used when appropriate to provide classroom help to students and to ensure maximum effectiveness of instructors in the program. Poor - Little use is made of instructional support staff in this program.							
29. Use of Clerical Support Staff Excellent - Office and clerical assistance is available to instructors in this program and used to ensure maximum effectiveness of instructors. Poor - Little or no office and clerical assistance is available to instructors; ineffective use is made of clerical support staff.							
30. Adequacy and Availability of Instructional Equipment Excellent - Equipment used on or off campus for this program is current, representative of that used on jobs for which students are being trained, and in sufficient supply to meet the needs of students. Poor - Equipment for this program is outmoded and in insufficient quantity to support quality instruction.							
31. 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.							
32. 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.							
33. 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.							

	Poor 1	Below Expectations 2	Acceptable 3	Good 4	Excellent 5	Don't Know	Comments
34. 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.							
35. 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.							
36. 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.							
37. 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.							
38. 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.							

FACULTY PERCEPTIONS OF THE DENTAL TECHNOLOGY PROGRAM

Please answer the following: (Use back of page and extra sheets if necessary).

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

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

FACULTY PERCEPTIONS OF THE DENTAL TECHNOLOGY EDUCATION PROGRAM

The following is a tabulation of responses of the perceptions of the Dental Technology program as viewed by the faculty (a total of three people).

	Poor	Below Expectations	Acceptable	Good	Excellent
	1	2	3	4	5
GOALS AND OBJECTIVES:					
1. Program Goals				1	2
2. Course Objectives					3
3. Competency Based Performance Objectives				3	
4. Use of Competency Based Performance Objectives				2	1
5. Use of Information on Labor Market Needs				3	
6. Use of Profession/Industry Standards				2	1
7. Use of Student Follow-up Information				2	1
PROCESSES:					
8. Adaptation of Instruction					3
9. Relevance of Supportive Courses				3	
10. Coordination with Other Community Agencies and Educational Programs				3	
11. Provision for Work Experience, Cooperative Eduction, or Clinical Experience					3
12. Program Availability and Accessibility				3	
13. Provision for the Disabled				1	2
14. Provision for the Handicapped					3
15. Efforts to Achieve Sex Equity					3

16. Provision for Program Advisement			3
17. Provision for Career Planning and Guidance		3	
18. Adequacy of Career Planning and Guidance		3	
19. Provision for Employability Information			3
20. Placement Effectiveness for Students in this Program		1	2
21. Student Follow-up System		2	1
22. Promotion of the Dental Technology Program	1	2	
RESOURCES:			
23. Provision for Leadership and Coordination	2	1	
24. Qualifications of Administrators and/or Supervisors	2	1	
25. Instructional Staffing		2	1
26. Qualifications of Instructional Staff		1	2
27. Professional Development Opportunities			3
28.Use of Instructional Support Staff	1	1	1
29. Use of Clerical Support Staff		1	2
30. Adequacy and Availability of Instructional Equipment		2	1
31. Maintenance and Safety of Instructional Equipment		2	1
32. Adequacy of Instructional Facilities		1	2
33. Scheduling of Instructional Facilities		2	1
34. Adequacy and Availability of Instructional Materials and Supplies		2	1

35. Adequacy and Availability of Learning Resources	1	2
36. Use of Advisory Committees	2	1
37. Provisions in Current Operating Budget	2	1
38. Provisions in Capital Outlay Budget for Equipment	1	2

APPENDIX B

VITA

Mary K. Waldron,CDT,MA

ADDRESS Residence: 16500 - 230th Ave.
Big Rapids, MI 49307
(616) 796-6339

Business: VFS 316
Dental Technology Dept.
Ferris State University
Big Rapids, MI 49307
(616) 592-2310

PERSONAL DATA

Marital Status: Married to Mark A. Waldron
Children: Audrey, born 7-13-85; Dean, born 4-30-88
Date of Birth: 9-25-54
Health: Excellent

EDUCATION:

CENTRAL MICHIGAN UNIVERSITY - Mt. Pleasant, MI
Master of Arts, 1983
Major - Educational Administration
Minor - Counseling

FERRIS STATE UNIVERSITY - Big Rapids, MI
Bachelor of Science, 1979
Major - Teacher Education

FERRIS STATE COLLEGE - Big Rapids, MI
Associates in Science, 1975
Major - Dental Technology

WORK EXPERIENCE:

FERRIS STATE UNIVERSITY - Big Rapids, MI
Instructor in Dental Technology - June, 1980 - Present
Responsibilities have included: Advising of students in the Dental Technology Program and teaching the following:

DTEC 121/123 - Crown and Bridge (lecture and lab) - Involves instruction in waxing tooth morphology with single and multiple units, and the major concept of occlusion and mandibular movements.

DTEC 238 - Ceramics (lecture and lab) - Single and multiple units of ceramic porcelain-fused-to-metal restorations.

DTEC 122/124 - Orthodontics (lecture and lab) - Instruction and fabrication of fixed and removable orthodontic appliances.

DTEC 241/242 - Specialties (lecture and lab) - Students specializing in areas of Dental Technology. Instruction is to refine the technique and skill in two areas of their choice and prepare them for the Recognized Graduate exam.

WORK EXPERIENCE: (cont'd)

DTEC 112 (lab) - Involves instruction in complete denture prosthodontics.

D-T 299 - Special Studies (lab) - Students work in the laboratory on actual patient cases from the Dental Assisting clinic. Serve as "laboratory supervisor" to the students and liaison between students concerns and dentists' expectations.

Spring quarter 1992-93 - Team taught Dental Hygiene Dental Materials with Mike Campo.

Apr., 1991 - May, 1994	Ridgeview Dental Arts, Big Rapids, MI. Owner and operator of crown and bridge, and ceramic dental laboratory.
June, 1980 - May, 1981	Daugherty Dental Laboratory, Big Rapids, MI. Part-time ceramic dental technician.
Aug., 1978 May, 1980	Milwaukee Area Technical College, Milwaukee, Wisconsin Teacher/Coordinator of Dental Technology Program. Instructional duties as well as responsible for budget, supplies, scheduling and internship program.
Jan., 1978 - Apr., 1978	Substitute teacher - Laboratory instruction teaching - Ceramics at Ferris State College, Big Rapids, MI.
Aug., 1975 - July, 1978	J.S.A. Laboratory, Big Rapids, MI. Full-time dental technician. Crown and bridge and ceramic technician. Responsible for all case work in laboratory; inventory and supplies.
May, 1975 - Aug., 1975	Morton Dental Crafts, Myrtle Beach, South Carolina Full-time dental technician in crown and bridge department
Apr., 1974 - May, 1975	J.S.A. Laboratory, Big Rapids, MI. Part-time dental technician (full-time - Summer 1974) in crown and bridge.

PROFESSIONAL ASSOCIATIONS:	**DATES:**
Francis B. Vedder Dental Society	March, 1996-
Michigan Health Information Management Association (M.H.I.M.A.)	Nov., 1994- Present
Children and Adults with Attention Deficit Disorder (C.H.A.D.D.)	1993-Present
National Association of Dental Laboratories Educator's Membership	1992-Present

PROFESSIONAL ASSOCIATIONS: (cont'd)	**DATES:**
American Association of Dental Schools (AADS) Dental Technology Education - Delegate in the House of Delegates, AADS, 1980. Section on Dental Technology (AADS), Sec./Treas., 1980-81	1980
Ferris Professional Women	1988-90
Iota Lambda Sigma - Alpha Eta Chapter Vice President - 1991-92 President - 1992-93	1990-Present

ACTIVITIES AND HONORS:

Merit Salary Increase	August, 1995
Timme Instructional Grant Award Development of "Computer Assisted Classroom Instruction/Dental Terminology with Toolbook 3.0"	1995
Tech Prep Committee Grant Award Development of "Computer Assisted Classroom Instruction/Dental Terminology with Toolbook 3.0"	1995
American Association of Dental Schools - Educational Exhibit Competition - 2nd place national award	March, 1993
Nomination for Michigan Association of Governing Board, Distinguished Teacher Award	1992
Received Kellogg Foundation Grant - $5000 for Riverview Elementary School Computer Lab	Feb. 1992
Timme Advanced Instructional Grant Award Development of a Computer Assisted Instructional Program on Crown and Bridge Fabrication	1991
Mecosta County 4-H Council Vice President - 1990-91 Treasurer - 1991-92	1989-92
United Church Member Fellowship Church Choir Member	1963-Present 1990-1993
Promoted to Associate Professor	1988
Certification in Orthodontics Specialty	Nov., 1988

ACTIVITIES AND HONORS: (cont'd)	**DATES:**
Promoted to Assistant Professor	1983
Advisor to Pi Delta Alpha - Professional Dental Fraternity	1985-87
Alumni Advisor to Delta Zeta Sorority-Zeta Nu Chapter	
Big Brother/Big Sister in Dental Technology-Organizer	1985-present
Parent's Day Participation	1980-present
Phonathon Participation	1980-present
Certification in Ceramics Specialty	Aug., 1979
Certification in Crown and Bridge Specialty	Nov., 1978
Graduate of the Health Information Technology program	Dec., 1997

FERRIS STATE UNIVERSITY (COLLEGE-WIDE) COMMITTEE PARTICIPATION:

Arts and Lectures Committee	1995-96
Professional Development Committee Chairperson - 1990-92	1989-95
Distinguished Teacher Award Selection Committee	1986-87
Ad Hoc Committee to Revise the Distinguished Teacher Selection Process	1986-87

COLLEGE OF ALLIED HEALTH SCIENCES COMMITTEE PARTICIPATION:	**DATES:**
Recruitment & Retention Committee	1995-1997
Allied Health Alumni Board	1994-1997
Computer Committee	1994-1995
Tenure Committee	1993-1996
Continuing Education Committee	1993-94
Continuing Education Task Force Committee	1992-93
Academic Honors Committee, Chairperson	1992-93
Promotion/Merit Committee, Chairperson - 1990-91	1989-92
Curriculum Committee	1988-90
Long Range Planning Committee	1985-87
Enrichment Grant Committee, Chairperson - 1985-87	1985-87
Allied Health Tenure Committee	1986-87
Faculty/Staff Development Committee	1985-86
Allied Health Academic Honors Committee	1984-86
Allied Health Distinguished Alumnus Selection Committee	1990-92
Parent's Day Committee Member	
Summer Alumni Festival Coordinator Committee	1984-present
Work Study Student Committee Chairperson	1992-95

CONTINUING EDUCATION CREDIT AND NON-CREDIT:

FSU Computer Information Systems Minor Courses: Jan., 1996 - May, 1996
ISYS 305 - Microcomputer Software Applications - 3 credits

"Stand Up, Speak Out, & Succeed - How to Make Presentations with Confidence and Power", Fred Pryor Seminar, Grand Rapids, MI, April 8, 1996.

"Advanced Esthetic Restorative Dentistry - The Visible Difference", presented by Dr. Robert Nixon, DMD; Dec. 1, 1995, sponsored by Davis Dental Lab, Grand Rapids, MI.

"Infection Control in a Regulated Environment", presented by Kathy Wright, RDH, MS; 6 CEU's, October 7, 1995.

Michigan Dental Association Meeting, Cobo Exhibition and Conference Center, FSU Dental Booth and Alumni Reception Chairperson, May 4-7, 1995.

Women's Professional Development Conference, "The Juggling Act: Starring You!", April 7, 1995.

Health Information Technology Program Courses: Jan., 1994 - June, 1996
HCSA 101 - Orientation to Health Care Systems - 4 credits
MRIS 101 - Introduction to Health Information Systems - 4 credits
MRIS 103 - Medical Terminology - 4 credits
MRIS 109 - Health Data and Analysis - 3 credits
MRIS 202 - Legal Aspects of Health Care - 3 credits
MRIS 210 - Fundamentals of Medical Science - 3 credits
MRIS 204 - ICD Coding - 4 credits
MRIS 211 - CPT Coding - 3 credits
MRIS 209 - Quality Assurance
MRIS 293 - Technical Internship

Taught a Comprehensive Review Course, Somer Dental Ceramics, Zionsville, Indiana, August 3-11, 1994.

Helped set up and manage the laboratory portion of Linda Meeuwenberg's "Advanced Ultrasonics for the Perio Patient", February 26 and August 20, 1994.

Attended the Ferris Professional Women's Conference, "Women of the '90s - Daring, Diverse, Decisive", April 15, 1994.

Attended Chicago Mid-winter Meeting, 3 Continuing Education credits, Ceramics lecture by Willi Geller, CDT, February 18-20, 1994.

Attended "Assessment Conference III - The Quest for Quality Through Assessment in Higher Education", Madonna University, November 19, 1993.

Attended "Grant Writing and Fundraising Seminar", Sponsored by MSU Extension Offices, November 6, 1993.

American Association of Dental Schools meeting, presented at Educational Exhibits. "Fabrication of a Gold Crown - A Tutorial", a computer assisted instruction program, March 6-10, 1993.

CONTINUING EDUCATION CREDIT AND NON-CREDIT: (cont'd)

Chicago Midwinter Dental Meeting, February 20, 1993.

Attended APM Sterngold Company's Precision Attachment Workshop, three days intensive fabrication of several attachment appliances, 24 Cont. Education Credits, July 23-25, 1992.

"Summerfest 1992", Continuing Education Program for Dental Technology and Dental Hygiene. Served as coordinator of program. 8 Continuing Education credits, June 27, 1992.

"Practice Building Skills and Motivation", lecture given by Dr. Jim Rhode, sponsored by Big Rapids Dental Study Club, May 15, 1992.

Guest Lecturer for Lansing Community College on "Infection Control in the Dental Lab", May 7, 1992.

Chicago Midwinter Dental Meeting, Chicago, Illinois, February 15, 1992.

"Working with Pagemaker", Academic Computing Workshop, January, 1992.

"Summerfest 1991", Co-organized, Dental Continuing Education Program, July 13, 1992.

Michigan Association of Commercial Dental Laboratories, Spring Meeting, Troy, MI. April 27-28, 1991.

"Women's Leadership Conference", Clarion Conference Center, Big Rapids, MI. April 12, 1991.

"Managing Your Hard Drive", Academic Computing, FSU, Big Rapids, MI. April 5, 1991.

Kellogg Foundation "Youth Initiatives Program" Conference, Lansing, MI, March, 1991.

"Cosmetic Techniques for the 90's", by "Bo" Braze, New Horizons Corporation; Co-organized and hosted this workshop for DT alumni and friends, January 19-20, 1991. 16 Continuing Education credits.

"Presentation Excellence", Education Department, Ferris State University, November 30 and December 7, 1990.

"Orthodontics/TMJ Overview", by Jay Tyler, Tyler Orthodontics; Michigan Association of Commercial Dental Laboratories "Technician Day" Meeting. Nov. 10, 1990. 2 Continuing Education credits.

"Current Concepts in Implant Dentistry", by Dr. Frank Selega; Sponsored by D. H. Baker Dental Lab; Traverse City, MI, November 2, 1990.

Guest Lecturer for Dental Assisting - Overview of DT and Custom Tray Fabrication - Oct. 15, 1990 and Jan. 21, 1991, respectively.

"The Use of the Camcorder in Business and Education", by Lynne Scheible and Chris Towner, DA Faculty, Clarion Conference Center, Ferris State University, October 5, 1990.

"Archwires", by Michel Belanger, representative of Ormco Corporation. Sponsored by Davis Lab and Grand Rapids Orthodontic Study Club, Davis Dental Laboratory, Grand Rapids, MI, September 18, 1990.

CONTINUING EDUCATION CREDIT AND NON-CREDIT: (cont'd)

"Teaching Thinking Skills Course", by Dr. Charles E. Wales from West Virginia University, FSU, September 7-8, 1990.

Organized Dental Technology Summerfest, '90. Various Continuing Education for our alumni and friends. Schedule 6 different speakers to present at FSU. July 20, 1990. Cont. Educ. cr. - 8.

"Accessing Computerized Databases Workshop", Timme Library Instruction Studio, May 10, 1990.

Midwest Technical Meeting, Indianapolis, Indiana. Attended several technical lectures and sought out speakers for Summerfest, '90. April 27-28, 1990. Cont. Educ. Credits.

Organized an all day lecture presentation for Dental Technology students featuring Gary "Bo" Braze speaking on "Porcelain from A to Z", April 3, 1990. Cont. Educ. Credits.

American Association of Dental Schools Meeting, Cincinnati, Ohio, March 4-7, 1990. Attended "MS-DOS Computer User's Group" Workshop as well as various section meetings on dentistry.

"Reproducing Vitality in Ceramics", One day hands-on ceramics course given by Kris Kersten, CDT, BA, May 17, 1989. Cont. Educ. cr. - 8.

Chicago National Dental Convention, February 17-19, 1989. Attended various table clinics and lectures.

West Michigan Dental Society - Dental Health/Dental Expo - Dental Programs Exhibit for Recruitment, January 27, 1989.

"Symposium on Dental Auxiliary Workforce", Ferris State University, October 1, 1988.

Organized Orthodontic Clinic at Ferris State University featuring Faye Majewski from Wisconsin as presenter, June 11-12, 1988. Cont. Educ. credits.

"Asepsis in the Dental Lab" - presented this paper at the Michigan Dept. of Corrections Dental Division at Michigan State Police Academy in Lansing, MI, October 13, 1987.

Participated in a two-day hands-on workshop on advanced orthodontics at Quality Orthodontic Educational Services, Inc., Twin Lakes, Wisconsin.
August 31 and September 1, 1987.

Developed Orthodontic and Pedodontic Manual to be used as primary textbook for Orthodontics course in curriculum of Dental Technology at Ferris State University. Two years to develop, 1986-87.

American Association of Dental Schools Meeting in Chicago, Illinois.
March 5-8, 1987. Attended various lectures and Section meetings.

Mid-American Conference, September 18-20, 1986. Many technical lectures and exhibits.

National Dental Convention, Chicago, Illinois. February 14-16, 1986. Delta Dental Fund Meeting, Ann Arbor, MI, Jan. 8, 1986. Featured speaker, John W. McLean, DDS, nationally reknowned speaker noted for ceramics research.

CONTINUING EDUCATION CREDIT AND NON-CREDIT: (cont'd)

Francis B. Vedder's Society Meeting, Shanty Creek, MI. Featured speaker, Masahiro Kuwata, "Achievement on Ideal Function and Esthetics in Ceramo-Metal Restorations", October 11-13, 1985.

Great Lakes Orthodontic Course, "Activators and Bionators", given by the Great Lakes Orthodontic Company, Buffalo, New York. April 15-16, 1985.

Completed CIS 110 (Computer Information Services) Computer Class, Fall Quarter, Ferris State College (University), 1984-85.

Francis B. Vedder's Society Fall Meeting, Shanty Creek, MI, Oct., 1984.

"Tanaka course #4", hands-on ceramics course taken at the Asami Tanaka Dental Technology Institute in Skokie, Illinois, April 7-8, 1984. Cont. Educ. Credits.

Francis B. Vedder's Society Spring Meeting, Ann Arbor, MI, March 27, 1984.

Participant/presenter in Alumni-Festival for Dental Technology held at Ferris State College, June, 1983, "Basic Orthodontics".

"Tanaka Course #1", hands-on ceramics course taken at the Asami Tanaka Dental Technology Institute in Skokie, Illinois, December 2-3, 1983.

DALE WALTER HARRISON
18730 Grass Lake Road
Big Rapids, MI 49307-9339

WORK EXPERIENCE:

March 1993 - Present	Ferris State University, Big Rapids, Michigan Head, Allied Dental Department Dental Technology and Dental Hygiene Programs, Associate Professor Responsibilities: Supervise faculty and staff of Dental Technology and Dental Hygiene Programs, budget preparation and management, schedule and conduct program and department meetings, preparation of class and faculty schedules, accreditation documentation and reports, curriculum review and development, dental technology and hygiene student advising, recruitment and retention, represent allied dental programs and the University at professional meetings and function. Member: College of Allied Health Sciences Administrative Council.
August 1990 - Present	Ferris State University, Big Rapids, Michigan Program Director, Dental Technology, Associate Professor Responsibilities: Supervise faculty, financial and administrative/educational process of the program. Recruit and advise students enrolled in the Dental Technology Program.
July 1989 - July 1990	The People to People Health Foundation (Project HOPE), Millwood, Virginia at Escola Superior de Medicina Dentaria de Lisboa, Cursos Formacao Profissional, Universidade de Lisboa, Lisboa, Portugal. Coordinator, Dental Laboratory Technology Program, Project HOPE - Portugal. Professor, Escola Superior de Mediciana Dentaria de Lisboa (ESMDL), Universidade de Lisboa, Lisboa, Portugal. Responsibilities: Supervise faculty, coordinate curriculum development, to act as liaison between Project HOPE and ESMDL dental faculty, staff, and administration, and serve as mentor to the Portuguese dental technology faculty. Serve as clinical coordinator between the Estagio (internship), dental school faculty, and clinical dental students. Teach dental prosthetic courses for the dental technology program and preclinical dental students at ESMDL.
August 1988 - July 1989	Ferris State University, Big Rapids, Michigan Acting Program Director, Dental Technology Program Responsibilities: Supervise faculty, financial and administrative/educational process of program. Recruit and advise students enrolled in the Dental Technology Program.

WORK EXPERIENCE: (con't)

August 1986 - July 1990 with Leave of Absence July 1989 - July 1990	Associate Professor, Dental Technology Program Responsibilities: Teach courses in Basic Removable Prosthodontics, Complete Dentures, and Partial Dentures. Chairperson: Faculty/Staff Development Committee. Member: Faculty Enrichment Committee and Student Life Committee, School of Allied Health; Curriculum Task Force, Ferris State University. Faculty Advisor: Pi Delta Alpha, Professional Dental Fraternity. Academic Advisor: Dental Technology students.
March 1978 - July 1986	Lewis and Clark Community College, Godfrey, Illinois Coordinator and Assistant Professor, Dental Laboratory Technology Program Responsibilities: Developed curriculum, designed facilities, identified and ordered equipment and supplies, interviewed and hired faculty, interviewed and selected students, implemented program, wrote self-studies for the Commission on Dental Accreditation of the American Dental Association and achieved "preliminary provisional approval" status for the dental technology program in February, 1979 and "approval" status in May, 1980. Served on Learning Resource Committee, 1979-80 and Instructional Committee, 1981-84. Served on the Southern Illinois Health Occupations Articulation Project, 1982-83. Taught courses in Complete Dentures, Partial Dentures, Crown and Bridge, Dental Ceramics, Dental Materials, Dental Technology Orientation, Dental Technology Seminar, and Laboratory Internship. Guest lectured at Southern Illinois University, School of Dental Medicine and the Lewis and Clark Community College, Dental Assistant Program. Organized, developed, and produced numerous 35mm slide presentations for the Dental Technology and Dental Assistant programs. Academic Advisor: Dental technology students and LCCC Mentor Program. Advisor: Dental Technology Advisory Committee and Dental Technology Student Club.
February 19, 1958 - March 1, 1978	United States Air Force Honorably retired on March 1, 1978 as Master Sergeant Volunteer teacher of English Conversation at Airaku-en Hospital for Hansen's Disease (Leprosy), Airaku-en, Okinawa, 1967 - 1969.
EDUCATION:	Southern Illinois University, Carbondale, Illinois Master of Science in Education, 1986 Bachelor of Science in Occupational Education, 1977

EDUCATION:
(Military)

United States Air Force, Military Airlift Command, Norton AFB, San Bernadino, California
Non-Commissioned Officer Academy, 1974

United States Air Force Medical Service School, Gunter AFB, Montgomery, Alabama
Crown and Fixed Partial Denture Prosthetics Course, 1964.
Complete Denture Prosthetics Course, 1962.

United States Air Force School of Aviation Medicine, Air University, Gunter AFB, Montgomery, Alabama
Apprentice Dental Laboratory Specialist Course, 1958.

HONORS:

Inducted into The Honor Society of Phi Kappa Phi, 1986.
Dean's List: 1975-1977.

CERTIFICATION:

Certified by the National Board for Certification in Complete Dentures, Partial Dentures, Crown and Bridge, and Ceramics, 1971 - Present.

PROFESSIONAL MEMBERSHIPS:

Society of Dental Technologists - Illinois and Missouri, a National Board for Certification Study Group. President: 1979, 1980, and 1985.

Phi Kappa Phi Honor Society, 1986 - Present.

Michigan Association of Commercial Dental Laboratories, Associate II Membership, 1990 - Present.

National Association of Dental Laboratories, Educators Membership, 1992 - Present.

American Association of Dental Schools, 1990 - Present.
1992 - 1993, Delegate and Secretary, Council of Allied Dental Program Directors.
1993 - 1994, Delegate and Chair-Elect, Council of Allied Dental Program Directors.
1994 - 1995, Delegate and Chair, Council of Allied Dental Program Directors.
1997, Delegate, Council of Allied Dental Program Directors, Dental Laboratory Technology Education.
1992 - 1995, Member of the Harry Bruce Legislative Fellowship Committee, AADS and Member of the Sections on Dental Laboratory Technology Education and Removable Prosthodontics.

RESUME

FULL NAME: Deborah Sue Dygert-Sokoloski

TITLE AND DATE OF INITIAL APPOINTMENT: Technical Instructor, June, 1980.

CURRENT TITLE AND DATE OF APPOINTMENT: Technical Instructor, June, 1980.

NATURE OF APPOINTMENT: Full-time, salaried.

EDUCATION:

1983	Ferris State University Bachelor of Science Degree in Allied Health Teacher Education Big Rapids, Michigan
1976	Ferris State University Associate in Applied Science Degree in Dental Technology Big Rapids, Michigan
1972	Grand Rapids Junior College Pre-Dentistry Grand Rapids, Michigan
1970	Ottawa Hills High School Graduate Grand Rapids, Michigan

WORK EXPERIENCE:

June 1980 - Present Ferris State University, Technical Instructor,
Dental Technology.
Courses Taught:
DTEC 115, Introduction to Dental Prosthodontics. A lecture/laboratory course to introduce the student to dental laboratory techniques and materials required for fabrication of removable complete dentures. Also covered will be the specialties of dentistry, asepsis requirements and techniques, laboratory safety rules and their relation to MIOSHA. Laboratory procedures will include the fabrication of dental devices and complete dentures. Emphasis on the safe use and care of laboratory instruments and equipment.

DTEC 125, Dental Anatomy. Designed to instruct the student in head and oral anatomy, including the temporomandibular joint, bones of the skull and face, muscles of mastication and facial expression, nerves, tissues, and their interrelationships.

WORK EXPERIENCE: (con't)

DTEC 126, Orthodontics and Pedodontics. A five week lecture/laboratory course to study the fabrication of orthodontic and pedodontic appliances, and the materials associated with their construction. Laboratory procedures include bending orthodontic wire for appliances, soldering orthodontic wire and acrylic fabrication of appliances such as space maintainers, Hawley appliances, habit appliances, springs, and trimming of orthodontic/pedodontic study models.

DTEC 127, Introduction to Fixed Prosthodontics. A 10 week lecture/ laboratory course in the practical application and theories of fabricating fixed prosthodontic appliances and the materials required for their construction. Laboratory procedures to include the fabrication of crowns, inlays and onlays, spruing, casting, finishing and polishing of fixed prostheses, and soldering and repair of fixed prostheses.

DTEC 246, Prosthodontic Specialties. A five week lecture/laboratory course to instruct the student in the fabrication of fixed and/or removable prosthetic appliances on practical cases.

D-T 116, Lab Procedures I. Basic phases of crown and denture fabrication, custom impression trays, model and dies, base plates and occlusal rims, articulation, waxing individual tooth forms, setting and positioning denture teeth, lab equipment, safety and asepsis.

D-T 112, Anatomy and Morphology. Includes terminology, identification systems, forms and function, contours of individual teeth and tissues, bones, muscles, TMJ, and occlusion.

D-T 126, Crown and Bridge. Technical procedures and theory of single and multiple unit construction including waxing, investing, burnout, casting, soldering, finishing, polishing and troubleshooting.

D-T 132-136, Complete Dentures. Includes treatment planning, different types of dentures, base plates and occlusal rims, custom trays, boxing and beading final impressions, types of denture teeth, selective grinding bilateral balanced occlusion, tooth arrangement and arch procedural theories, fabrication of complete dentures and troubleshooting.

D-T 234 - Orthodontics and Pedodontics. Fabrication of space maintainers, retainers, holding and minor tooth movement appliances, forming different springs, soldering and study models.

D-T 236, Students choose specialty areas to refine skills, expertise and speed in the fabrication process, as well as review knowledge in all areas.

D-T 299, Special Studies. With help and supervision, students are assigned actual patient cases to fabricate and deliver through the Ferris Dental Clinic.

WORK EXPERIENCE: (con't)

Sept. 1979 - May 1980	Ferris State University, temporary one year contract as Technical Instructor.
May 1978 - August 1979	Professional Ceramics Dental Laboratory, Grand Rapids, MI. Laboratory Manager responsibilities included personnel, public relations, sales, work flow and scheduling, quality control, education and technical work production.
1976 - 1978	Professional Ceramics, technician specializing in crown and bridge, ceramics and attachments.
1976	In-house technician for Dr. Bonifiglio and Dr. Summerdyke which led to incorporating and opening the laboratory Professional Ceramics.

CONTINUING EDUCATION:

1997	Infection Control, 1 hour continuing education credit. Dentifax International, 2 hours continuing education credits. Ringless Castings Chicago Midwinter Dental Convention
1996	F.B. Vedder Spring Meeting Chicago Midwinter Dental Convention
1995	Chicago Midwinter Dental Convention Coaching and Team Building Skills for Management Forensic Dentistry MACDL Spring Meeting
1994	Professional Development Assn. Asepsis MACDL Dental Personal: Friend or Foe
1993	Received Certification in Complete Dentures
1992	Worked Mac Dental Laboratory for current experience - 10 weeks.
1991	F.B. Vedder Society Spring Meeting. Workshop on Computer Aided Instruction and Multi-Media
1990	BioBlock Orthodontic Seminar Dentsply Challenge of Esthetics Implant Seminar Summer Continuing Education Clinics
1989	Chicago Midwinter Dental Convention F.B. Vedder Spring Seminar
1988	Course in Orthodontic Appliances for Minor Tooth Movement and Functional Appliances F.B. Vedder Spring Meeting

CONTINUING EDUCATION: (con't)

1987	Seminar on Asepsis in the Dental Field F.B. Vedder Society Spring Meeting Porcelain Laminate Clinic Dentsply Denture Set Up Course
1986	F.B. Vedder Society Spring Meeting Summerfest Continuing Education Clinics
1985	F.B. Vedder Society Spring Meeting Summerfest Continuing Education Clinics
1984	F.B. Vedder Crown and Bridge Prosthodontics Fall Meeting
1983	Chicago Midwinter Dental Convention
1981	Ney Ceramic Course Received Certification in Crown and Bridge
1980	Exhibitor at Michigan Association of Commercial Dental Laboratories on post soldering precious and non-precious ceramic crowns.
1978	Stern Gold Precision Attachment Course Big Mac Dental Symposium
1977	Chicago Midwinter Dental Meetings Jelenko Substructure Course Ceramco Ceramic Course

COMMUNITY SERVICE:

1994 - 1997	4-h Horse Project, Resource Leader
1992 - 1997	Ayso Soccer Coach
1989 - 1990	Girl Scout Co-Leader

Roger A. Daugherty

21567 One Mile Road
Reed City, MI 49677
Home: (616) 832-5009
Work: (616) 592-2277

WORK EXPERIENCE:

1977 - Present	Technical Instructor, Dental Technology Program Ferris State University Big Rapids, MI 49307
1989 - Present	Educational and Management Consultant Daugherty Consulting Service Reed City, MI 49677
1972 - 1985	Owner and Operator of a Crown & Bridge Dental Lab. Daugherty Dental Laboratory Reed City, MI 49677
1970 - 1972	Office Dental Laboratory Technician Dr. Donald Pokorney, D.D.S.

EDUCATION:

1970	Associate Degree in Dental Laboratory Technology Ferris State College Big Rapids, MI 49307
1984	Bachelor of Science Degree in Allied Health Education Ferris State College Big Rapids, MI 49307

PROFESSIONAL AFFILIATIONS:

Associate Member of the Michigan Association of Dental Laboratories

Member of the National Association of Dental Laboratories Educator Section

Consultant to the National Board of Certification for Dental Technology

Member of the College of Allied Health Sciences Faculty Affairs Committee

PROFESSIONAL AFFILIATIONS: (con't)	Past Chair of the College of Allied Health Sciences Faculty Development Committee
	Past Representative of the National Board of Certification to the American Dental Association, Committee E
	Past Vice-Chair and Trustee Member for the National Board for Certification
	Past National Board of Certification Representative to the National Association of Dental Laboratories, Wealth of Knowledge Committee
	Past Member of the College of Allied Health Sciences Promotion Committee
CERTIFICATION:	Certified Dental Technician Crown & Bridge and Ceramics

PROFESSIONAL HONORS:

1993	Educator of the Year National Association of Dental Laboratories

APPENDIX C

American
Dental
Association

211 East Chicago Avenue
Chicago, Illinois 60611-2678
(312) 440-2500
Fax (312) 440-7494

Dental Laboratory Technology Today

A Career Profile

- There are more than 60,000 active dental laboratory technicians in the U.S. today.
- Dental laboratory technicians follow dentists' written instructions and make dental prostheses -- replacements for natural teeth that enable people who have lost some or all of their teeth to eat, chew, talk and smile in a manner that is similar to the way they did before.
- Skill in using small hand instruments, accuracy, artistic ability and attention to minute detail are the hallmarks of the qualified dental laboratory technician.
- The majority of dental laboratory technicians work in commercial dental laboratories, which on average employ between 3-5 technicians. Additionally, some dentists employ dental technicians in their private dental offices. Since most dentists utilize laboratory services, employment opportunities in this field are excellent.
- Employment opportunities for dental technicians may also be available in dental schools, hospitals, the military and companies that manufacture dental prosthetic materials. Dental laboratory technology education programs also offer some teaching positions for qualified technicians.

Dental Technology Economics

- The salary of a dental technician varies, depending upon the responsibilities associated with the specific position and the geographic location of employment.
- There is evidence that dental technicians who have completed a formal training program will advance more rapidly in the field, resulting in higher lifetime earnings.
- Many dental technicians receive benefit packages from their employers which may include health and disability insurance coverage, reimbursement for continuing education programs, paid vacations and holidays.

Dental Technology Education

- Dental technicians can begin their careers without a college degree. However, formal college-level education is strongly encouraged.
- There are approximately 40 dental technology education programs in the U.S. that are accredited by the American Dental Association's Commission on Dental Accreditation.
- Most dental laboratory technicians receive their education and training through a two-year program at a community college, vocational school, technical college or dental school.
- Dental technology presents equal career opportunities for women and men. In 1994/95, 47.5% of the students enrolled in dental technology programs were women, while 52.5% were men.
- Minority students represented approximately 38% of enrollees in dental technology programs in 1994/95. Dental technology offers all students exceptional career opportunities.
- There are excellent career opportunities for "nontraditional" dental technology students. These individuals, who don't fit the usual profile of the dental technology student, might meet one or more of the following criteria: over 23 years of age; individuals seeking career change or job reentry after a period of unemployment; or individuals with culturally diverse backgrounds.
- The 1994 dental technology first-year enrollment figure of 713 is significantly less than the peak year of 1981, when there were 1,665 enrollees. These figures again demonstrate the need for dental technology personnel.

Dental Technology Tomorrow

- The demand for dental services will continue to grow. Due to the success of preventive dentistry in reducing the incidence of oral disease, the growing older population will retain their teeth longer, and will be even more aware of the importance of regular dental care. Dentists will need to utilize the services of dental technicians more than ever before to meet the increased demand for dental services.

For additional information about careers in dental laboratory technology, contact the American Dental Association Department of Career Guidance (800-621-8099, ext. 2686), or your state or local dental society.

Statistics collected through: *The 1994 Annual Surveys of Allied Dental Education Programs* conducted by the Survey Center, American Dental Association; the U.S. Department of Health and Human Services; and the U.S. Department of Labor. (Revised 12/95)

Dental Education and Career Information

Fact Sheet

Dental Laboratory Technology Today

A Career Profile

- There are more than 60,000 active dental laboratory technicians in the U.S. today.
- Dental laboratory technicians follow dentists' written instructions and make dental prostheses — replacements for natural teeth that enable people who have lost some or all of their teeth to eat, chew, talk and smile in a manner similar to the way they did before.
- Skill in using small hand instruments, accuracy, artistic ability and attention to minute detail are the hallmarks of the qualified dental laboratory technician.
- The majority of dental laboratory technicians work in commercial dental laboratories, which on average employ between 3 and 5 technicians. Additionally, some dentists employ dental technicians in their private dental offices. Since most dentists utilize laboratory services, employment opportunities in this field are excellent.
- Employment opportunities for dental technicians may also be available in dental schools, hospitals, the military and companies that manufacture dental prosthetic materials. Dental laboratory technology education programs also offer some teaching positions for qualified technicians.

Dental Technology Economics

- The salary of a dental technician varies, depending upon the responsibilities associated with the specific position and the geographic location of employment.
- There is evidence that dental technicians who have completed a formal training program will advance more rapidly in the field, resulting in higher lifetime earnings.
- Many dental technicians receive benefit packages from their employers which may include health and disability insurance coverage, reimbursement for continuing education programs, paid vacations and holidays.

Dental Laboratory Technology Education

- Dental technicians can begin their careers without a college degree. However, formal college-level

education is strongly encouraged.

- There are approximately 34 dental technology education programs in the U.S. that are accredited by the American Dental Association's Commission on Dental Accreditation.
- Most dental laboratory technicians receive their education and training through a two-year program at a community college, vocational school, technical college or dental school.
- Dental technology presents equal career opportunities for women and men. In 1995/96, 45.9% of the students enrolled in dental technology programs were women, while 54.1% were men.
- Minority students represented approximately 38% of enrollees in dental technology programs in 1995/96. Dental technology offers all students exceptional career opportunities.
- There are excellent career opportunities for "nontraditional" dental technology students. These individuals, who don't fit the usual profile of the dental technology student, might meet one or more of the following criteria: over 23 years of age; individuals seeking career change or job reentry after a period of unemployment; or individuals with culturally diverse backgrounds.
- The 1995 dental technology first-year enrollment figure of 652 is significantly less than the peak year of 1981, when there were 1,665 enrollees. These figures again demonstrate the need for dental technology personnel.

Dental Technology Tomorrow

- The demand for dental services will continue to grow. Due to the success of preventive dentistry in reducing the incidence of oral disease, the growing older population will retain their teeth longer, and will be even more aware of the importance of regular dental care. Dentists will need to utilize the services of dental technicians more than ever before to meet the increased demand for dental services.

For additional information about careers in dental laboratory technology, contact your state or local dental society, the National Association of Dental Laboratories (NADL) at 703/683-5263, or the National Board for Certification at 800/684-5310.

Statistics collected through: *The Survey of Dental Practice* and *The 1995 Annual Surveys of Allied Dental Education* conducted by the Survey Center, American Dental Association; the U.S. Department of Health and Human Services; and the U.S. Department of Labor. *(Revised 9/96)*

Dental Education & Career Information Contents

Search *ADA ONLINE* | Contact the ADA | Help

USA Dental Technology Education

The information you find here has been furnished by American Dental Association. The numbers are disturbing. In an industry where the standards of knowledge and work skills are becoming more demanding and technical, the educational demands should be greater.

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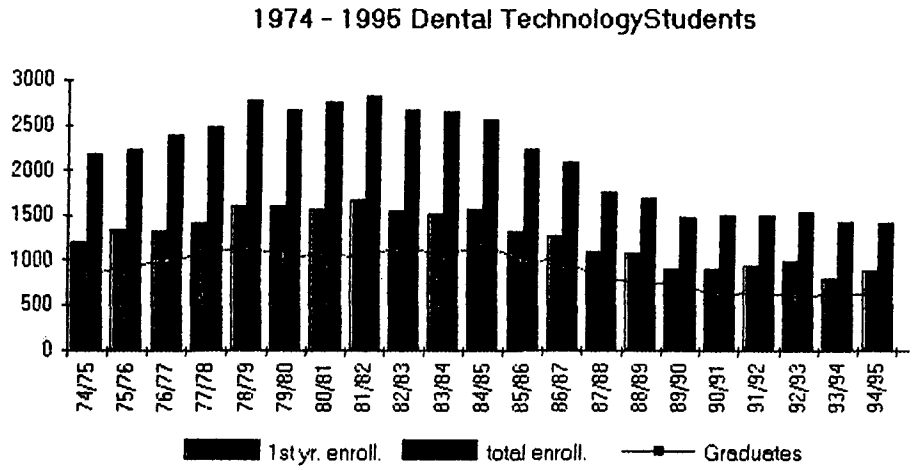
21 Yr. History Dental Technology students from ADA accredited Dental Technology programs 73/74 - 94/95.

1st year Students enrolled 73/74 - 94/95.....26,474
Graduates 73/74-94/95.....18,889
% ENROLED GRADUATING.....71.35%
Average Graduates pr year 73/74 - 94/95.....944
Average last 5 years 90/91 - 94-95.....616

1984 Graduates (high).....1,178
1992 Graduates (low).....585
% DECREASE 84-92 (8YRS)....50.34%
1995 Graduates.....608



Please ponder the statistics on Dental Technology and think what is happening. Further yet, Think what the skill levels will be with out major changes for dentist looking for good dental restorations for their patients.

Unfortunately, the American Dental Association has decided to copyright and charge $20.00 a year for this information that they have received from the accredited schools of Dental Technology. I will no longer continue to provide this information in the format as I have in the past.

Should not the National Association of Dental Laboratories be the source to collect and provide this information anyway?

DLT Home Page - Dental Laboratory Education & Industry Info - Links - Dental Laboratory Software - Dental Labs with Web Sites

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Dental Laboratory Technology Schools

State	School	Address	City	State	Zip
Alabama	Trentholm State Tech School	1225 Air Base Blvd.	Montgomery	AL	36108
Arizona	Pima County Community College	2202 W. Anklam Rd.	Tucson	AZ	85709
California	City College of San Francisco	50 Phelan Ave	San Francisco	CA	94112
	Los Angeles City College	855 N Vermont Ave.	Los Angeles	CA	90029
	Pasadena City College	1570 E Colorado Blvd	Pasadena	CA	91106
Florida	Indian River Community College	3209 Virginia Ave	Ft Pierce	FL	34981
	Lindsey Hopkins Tec Ed Center	750 N W 20th St	Miami	FL	33127
	McFatter Vocational Technical Center	6500 Nova Dr	Davie	FL	33317
	Southern College	5600 Lake Underhill Rd	Orlando	FL	32807
Georgia	Atlanta Area Tech School	1560 Stewart Ave S W	Atlanta	GA	30310
	Gwinnett Area Tech School	1250 Atkinson Rd, Box 1505	Lawrencville	GA	30246
Iowa	Kirkwood Community College	6301 Kirkwood Blvd S W, Box 2068	Cedar Rapids	IA	52406
Idaho	**Idaho State University**	Dental Lab Tech, Box 8380	Pocatello	ID	83209
Illinois	Southern Illinois University	College of Technical Careers	Carbondale	IL	62901
	Triton college	2000 N Fifth Ave	River Grove	IL	60171
Indiana	Indiana University, Perdue	2101 Coliseum Blvd E	Fort Wayne	IN	46805
Kentucky	Lexington Community College	Cooper Dr - Oswald Building	Lexington	KY	40506
Louisiana	**Louisiana State University**	100 Florida Ave	New Orleans	LA	70119
Massachusetts	Middlesex Community College	33 Kearney Square	Lowell	MA	01852
Michigan	Ferris State University	200 Ferris Dr	Big Rapids	MI	49307
Minnesota	Northeast Metro Tech College	3300 Century Ave N	White Bear Lake	MN	55110
Nebraska	Central Technical Community College	P O Box 1024	Hastings	NE	68902
North Carolina	Durham Technical Community College	1637 Lawson St	Durham	NC	27703
New Jersey	University of Medicine/Dentistry, Cranford	1033 Springfield Ave	Cranford	NJ	07016
New York	Erie Community College, S Campus	S4041 Southwestern Blvd	Orchard Park	NY	14127
	New York City Technical College	300 Jay St	Brooklyn	NY	11201
Ohio	Columbus State Community College	550 E Spring St, Box 1609	Columbus	OH	43215
	Cuyhoga Community College	2900 Community College Ave	Cleveland	OH	44115
Oregon	**Portland community College**	P O Box 19000	Portland	OR	97219
Tennessee	East Tennessee State University	1000 West E St	Elizebethton	TN	37643
Texas	**University of Texas, San Antonio**	7703 Floyd Curl Dr	San Antonio	TX	78284
Virginia	J Sargent Reynolds Community College	P O Box 85622	Richmond	VA	23285
Washington	Bates Technical College	1101 S Yakima Ave	Tacoma	WA	98405
Wisconsin	Milwaukee Area Technical College	700 W State St	Milwaukee	WI	53233
	Military Dental Technology Schools				
California	Naval School of Dental Technology	4170 Norman Scott Rd.,Box 36814	San Diego	CA	92136

Texas	School of Health Care Sciences	917 Missile Rd	Sheppard AFB	TX	76311
	US Army Academy	HSHA-MD(MAJ Wong)	Ft Sam Houston	TX	78234

Dental Laboratory Technology Schools around the world

United Kingdom

- National Diploma Science (Dental Technology), Cardiff Institute of Higher Education

Israel

- Hadassah College of Technology), Dental Technology

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APPENDIX D

Occupational Outlook Handbook

Dental Laboratory Technicians

(D.O.T. 712.381 014, 018, 022, 026, 030, -042, -046, and -050, .664-010)

Nature of the Work

Dental laboratory technicians fill prescriptions from dentists for crowns, bridges, dentures, and other dental prosthetics. Dentists send a specification of the item to be fabricated along with an impression (mold) of the patient's mouth or teeth to the technicians. Then dental laboratory technicians, also called dental technicians, create a model of the patient's mouth by pouring plaster into the impression and allowing it to set. They place the model on an apparatus which mimics the bite and movement of the patient's jaw. The model serves as the basis of the prosthetic device. Technicians examine the model, noting the size and shape of the adjacent teeth or gaps within the gumline. Based upon these observations and the dentist's specifications, technicians build and shape a wax tooth or teeth using small hand instruments called wax spatulas and wax carvers. They use this wax model to cast the metal framework for the prosthetic device.

Once the wax tooth has been formed, dental technicians pour the cast and form the metal. Using small hand-held tools, they prepare the surface of the metal to allow the metal and porcelain to bond. They apply porcelain in layers to arrive at the precise shape and color of a tooth. Technicians place the tooth in a porcelain furnace to bake the porcelain onto the metal framework, then adjust the shape and color with subsequent grinding and addition of porcelain to achieve a sealed finish. The final product is an exact replica of the lost tooth or teeth.

In some laboratories, technicians perform all stages of the work, while in others, each does only a few. Dental laboratory technicians also may specialize in one of five areas: Orthodontic appliances, crown and bridge, complete dentures, partial dentures, or ceramics. Job titles may reflect specialization in these areas. For example, technicians who make porcelain and acrylic restorations are called *dental ceramists.*

Working Conditions

Dental laboratory technicians generally work in clean, well-lighted, and well-ventilated areas. Technicians usually have their own workbenches, which may be equipped with Bunsen burners, grinding and polishing equipment, and hand instruments, such as wax spatulas and wax carvers.

The work is extremely delicate and quite time consuming. Salaried technicians usually work 40 hours a week, but self employed technicians frequently work longer hours.

Employment

A high degree of manual dexterity, good vision, and the ability to recognize very fine color shadings and variations in shape are necessary. An aptitude for detailed and precise work also is important. Useful high school courses are art, metal and wood shop, drafting, and sciences. Courses in management and business may help those wishing to operate their own laboratories.

Job Outlook

Job opportunities for dental laboratory technicians should be favorable despite the absence of growth in the occupation. Employers have difficulty filling trainee positions, probably because of relatively low entry-level salaries and lack of familiarity with the occupation. Also, experienced technicians who have built up a favorable reputation with dentists should have good opportunities for establishing laboratories of their own.

Although job opportunities are favorable, employment of dental laboratory technicians is expected to decline through the year 2005, due to changes in dental care. The fluoridation of drinking water, which has reduced the incidence of dental cavities, and greater emphasis on preventive dental care since the early-1960s have improved the overall dental health of the population. As a result, people are keeping their teeth longer. Instead of full or partial dentures, most people will need a bridge or crown.

Office-based, computer-aided equipment, designed to measure a patient's mouth and fabricate the required prosthetic device, is currently under development and is beginning to come into use in this country after years of testing in Europe. While not replacing the technicians completely, such equipment, when and if it comes into widespread use in this country, could reduce the amount of time required to produce dental prosthetics and, therefore, the demand for dental laboratory technicians.

Earnings

The annual wage for all workers in dental laboratories was $22,269 in 1993. According to limited data, trainees in dental laboratories average only a little over minimum wage. However, earnings rise sharply with experience. In general, earnings of self employed technicians exceed those of salaried workers. Technicians in large laboratories tend to specialize in a few procedures, and therefore tend to be paid a lower wage than those employed in small laboratories who perform a variety of tasks.

Related Occupations

Dental laboratory technicians fabricate artificial teeth, crowns and bridges, and orthodontic appliances following the specifications and instructions provided by dentists. Other workers who make medical devices include arch support technicians, orthotics technicians (braces and surgical supports), prosthetics technicians (artificial limbs and appliances), opticians, and ophthalmic laboratory technicians.

Sources of Additional Information

For information about training and a list of approved schools, contact: Commission on Dental Accreditation, American Dental Association, 211 E. Chicago Ave., Chicago, IL 60611.

General information on grants and scholarships is available from dental technology schools.

For information on career opportunities in commercial laboratories, contact: National Association of Dental Laboratories, 3801 Mt. Vernon Ave., Alexandria, VA 22305.

For information on requirements for certification, contact: National Board for Certification in Dental Technology, 3801 Mt. Vernon Ave., Alexandria, VA 22305.

Occupational Outlook Handbook Home Page

BLS Home Page

Howard N Fullerton, Jr
Bureau of Labor Statistics
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Last modified: June 10, 1997
URL: http://stats.bls.gov/oco/ocos238.htm

Occupational Outlook Handbook

Key phrases about projected employment changes described in the *Handbook*

If you have trouble reading this, try a text version.

Changing employment between 1994 and 2005

If the statement reads...	Employment is projected to...
Grow much faster than the average	Increase 36 percent or more
Grow faster than the average	Increase 21 to 35 percent
Grow about as fast as the average	Increase 10 to 20 percent
Little change or grow more slowly than the average	Increase 0 to 9 percent
Decline	Decrease 1 percent or more

Opportunities and competition for jobs

If the statement reads...	Job openings compared to jobseekers may be...
Excellent opportunities	Much more numerous
Very good opportunities	More numerous
Good or favorable opportunities	About the same
May face competition	Fewer
May face keen competition	Much fewer

Occupational Outlook Handbook Home Page

BLS Home Page

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Last modified: March 4, 1996
URL: http://stats.bls.gov/oco/oco20016.htm

Technical contact: USDL: 95-367
Staff 202--606-6222

Media contact: For release: 10:00 a.m. EDT
Kathryn Hoyle 202--606-5902 Thursday, September 14, 1995

BLS REPORTS ON EMPLOYEE BENEFITS IN SMALL PRIVATE INDUSTRY ESTABLISHMENTS, 1994

Most full-time employees of small establishments (fewer than 100 workers) in private industry are covered by diverse employee benefits in addition to their wages, as shown by 1994 data issued by the Department of Labor's Bureau of Labor Statistics. For example:

Two out of three (66 percent) full-time workers in small establishments participated in a health benefits plan provided by their employers;

Seven out of eight (88 percent) had paid vacation plans, and four out of five (82 percent) had paid holidays;

One out of two (50 percent) had paid sick leave, and one out of four (26 percent) had employer-provided sickness and accident insurance plans;

Three out of five (61 percent) participated in life insurance programs provided by their small-establishment employers; and

Two out of five (42 percent) participated in retirement plans.

Data are available on the incidence of 30 different employee benefits covered by the Employee Benefits Survey. For 15 major benefits, detailed data are available on specific provisions of the benefit plans for full-time employees. Data also are available on the incidence of benefits for part-time employees and for employees classified into major occupational groups: Professional, technical, and related employees; clerical and sales employees; and blue-collar and service employees. Though not shown in this release, data are available by broad geographic region, by industry sector of the employer, and by union and nonunion status.

The 1994 Employee Benefits Survey of small private establishments covered an estimated 48.6 million employees (35.9 million full time, 12.7 million part time) in the private economy, excluding farms and private households. This represented about 55 percent of the total private nonfarm economy employment. The survey covered employees in small independent businesses, as well as employees in small establishments that are part of larger businesses. Three out of four employees covered by the survey work in small independent businesses.

Complete survey results will be published this fall in a BLS bulletin, Employee Benefits in Small Private Establishments, 1994.

Health benefits

Full-time employee participation in employer-provided health plans changed over the 2 years since the last small establishment survey. Employee participation was lower, at 66 percent, in 1994 than 2 years earlier (71 percent). The trend away from traditional fee-for-service plans was significant in the small establishments surveyed, as had been observed in larger private sector firms. Just over one-half of the employees in medical plans were covered by traditional fee-for-service plans in 1994, down from the two-thirds recorded in 1992 (55 versus 68 percent). Traditional fee-for-service health plans allow participants unrestricted choice in selecting the doctors and facilities that will supply their care; the plan reimburses either the provider or the individual for some or all of the cost.

The remaining 45 percent of full-time employees in medical plans were enrolled in non-traditional health plans in 1994. Twenty-four percent received their medical benefits from preferred provider organizations (up from the 18 percent recorded in 1992); and 19 percent were enrolled in prepaid health maintenance organizations (up from 14 percent). Preferred provider organizations are a type of fee-for-service plan that offers higher reimbursement rates if services are provided from a network of selected health care providers (such as hospitals and physicians), although participants may choose any provider. Health maintenance organizations provide prepaid services from a selected group of doctors and facilities. Coverage is fully prepaid, or is provided for only a nominal copayment. Services provided by doctors and facilities outside the health maintenance organization are not covered, or are covered at reduced rates.

Eighty-six percent of participants were enrolled in health plans with "managed care" provisions - measures aimed at controlling health care costs and usage. These workers were evenly divided between those enrolled in preferred provider and health maintenance organizations and those enrolled in traditional fee-for-service plans with managed care features. The most common of these features require or encourage performing necessary tests prior to hospital admissions, certifying the need for hospitalizations, and obtaining second surgical opinions.

Another trend in controlling health care benefit plan costs has been the imposition of deductible and coinsurance payment responsibilities on the patient beginning the first day of a hospital confinement. For example, in other than health maintenance organization plans, in 1994 these payments were required of the vast majority of medical plan participants in small establishments for hospital room and board (72 percent), inpatient surgery (85 percent), and inpatient physician visits (85 percent). A deductible is the amount of covered expenses that an individual must pay before any charges are paid by the medical care plan. Once the deductible is met, plans pay a percentage of covered expenses, known as the coinsurance percentage or rate.

One-half (52 percent) of participating employees had to contribute to the cost of their individual medical coverage, a somewhat higher proportion than in 1992 (47 percent). Three-quarters contributed to the cost of their family coverage, about the same proportion as in 1992. From 1992 to 1994, average monthly employee contributions increased from $37 to $41 for individual coverage and from $151 to $160 for family coverage.

Retirement benefits

About two out of five (42 percent) full-time employees in small establishments participated in employer-provided retirement plans -- a slightly lower proportion than 2 years earlier (45 percent). This reflected declining participation in defined benefit plans (22 versus 15 percent) over the period, coupled with stable participation in defined contribution plans (34 percent in 1994). Defined benefit plans characteristically specify a formula for determining an employee annuity at retirement. Alternately, defined contribution plans specify the employer's contributions, but do not predetermine the actual retirement dollar benefit. Defined contribution plans include savings and thrift plans (covering 17 percent of employees), deferred profit sharing plans (13 percent), money purchase pensions (5 percent), as well as employee stock ownership and simplified employee pension plans (1 percent each).

Family leave benefits

The Employee Benefits Survey measured the incidence of formal family leave benefits for the first time in 1994. Previously, the survey estimated parental leave, generally in the form of maternity and paternity leave. The passage of the Family and Medical Leave Act of 1993 created a federal mandate for employers to provide employees with up to 12 weeks of unpaid leave for the birth or adoption of a child and for family illness (employee, child, spouse or parent). Generally, these provisions apply to employees with 1 year of service who work 1,250 hours during the year and who are employed by companies with 50 or more workers. There is no mandate to provide paid leave. In 1992, prior to passage of the Family and Medical Leave Act, almost one out of five (18 percent) full-time employees in small establishments had unpaid maternity or paternity benefits available to them. In 1994, almost one out of two (47 percent) had an unpaid family leave benefit. In both years, paid benefits were rare.

Other findings

The incidence of employee benefits for full-time employees in small establishments was roughly uniform across occupations, with three notable exceptions -- health insurance, sick leave, and retirement benefits. For each of these benefits, employees in professional and technical occupations were significantly more likely to participate in the benefit than were employees in blue-collar and service occupations. Participation by employees in clerical and sales occupations fell between.

Among the factors that may influence the composition of employee benefits in small establishments is their reduced ability, compared with larger employers, to defray high plan administration costs commonly associated with certain benefits. For example, in 1994, full-time employee participation in defined benefit pension plans amounted to 9 percent in small establishments that were unaffiliated with larger companies. The participation rate was 56 percent for full-time employees of private establishments with 100 or more employees in 1993. This same relationship exists for formal flexible benefit plans (1 percent compared with 12 percent) and employee reimbursement accounts (11 percent compared with 52 percent). Formal flexible benefit plans allow employees to customize their total benefit packages, choosing from options within certain guidelines set by the employer. Flexible benefit plans also are known as cafeteria benefit plans. Reimbursement accounts, also called flexible spending accounts, let employees pay for expenses not covered by their usual benefit package with pretax contributions to a fund established for this purpose.

Part-time employees in small establishments were far less likely to be covered in the benefit programs. The most common benefits for part-time employees were paid leave benefits which could be prorated to reflect the

shorter workweeks of the part-time employees. Benefits with costs that could not be prorated easily were less likely to cover part-time employees. For example, the incidence rates for paid vacations and holidays for part-timers, at 31 and 26 percent, were roughly a third of the corresponding rates for full-time workers. However, the participation rate of part-time workers in employer-provided health benefits was just a tenth that of full-time workers (7 versus 66 percent).

TECHNICAL NOTE

The Employee Benefits Survey (EBS) data are collected jointly with the BLS Employment Cost Index (ECI). The ECI provides quarterly data on the changes in employers' costs of wages, salaries, and employee benefits. In addition, data on the average costs per hour worked of compensation components are published annually from the ECI.

The sample of establishments from which the ECI and EBS data are collected is updated periodically. Each year, new sample establishments in selected industries are introduced into the survey, while older sample establishments are removed from the survey. In addition, a group of newly opened establishments in all industries is included in the EBS sample to ensure representation of the current mix of establishments by longevity. Benchmark adjustments are applied to the data to estimate current employment in each major industry sector. More details on sampling and estimation procedures will appear in the Technical Note to the bulletin, Employee Benefits in Small Private Establishments, 1994, which will be published this fall.

Benefits data are available for all covered employees and separately for three broad occupation groups: Professional, technical, and related employees; clerical and sales employees; and blue-collar and service employees. Definitions of these occupation groups may be found in the tables at the end of this release. Data are also available for full-time and part-time employees. Workers were classified as either full-time or part-time in accordance with practices in the surveyed establishments.

The EBS is collected on a 2-year cycle. During 1994, data were collected on benefits provided to workers in small private establishments (employing fewer than 100 workers) and to workers in state and local government establishments. These will be surveyed again in 1996. In odd numbered years (e.g., 1993 and 1995), data are collected on the benefits provided to workers in medium and large private establishments (employing 100 or more workers).

Detailed tabulations of the benefit provisions, in addition to estimates of sample error on all data, are currently being developed for the 1994 small private establishment survey. When the analyses of these data are complete, they will be published in the bulletin, Employee Benefits in Small Private Establishments, 1994.

Benefits data for workers in medium and large private establishments were last published in BLS Bulletin 2456, Employee Benefits in Medium and Large Private Establishments, 1993. Corresponding data for workers in state and local government establishments were last published in BLS Bulletin 2444, Employee Benefits in State and Local Governments, 1992. Public sector data for 1994 will be released in a news release and in another bulletin, in late fall 1995. A summary of employee benefits data for the entire private and state and local government sectors appears in the pamphlet, Employee Benefits in the United States, 1992-93.

Table 1. Percent of full-time employees participating in selected employee benefit

Dental Technology

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programs,(1) small private establishments, 1994

Employee benefit program	All employees	Professional, technical, and related employees(2)	Clerical and sales employees(3)	Blue and emplo
		Paid time off		
Holidays	82	91	89	
Vacations	88	92	93	
Personal leave	13	21	17	
Funeral leave	50	58	55	
Jury duty leave	58	74	66	
Military leave	17	23	19	
Sick leave	50	69	61	
Family leave	2	5	2	
		Unpaid time off		
Family leave	47	53	50	
		Insurance		
Sickness and accident insurance.	26	27	27	
Long-term disability insurance..	20	36	27	
Medical care	66	80	70	
Dental care	28	40	31	
Life Insurance	61	73	68	
		Retirement		
All retirement(5)	42	53	47	
Defined benefit pension	15	16	16	
Defined contribution	34	45	39	
Types of plans:				
Savings and thrift	17	23	20	
Deferred profit sharing	13	16	17	
Employee stock ownership	1	2	1	
Money purchase pension	5	9	5	
Simplified employee pension	1	1	1	
401(k) plans with employer contribution	20	28	23	

See footnotes at end of table.

Table 1. Percent of full-time employees participating in selected employee benefit programs,(1) small private establishments, 1994 - Continued

Employee benefit program	All employees	Professional, technical, and related employees(2)	Clerical and sales employees(3)	Blue and emplo
		Other benefits		
Flexible benefits plans.....	3	2	5	
Reimbursement accounts.....	19	28	23	
Child care.....	1	2	1	

1 Except for family leave and reimbursement accounts, benefits paid for entirely b employee were excluded from the tabulations.
2 Includes professional, technical, executive, and administrative occupations.
3 Includes clerical, administrative support, and sales occupations.
4 Includes production, craft, repair, laborer, and service occupations.
5 Includes defined benefit pension plans and defined contribution retirement plans employees participated in both types of plans.

NOTE: Workers reported in family leave plans and the category, other benefits, are for these benefits, but may not participate. For all other benefits reported, worke participate in the plans.

Table 2. Medical care benefits: Percent of participants by fee arrangement, full-t employees, small private establishments, 1992 and 1994

Type of fee arrangement	All employees	Professional, technical, and related employees	Clerical and sales employees	Blue and emp
		1992		
Total.....	100	100	100	
Fee-for-service.....	68	63	71	
Health maintenance organization.	14	14	13	
Preferred provider organization.	18	24	16	
Exclusive provider organization.	(1)	(1)	(1)	
		1994		
Total.....	100	100	100	
Fee-for-service.....	55	53	55	
Health maintenance organization.	19	20	19	
Preferred provider organization.	24	27	24	
Exclusive provider organization.	1	(1)	2	

1 Less than 0.5 percent.

NOTE: Because of rounding, sums of individual items may not equal totals. Where applicable, dashes indicate no employees in this category.

Table 3. Medical care benefits: Percent of participants by required contribution,

full-time employees, small private establishments, 1994

Employee contributions	All employees	Professional, technical, and related employees	Clerical and sales employees	Blue and emp
		Individual coverage		
Total	100	100	100	
Employee contribution required	52	50	55	
Employee contribution not required	46	48	43	
Not determinable	2	3	2	
		Family coverage		
Total	100	100	100	
Employee contribution required	75	76	79	
Employee contribution not required	19	17	15	
Not determinable	6	7	6	
		Average monthly contribution(1)		
Individual	$40.97	$46.83	$40.98	
Family	159.63	180.73	159.56	

1 The average monthly contribution includes those plans requiring the employee to flat monthly contribution.

NOTE: Because of rounding, sums of individual items may not equal totals.

Table 4. Percent of part-time(1) employees participating in selected employee benef programs,(2) small private establishments, 1994

Employee benefit program	All employees	Professional, technical, and related employees(3)	Clerical and sales employees(4)	Blue and emplo
		Paid time off		
Holidays	26	29	40	
Vacations	31	31	44	
Personal leave	4	2	7	
Funeral leave	15	19	21	
Jury duty leave	25	17	27	
Military leave	3	4	6	

Sick leave	9	14	12
Family leave	(6)	1	1
Unpaid time off			
Family leave	28	17	33
Insurance			
Sickness and accident insurance.	17	20	18
Long-term disability insurance..	1	3	1
Medical care	7	11	9
Dental care	3	2	5
Life Insurance	6	4	11
Retirement			
All retirement(7)	10	9	17
Defined benefit pension	5	2	8
Defined contribution	6	7	11
Types of plans:			
Savings and thrift	3	1	5
Deferred profit sharing	3	2	5
Employee stock ownership	(6)	(6)	(6)
Money purchase pension	1	3	1
Simplified employee pension	(6)	1	1
401(k) plans with employer contribution	3	2	5

See footnotes at end of table.

Table 4. Percent of part-time(1) employees participating in selected employee benef programs,(2) small private establishments, 1994 - Continued

Employee benefit program	All employees	Professional, technical, and related employees(3)	Clerical and sales employees(4)	Blue and emplo
Other benefits				
Flexible benefits plans	(6)	1	1	
Reimbursement accounts	5	3	4	
Child care	1	3	1	

1 Employees are classified as part time in accordance with practices of surveyed establishments.

2 Except for family leave and reimbursement accounts, benefits paid for entirely b employee were excluded from the tabulations.

3 Includes professional, technical, executive, and administrative occupations.
4 Includes clerical, administrative support, and sales occupations.
5 Includes production, craft, repair, laborer, and service occupations.
6 Less than 0.5 percent.
7 Includes defined benefit pension plans and defined contribution retirement plans employees participated in both types of plans.

NOTE: Workers reported in family leave plans and the category, other benefits, are for these benefits, but may not participate. For all other benefits reported, worke participate in the plans. Where applicable, dashes indicate no employees in this ca

Table 5. Percent of full-time employees participating in selected employee benefit programs,(1) small private establishments, 1992 and 1994, small independent business 1994, and medium and large private establishments, 1993

Employee benefit program	Small private establish-ments, 1992	Small private establish-ments, 1994	Small independent businesses, 1994	Medi large esta ment
		Paid time off		
Holidays	82	82	80	
Vacations	88	88	86	
Personal leave	12	13	11	
Funeral leave	50	50	42	
Jury duty leave	58	58	51	
Military leave	21	17	11	
Sick leave	53	50	44	
Family leave(2)	2	2	2	
		Unpaid time off		
Family leave(2)	18	47	37	
		Insurance		
Sickness and accident insurance.	26	26	24	
Long-term disability insurance..	23	20	14	
Medical care	71	66	62	
Dental care	33	28	23	
Life Insurance	64	61	54	
		Retirement		
All retirement(3)	45	42	35	
Defined benefit pension	22	15	9	
Defined contribution	33	34	29	
Types of plans:				

Savings and thrift.....	14	17	12
Deferred profit sharing.....	16	13	13
Employee stock ownership.....	1	1	1
Money purchase pension.....	5	5	5
Simplified employee pension...	1	1	1

See footnotes at end of table.

Table 5. Percent of full-time employees participating in selected employee benefit programs,(1) small private establishments, 1992 and 1994, small independent business 1994, and medium and large private establishments, 1993 - Continued

Employee benefit program	Small private establish-ments, 1992	Small private establish-ments, 1994	Small independent businesses, 1994	Medi large esta ment
		Retirement		
401(k) plans with employer contribution.....	19	20	15	
		Other benefits		
Flexible benefits plans.....	2	3	1	
Reimbursement accounts.....	14	19	11	
Child care.....	2	1	1	

1 Except for family leave and reimbursement accounts, benefits paid for entirely b employee were excluded from the tabulations.
2 Family leave prior to 1994 included only maternity and/or paternity leave.
3 Includes defined benefit pension plans and defined contribution retirement plans employees participated in both types of plans.

NOTE: Workers reported in family leave plans and the category, other benefits, are for these benefits, but may not participate. For all other benefits reported, worke participate in the plans. Where applicable, dash indicates no employees in this cat

West Michigan District Dental Society

511-F WATERS BUILDING • GRAND RAPIDS, MICHIGAN 49503-2785 • (616) 454-8257

January 14, 1998

Academic Senate Members
Ferris State University
Big Rapids MI 49307

Dear Senate Members:

On behalf of the Executive Board of the West Michigan District Dental Society, I am writing to express our support for the continuation of the Dental Technology Program at Ferris State University, The Ferris State program, as you know, is the only dental technology program in the entire state of Michigan. Its elimination will create a void, which may negatively impact the quality of dental care in Michigan. This is indeed a serious concern that should not be taken lightly.

We are aware that the program has experienced a decline in enrollment in recent years. The West Michigan District Dental Society, along with the Michigan Dental Association, are prepared to assist you in promoting dental technology as a career. More importantly, we believe higher education leading to a degree from Ferris State University is the best way to enter a career in dental technology available to a resident of Michigan.

We invite you to dialogue with us to find an acceptable solution to this problem.

In conclusion, we urge you to retain the dental technology program at Ferris State University.

Sincerely,

Gregory Oppenhuizen, D.D.S., M.S.D.
President, West Michigan District Dental Society

c: William Sederburg, President, Ferris State University
Richard Jankowski, D.D.S., President, Michigan Dental Association
Gerri Cherney, Executive Director, Michigan Dental Association

FERRIS STATE UNIVERSITY

December 1, 1997

David Foe, M.A.
Director of Publlications and Higher Education
Michigan Dental Association
230 North Washington Square, Suite 208
Lansing, MI 48933-1392

Dear Mr. Foe,

Thank you for your recent note and copy of Dr. Richard Jankowski's letter to the Ferris State University Academic Senate.

The Ferris State Academic Senate has, through a carefully constructed Program Review Process, thoroughly reviewed the Dental Technology Program. The Ferris administration will review findings and other data prior to making a recommendation regarding the program to the Board of Trustees.

Again, thank you for your note and interest in the Dental Technology Program at Ferris.

Sincerely,

William A. Sederburg
President

erk
c Richard L. Jankowski, D.D.S., President, Michigan Dental Association
Ferris State University Board of Trustee members
Dr. Joseph Chartkoff, Interim Vice President for Academic Affairs
✓Mr. Greg Key, President, Academic Senate

OFFICE OF THE PRESIDENT
1349 Cramer Circle, BIS 421, Big Rapids, MI 49307-2737
Phone 616 592-2500

MICHIGAN DENTAL ASSOCIATION

c Chaddock

RECEIVED [illegible] 1997D

November 27, 1997

President Sederburg:

The attached is a copy of a letter sent today to Academic Senate members, regarding the proposed elimination of the FSU dental technology program.

Regards,

David Foe

David Foe

David A. Foe, M.A.
Director of Publications and Higher Education

MICHIGAN DENTAL ASSOCIATION

230 North Washington Square
Suite 208
Lansing, MI 48933-1392
(517) 372.9070 Ext. 421
(517) 372.0008 Fax
dfoe@michigandental.org email

230 North Washington Square
Suite 208
Lansing, MI 48933-1392
(517) 372.9070
Fax (517) 372.0008

MICHIGAN DENTAL ASSOCIATION

November 25, 1997

Academic Senate Members
Ferris State University
Big Rapids, 49307

Dear Senate Member:

The Michigan Dental Association and its 6,000 members are deeply concerned over the news that Ferris State University's dental technology program may be eliminated. Elimination of this program would adversely impact Michigan's dental community and, most of all, the well-being of the public.

Although dentists are ultimately responsible for the quality of care given to patients, we depend on educated laboratory technicians as well as other allied dental professionals to make quality care a reality. The loss of the program would deprive us all of a precious resource.

We believe there will continue to be good employment opportunities for dental technology graduates. Despite the proliferation of OJTs, graduates of an accredited institution do enjoy a far more desirable position in the marketplace. There are advantages to possessing a degree from an academic program; if such an advantage is not currently perceived, perhaps the dental community should be educated so that the advantages become clear to all.

The Michigan Dental Association would be pleased to help communicate this message to our members. Through our Committee on Dental Education and its dental career activities, we stand ready to support the dental technology program through distribution of literature and promotion through our Dental Career Guidance Network and our other career-related programs. Our monthly *Journal* and *Current Topics* newsletters could be utilized as well. We stand ready to help the Ferris dental tech program, and believe that the current problem of low enrollment can be addressed. We have seen other auxiliary programs experience revival after a period of decline, and believe the FSU program can also bounce back.

In short, we strongly urge you to retain the dental tech program. The dental community, as well as the citizens of Michigan, depend on it.

Sincerely,

Richard L. Jankowski, D.D.S.
President, Michigan Dental Association

c: William Sederburg, president, Ferris State University
MDA board of trustees

D.H. Baker
DENTAL LABORATORY INC.
2531 Aero Park Drive Traverse City, Michigan 49686 616-946-8880

December 2, 1997

Academic Senate
Ferris State University
Big Rapids, Michigan

To Whom It May Concern,

It has been brought to my attention that the Dental Technology program at Ferris State University has been put in jeopardy of closing due to a declining enrollment and associated cost factors. As a past recipient of the Distinguished Alumnus Award I would like to express my deepest regrets on hearing this.

Our employment needs in this industry have never been greater. Laboratories across the country are crying for trained employees. This is occurring just as we are seeing some of the most dramatic advancements in laboratory manufactured dental restorations in the history of dentistry. As a result, we are facing a scenario where the most advanced dental restorations will be available to the patients we ultimately serve, but we will have only a handful of qualified technicians able to create them.

As the only accredited Dental Technology School in Michigan, the program at Ferris State University takes on an even more significant role. We would hope that the University has the vision to retain this program and to take the steps needed along with the laboratory industry, and leaders in dentistry, to create support for growth in enrollment.

Sincerely,

Douglas H. Baker CDT

Douglas H. Baker, C.D.T.
President

Copies to:
Dean Isabel Barnes
Roger Daugherty, C.D.T.

APPENDIX E

ADMINISTRATIVE PROGRAM REVIEW

Program/Department: Dental Technology/Allied Dental

Date Submitted: October 18, 1996 **Dean:** Isabel J. Barnes

Please provide the following information:

Enrollment/Personnel

	Fall 1992	Fall 1993 a,b	Fall 1994 a	Fall 1995	Fall 1996
Tenure Track FTE	5	5	4	3	3
Overload/Supplemental FTEF	1.20	1.34	0.26	0.08	
Adjunct/Clinical FTEF (unpaid)	0	0	0	0	0
Enrollment on-campus total*	29	40	40	26	22
Freshman		17	8	1	4
Sophomore		16	18	12	4
Junior		4	2	5	4
Senior		3	2	5	3
TBD			10	3	7
Enrollment off-campus*	0	0	0	0	0

*Use official count (7-day count for semesters, 5-day count for quarters).
a - One FTE released 90% for CAHS and FSU recruiting.
b - One FTE assigned to IEHM, transferred in Winter 1994.

Financial

Expenditures*	FY92	FY93	FY94	FY95	FY96
Supply & Expense	$15,091	$15,119	$11,533	$10,851	$11,835
Equipment**	0	3,218	0	0	0
Gifts & Grants	0	7,053	337	813	1,584

*Use end of fiscal year expenditures.
** Does not include Voc-Ed and General Fund dollars.

Other

	AY 91-92**	AY 92-93**	AY93-94	AY 94-95	AY 95-96
Number of Graduates * - Total	14	15	12	13	18
- On campus	14	15	12	13	18
- Off campus	0	0	0	0	0
Placement of Graduates	100%	93%	100%	60%	N/A
Average Salary	$15,500	$17,000	$18,500	$20,000	N/A
Productivity - Academic Year Average	192	211	236	230	190
- Summer	0	0	0	0	0
Summer Enrollment	4	5	2	21	2

25

* Use total for academic year (F,W, S)
**Represents productivity on quarter system.

I. Strengths

A. Faculty - Willing to do what is needed to support the program (recruit, teach across disciplines, etc.)
B. Students - not applicable
C. Curriculum - Internship experience will be restored Winter 1997. Should partially meet industry concerns that graduating students are not productive in the laboratory.
D. Facilities - not applicable.
E. Budget - S&E funds are adequate to support instructional activities. Equipment needs are met by Voc-Ed funds.
F. Other - Only accredited program within the State. Strong advisory committee.

II. Concerns

A. Faculty - not applicable.
B. Students - Low numbers result in low faculty generation of SCH.
C. Curriculum - not applicable.
D. Facilities - not applicable.
E. Budget - not applicable.

III. Future goals (including time frame)

A. Faculty- Should increase level of professional, university, and community service activities by end of AY97-98.
B. Students - Outcomes assessment plan should be completed by May 1997 with initial implementation during FY98. Number should reach quota by entering class in Fall 1997. 90% of the graduates should satisfactorily complete the certification examination in FY97.
C. Curriculum - Certificate program(s), if appropriate, should be implemented in Fall 1997
D. Facilities - not applicable.
E. Budget - not applicable.

IV. Recommendations

A. Faculty - Should seek opportunities to assure they are certified and current in the specialty areas they teach. Workload and approach to instruction should be evaluated as an attempt to increase productivity.
B. Students - not applicable.
C. Curriculum - Internship should be evaluated to determine if it meets its goals.
D. Facilities - not applicable.
E. Budget - not applicable.

V. Progress toward 1995-96 Recommendations and Goals

Recruiting/retention plan implemented by Fall 1996. Internship restored to attempt to meet industry concerns.

GOAL 1.

Provide a variety of learning opportunities and activities in the classroom, clinic and laboratory to address a diverse student population with different learning styles and abilities.
BG 1, 2
AASE 1, 2, 3, 4

MAJOR ACTIVITIES AND PROCESSES

- Evaluate courses for SLA opportunities.
- Accommodations will be made for disabled students.
- Develop a survey to determine special needs of students.
- Develop a set of competencies to be mastered by each student.
- Develop a variety of learning activities for each competency.
- Identify the availability of cultural enrichment activities for students, faculty and staff.

EXPECTED OUTCOMES

- Two (2) SLA courses will be offered in Academic Year 1997-98.
- Increase Department retention rate from 84% (1995-96) to 90% (1997-98).
- Increase minority enrollment 50%, comparing Academic Year 1995 by Academic Year 1998.
- Each dental program will offer content in cultural diversity in at least one course.
- Faculty, staff and students will participate in at least one cultural/ethnic/disability activity that enhances the understanding of our diverse culture.

INDICATORS/SOURCES

- Enrollment and retention data
- Course syllabi
- Faculty, staff and student documentation
- Special needs survey

REPORTING PROCESS

- Program and Department Meeting minutes.
- Special needs survey results.
- Graduation survey results.
- Annual Department Report to Allied Dental faculty, staff and Dean.

RESOURCE REQUIREMENTS

- Copy and mailing costs for surveys - $250.
- Financial support of $500 for workshops or activities that enhance faculty and staff's ability to understand and manage a culturally diverse classroom.
- $6,000 to support two SLA courses.

	FTE	Salary	Adult Part-Time	Student Wage	S&E	Equipment	Total
Internal reallocation					$750		$750
One-time resource request							
Base funding request		$6,000					$6,000
Total		$6,000			$750		$6,750

GOAL 2.

Assess the educational experiences of students that prepare them for entry level into their profession.
BG 1
AASE 1

MAJOR ACTIVITIES AND PROCESSES

- Graduates and employers will be surveyed annually.
- The programs will be evaluated annually for effectiveness.
- Monitor students' performance on the National Board Dental Hygiene Examination (NBDHE) and Northeast Regional Board (NERB) for dental hygiene and Recognized Graduate (RG) examination for dental technology.
- Begin review of educational related portions of accreditation standards in preparation for accreditation site visit in Academic Year 1997-98.

EXPECTED OUTCOMES

- Ninety percent (90%) of students will pass certification/licensure examinations by fiscal year 1998.
- Ninety percent (90%) of employers will report satisfaction with preparedness of graduates.
- Ninety percent (90%) of graduates will report satisfaction with their preparedness.
- Ninety percent (90%) of graduates will be working in their profession and/or enrolled in higher education opportunities.

INDICATORS/SOURCES

- Results of NBDHE, NERB and RG examinations will show a decrease of student failure rate from Academic Year 1995-96 of 10%.
- Results of graduate and employer surveys.
- FSU Career Planning and Placement Survey.
- Evaluations of courses, clinics and laboratories by students, faculty and staff.
- American Dental Association (ADA) Accreditation Report.

REPORTING PROCESS

- Results of surveys will be discussed at program meetings.
- Evaluations of courses, clinics and laboratories will be reported at faculty meetings.
- ADA Accreditation reports will be utilized to evaluate programs.
- Annual Department Report to Allied Dental faculty, staff and Dean.

RESOURCE REQUIREMENTS

- Copying and mailing costs of $500 for surveys.

	FTE	Salary	Adult Part-Time	Student Wage	S&E	Equipment	Total
Internal reallocation					$500		$500
One-time resource request							
Base funding request							
Total							$500

GOAL 3.

Enhance the professional skills of the departmental faculty and staff.
BG 4
AASE 2, 6

MAJOR ACTIVITIES AND PROCESSES

- All faculty and clinical staff members will participate in current clinical/laboratory experiences.
- One hundred percent (100%) of faculty and staff will actively participate in professional activities.

EXPECTED OUTCOMES

- Faculty and staff will keep current in their area(s) of expertise.
- Faculty and staff will hold individual membership in appropriate professional organizations.
- Faculty and staff will attend at least one professional meeting annually.
- Faculty and staff will serve on at least one Department, College, or University committee.

INDICATORS/SOURCES

- Successful completion of students attempting NBDHE, NERB and RG examinations.
- Re-certification and licensure of faculty and staff.

REPORTING PROCESS

- Faculty and staff reports of memberships and meetings attended.
- Travel requests.
- Faculty and staff reports of annual professional experience.
- Department, College and University Committee minutes.
- Annual Department Report to Dean.

RESOURCE REQUIREMENTS

- $5,000 to support Allied Dental faculty and staff attendance at professional meetings.

	FTE	Salary	Adult Part-Time	Student Wage	S&E	Equipment	Total
Internal reallocation					$5,000		$5,000
One-time resource request							
Base funding request							
Total							$5,000

GOAL 4.

Provide programs that meet the needs of the allied dental profession.
BG 2, 3, 4
AASE 1, 3

MAJOR ACTIVITIES AND PROCESSES

- Maintain a close working relationship with the Allied Dental Advisory Committee.
- The Allied Dental Advisory Committee will provide input on new technologies and clinical or laboratory skills that new graduates must posses upon graduation.
- Provide course, clinic and laboratory experiences that are relevant to practice.
- Provide state-of-the-art facilities and equipment to enhance education.
- Review ADA Accreditation Standards for dental technology and dental hygiene.
- Two certificate programs in dental technology will be developed by the end of Academic Year 1997.
- Provide continuing education to graduates.
- The Allied Dental recruiting plan will be implemented.
- Develop alternative dental technology internship opportunities.
- Survey dental professionals to determine need of dental radiology certification course and dental assistant certificate program.

EXPECTED OUTCOMES

- The Allied Dental Advisory Committee will make recommendations for technology and skills.
- Maintain accreditation of programs with the Commission on Dental Education, American Dental Association.
- The Dental Technology and Dental Hygiene programs will meet enrollment quota in Academic Year 1997-98.
- Certificate programs in dental technology will be offered Academic Year 1997-98.
- Ten percent (10%) of enrolled students in dental technology will be participating in new certificate programs in Academic Year 1997-98.
- The dental technology internship will be made flexible to accommodate students who have special needs.
- Dental professionals will support need for dental radiology and/or assisting certificates.
- Equipment will be updated or replaced to meet the needs of the educational program.
- Course and program improvements will be implemented as needed.

INDICATORS/SOURCES

- Course syllabi to reflect new technology and skills.
- Admissions Office Recruitment Listings.
- Advisory Committee minutes.
- Program and Department meeting minutes.
- Results of needs assessments.

REPORTING PROCESS

- Annual Department Report discussed with faculty, staff, Dean and Allied Dental Advisory Committee.

RESOURCE REQUIREMENTS

- $400 printing and mailing costs for survey.
- S&E to support program(s).
- Financial and staff support for new program(s).
- Accreditation costs $460 per year for both dental hygiene and dental technology, with an estimated cost of $3,000 every seven years with the next accreditation year of 1998.
- Financial support of $10,000 per year to repair, replace, or purchase new equipment.

	FTE	Salary	Adult Part-Time	Student Wage	S&E	Equipment	Total
Internal reallocation					$3,860		$ 3,860
One-time resource request							
Base funding request						$10,000	$10,000
Total							$13,860

GOAL 5.

To provide a facility which allows dental hygiene students to obtain the clinical experience to prepare them for entry level dental hygiene practice.
BG 5
AASE 5, 6

MAJOR ACTIVITIES AND PROCESSES

- Provide a clinic that is a safe working environment for faculty, staff and students.
- Provide a clinic environment which is safe and comfortable for patients.
- Assure an adequate supply of clients, including new sources of clients.
- Assure dental instrument asepsis, instrument and laundry distribution.
- Provide accurate client records and student grading.
- Operate a fiscally responsible dental hygiene clinic.
- Review the job description and current responsibilities of the sterilizing room supervisor.
- Begin review of clinic related portions of accreditation standards in preparation for accreditation site visit in Academic Year 1997-98.
- Maintain sufficient equipment used in current dental hygiene practice for student use during their clinic experience.
- Analyze major equipment needs of clinic and prepare plan for obtaining the equipment.
- Review current dental related technologies (e.g., equipment) to determine which of these technologies are appropriate for implementation in the dental hygiene clinic.

EXPECTED OUTCOMES

- 90% of students will report satisfaction with their clinical laboratory environment.
- 90% of clients will report satisfaction with the care they received in the clinic.
- Client pool will remain constant to provide learning experiences for students.
- The clinic will continue to be fiscally responsible.
- The clinic will be utilized for national board exams, continuing education and dental practice.
- Sterilizing room supervisor will have 10 month employment contract in FY 1998.
- Continue the implementation of the dental clinic computerization using additional features of the dental management software.

INDICATORS/SOURCES

- Survey of client satisfaction.
- Survey of student satisfaction with clinic experience.
- Regular review of equipment needs with clinic staff.
- Using information generated by the dental management software, review patient pool, student achievement of clinic requirements and clinic income.

REPORTING PROCESS

- Survey results discussed with department head and clinic instructors.
- Survey results and department response reported to Dean.
- Financial status of the clinic will be reported to department head and Dean.
- Report of equipment needs (both replacement and new equipment) will be prepared and presented to the department head and Dean.

RESOURCE REQUIREMENTS

- Continued Vocational Education funding for major equipment.
- $2,271 for sterilizing room supervisor's additional month of employment.
- Consumable clinic supplies, telephone, postage, laundry and clinic computer support funded through clinic receipts.

	FTE	Salary	Adult Part-Time	Student Wage	S&E	Equipment	Total
Internal reallocation							
One-time resource request							
Base funding request		$2,271					$2,271
Total		$2,271					$2,271

DH:12/10/96
cad:UNITACT.PLN

APPENDIX F

Ferris State University
Dental Technology
Employer Survey

1. Do you have any FSU Dental Technology graduates working in your Dental Laboratory?

   YES NO HOW MANY

2. Do you prefer to hire employees with a dental technology degree?

   YES NO
   WHY:

3. What is your training as a Dental Laboratory Technician?

   OJT FORMAL EDUCATION MILITARY OTHER

4. What is your starting wage for a Ferris State University graduate?

5. What is your starting wage for an employee who will be trained on the job?

6. Do you feel Ferris State University graduates are adequately trained for entry-level positions?

7. Would you identify the strengths of Ferris State University Dental Technology Program?

8. What would you like to change about the FSU Dental Technology Program?

FERRIS STATE UNIVERSITY
DENTAL TECHNOLOGY PROGRAM
ALUMNI SURVEY

1. During which period did you receive your A.A.S. degree in Dental Technology from Ferris?

   A. 1996
   B. 1997

2. Describe your Ferris Dental Technology education in relation to preparing you to work as a Dental Technician.

   A. Very well prepared.
   B. Well prepared.
   C. Adequately prepared.
   D. Poorly prepared.

3-8. Do you feel you need additional education in any of the following areas to improve your effectiveness as a dental technician?

   3. A yes, B No - Crown and Bridge
   4. A yes, B No - Ceramics
   5. A yes, B No - Complete Dentures
   6. A yes, B No - Partial Dentures
   7. A yes, B No - Orthodontics and Pedodontics
   8. A yes, B No - Other (please identify) _____

9. List any laboratory skill/s that you feel should have had more emphasis when you were a student. _____
   _____

10-22. Would you be interested in a continuing education program at Ferris in any of the following areas?

   10. A Yes, B No - C & B Waxing
   11. A Yes, B No - Ceramic Application
   12. A Yes, B No - Color
   13. A Yes, B No - Complete Dentures
   14. A Yes, B No - Partial Dentures
   15. A Yes, B No - Orthodontics/Pedodontics
   16. A Yes, B No - Implants
   17. A Yes, B No - Occlusion
   18. A Yes, B No - Laboratory Management
   19. A Yes, B No - Precision Attachments
   20. A Yes, B No - Asepsis
   21. A Yes, B No - OSHA/MIOSHA
   22. A Yes, B No - Other (describe) _____

23. What do you consider a reasonable fee for a one day dental technology continuing education program?

   A. $ 30 - $ 49
   B. $ 50 - $ 99
   C. $100 - $199
   D. $200 or over

DH:09/12/97
cad:SURVEY.AS

24-30. What is your primary employment setting?

24. A Yes, B No - Commercial Dental Laboratory, 1-5 technicians
25. A Yes, B No - Commercial Dental Laboratory, 6-15 technicians
26. A Yes, B No - Commercial Dental Laboratory, 16-50 technicians
27. A Yes, B No - Commercial Dental Laboratory, 51 and over technicians
28. A Yes, B No - Federal/State/Military Dental Laboratory
29. A Yes, B No - Specialty Practice
30. Other (please identify) _____

31-40. What position do you presently hold?

31. A Yes, B No - Dental Technician Specializing in Crown and Bridge
32. A Yes, B No - Dental Technician Specializing in Ceramics
33. A Yes, B No - Dental Technician Specializing in Complete Dentures
34. A Yes, B No - Dental Technician Specializing in Partial Dentures
35. A Yes, B No - Dental Technician Specializing in Orthodontics/Pedodontics
36. A Yes, B No - Lab Department Supervisor
37. A Yes, B No - Dental Laboratory Owner
38. A Yes, B No - Dental Educator
39. A Yes, B No - Other Dental Technology-Related Career
40. A Yes, B No - Not currently in dental technology career field (If your answer is Yes, please go to #63.)

41-47. What resources have you used for securing dental technology jobs?

41. A Yes, B No - Ferris Placement Office
42. A Yes, B No - Ferris Dental Technology Faculty
43. A Yes, B No - Employment Agency
44. A Yes, B No - Michigan Association of Commercial Dental Laboratories
45. A Yes, B No - Dental Supply Company/Sales Representative
46. A Yes, B No - Newspaper/Journal Ads
47. A Yes, B No - Other Dental Technicians

48. What is your gross dental technology income per <u>week</u>?

A. Less than $220
B. $220 - $319
C. $320 - $419
D. $420 - $519
E. $520 or over

49. What employment benefits do you receive?

49. A Yes, B No - General health insurance
50. A Yes, B No - Dental insurance
51. A Yes, B No - Free dental care by employer
52. A Yes, B No - Life insurance
53. A Yes, B No - Liability insurance
54. A Yes, B No - Vacation days; number per year? _____
55. A Yes, B No - Sick days; number per year? _____
56. A Yes, B No - Profit sharing
57. A Yes, B No - Paid time off for continuing education
58. A Yes, B No - Course fees for continuing education
59. A Yes, B No - Employer Paid Retirement Plan
60. A Yes, B No - Participative Retirement Plan
61. A Yes, B No - Other (please identify)_____

62. You are a (give most appropriate answer):

A. Certified Dental Technician (CDT)
B. Recognized Graduate (RG)
C. Not CDT nor RG

63. How long have you been employed as a dental technician?

A. Less than one year
B. One to two years
C. Two to four years
D. Four to six years
E. Six to ten years

64. Are you currently enrolled in a degree program?

A. Yes
B. No

65. Have you earned a higher degree than the B.A./B.S.?

A. Yes
B. No

66. Do you live in the State of Michigan?

A. Yes
B. No - (Please name State) _____

67. Is there anything you would change in regards to your dental technology education?

A. Yes (please explain)_____
B. No

68. Identify what you feel was a very positive aspect of your dental technology education.

_____

_____

69. Do you have any suggestions or changes for the Dental Technology Program?

_____

_____

Comments: _____

_____

_____

_____

_____

_____

ADVISORY COMMITTEE PERCEPTIONS OF THE DENTAL LABORATORY TECHNOLOGY PROGRAM COLLEGE OF ALLIED HEALTH SCIENCES 1997

INSTRUCTIONS: Rate each item using the following guide: *EXCELLENT* means nearly ideal, top 5 to 10% *GOOD* is a strong rating, top one-third *ACCEPTABLE* is average, the middle-third *BELOW EXPECTATIONS* is only fair, bottom one-third *POOR* is seriously inadequate, bottom 5 to 10% *A comment column has been provided if you wish to explain your rating.*	Poor 1	Below Expectations 2	Acceptable 3	Good 4	Excellent 5	Don't Know	COMMENTS
Please rate each item below: 1. Instructional program content and quality are: • Based on performance objectives that represent job skills and knowledges required for successful entry level employment.							
• Designed to provide students with practical job application experience.							
• Responsive to upgrading and retraining needs of employed persons.							
• Periodically reviewed and revised to keep current with changing job practices and technology.							
2. Instructional equipment is: • Well maintained.							
• Current and representative of that used on the job.							
3. Instructional facilities: • Provide adequate lighting, ventilation, heating, power, and other utilities.							
• Allocate sufficient space to support quality instruction.							
• Meet essential health and safety standards.							
4. Placement: • Services are available to students completing the program.							
• Job opportunities exist for students completing the program or leaving with marketable skills.							
5. Follow-up studies on program completers and leavers (students with marketable skills): • Demonstrate that students are prepared for entry level employment.							
• Collect information on job success and failure of former students.							
• Provide information used to review and, where warranted, revise the program.							

ADVISORY COMMITTEE PERCEPTIONS OF THE DENTAL LABORATORY TECHNOLOGY PROGRAM COLLEGE OF ALLIED HEALTH SCIENCES 1997

Please answer the following:

1. What are the major strengths of the college's dental laboratory technology program?

2. What are the major needs for improvement in the college's dental laboratory technology program?

3. Do you have additional comments or suggestions for the program or for utilization of the advisory committee? If so, please state briefly.

STUDENT PERCEPTIONS OF THE DENTAL TECHNOLOGY PROGRAM

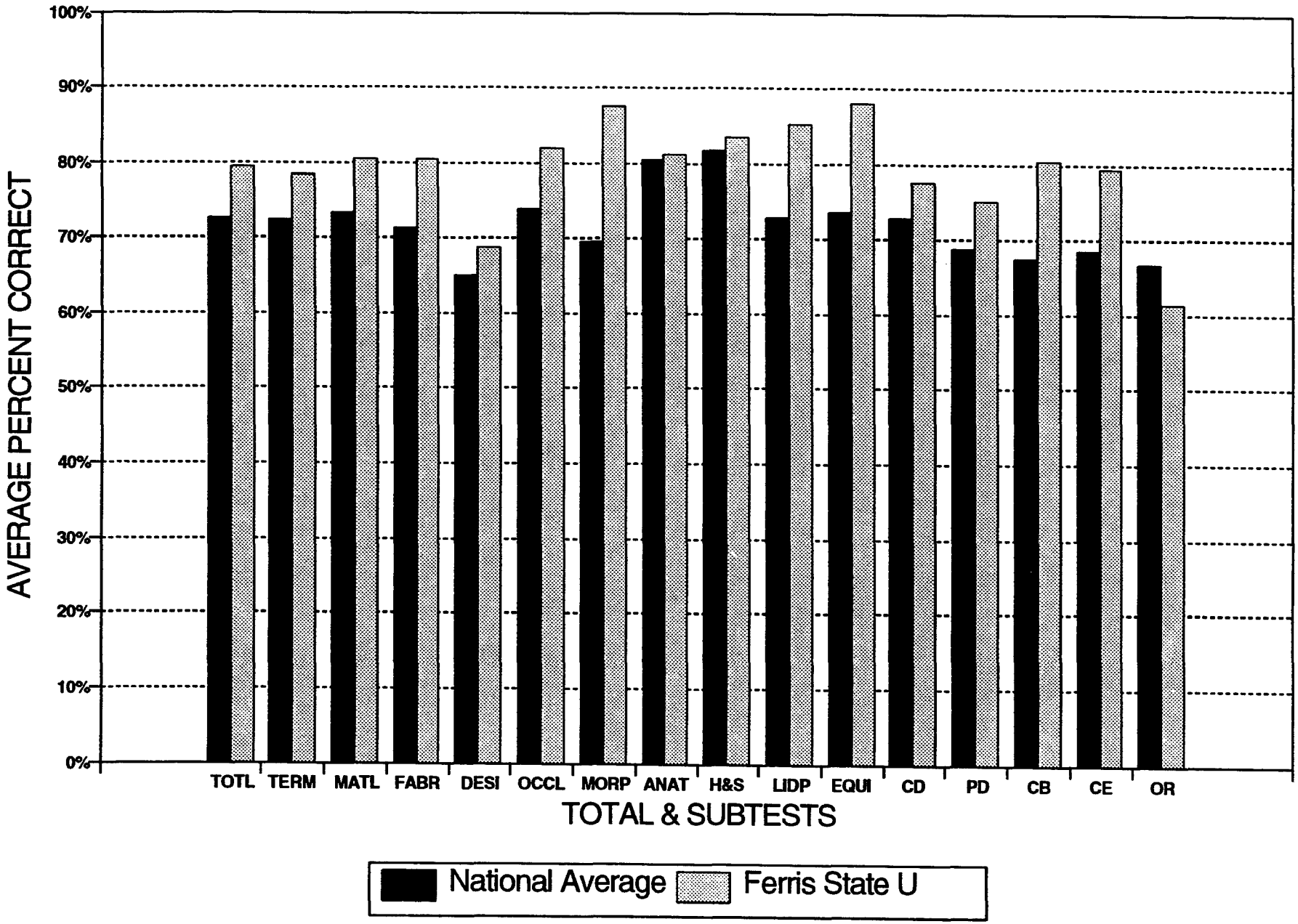
	Poor . . .			Excellent		Don't
	1	2	3	4	5	Know
COURSES IN YOUR OCCUPATIONAL PROGRAM ARE:						
1. Available and conveniently located.						
2. Based on realistic prerequisites.						
3. Available at moderate cost.						
WRITTEN OBJECTIVES FOR COURSES IN YOUR PROGRAM:						
4. Are available to students.						
5. Describe what you will learn in the course.						
6. Are used by the instructor to keep you aware of your progress.						
TEACHING METHODS, PROCEDURES, AND COURSE CONTENT						
7. Meet your occupational needs, interests, and objectives						
8. Provide supervised practice for developing job skills						
RELATED COURSES (such as English, math, science,) ARE:						
9. Pertinent to occupational instruction.						
10. Current and meaningful to you.						
WORK EXPERIENCE (or clinical experience) IN YOUR PROGRAM IS:						
11. Readily available at convenient locations.						
12. Readily available to both day and evening students.						
13. Coordinated with classroom instruction.						
14. Coordinated with employer supervision.						
CAREER PLANNING INFORMATION:						
15. Meets your needs and interests.						
16. Helps you plan your program.						
17. Helps you make career decisions and choices.						
18. Helps you understand your rights and responsibilities.						
19. Helps you evaluate job opportunities, i.e., salary, etc.						
20. Is provided by knowledgeable, interested staff.						
21. Explains non-traditional occupational opportunities.						
JOB SUCCESS INFORMATION ON FORMER STUDENTS:						
22. Is provided to help you make career decisions.						
23. Indicates number of job opportunities in your occupation.						
24. Identifies where these job opportunities are located.						
25. Tells about job advancement opportunities.						

	Poor . . .			Excellent		Don't
	1	2	3	4	5	Know
PLACEMENT SERVICES ARE AVAILABLE TO:						
26. Help you find employment opportunities.						
27. Prepare you to apply for a job.						
OCCUPATIONAL INSTRUCTORS:						
28. Know the subject matter and occupational requirements.						
29. Are available to provide help when needed.						
30. Provide instruction so it is interesting and understandable.						
INSTRUCTIONAL SUPPORT SERVICES (tutoring, lab assistance) ARE:						
31. Available to meet your needs and interest.						
32. Provided by knowledgeable, interested staff.						
INSTRUCTIONAL LECTURE AND LABORATORY FACILITIES:						
33. Provide adequate lighting, ventilation, etc.						
34. Include enough work stations for students enrolled.						
35. Are safe, functional, and well maintained.						
36. Are available on an equal basis for all students.						
INSTRUCTIONAL EQUIPMENT IS:						
37. Current and representative of industry.						
38. In sufficient quantity to avoid long delays in use.						
39. Safe and in good condition.						
INSTRUCTIONAL MATERIALS (i.e., textbooks, reference books, etc.) ARE:						
40. Available and conveniently located for use.						
41. Current and meaningful to the subject.						
42. Not biased toward "traditional" gender roles.						
43. Available at reasonable cost.						

APPENDIX G

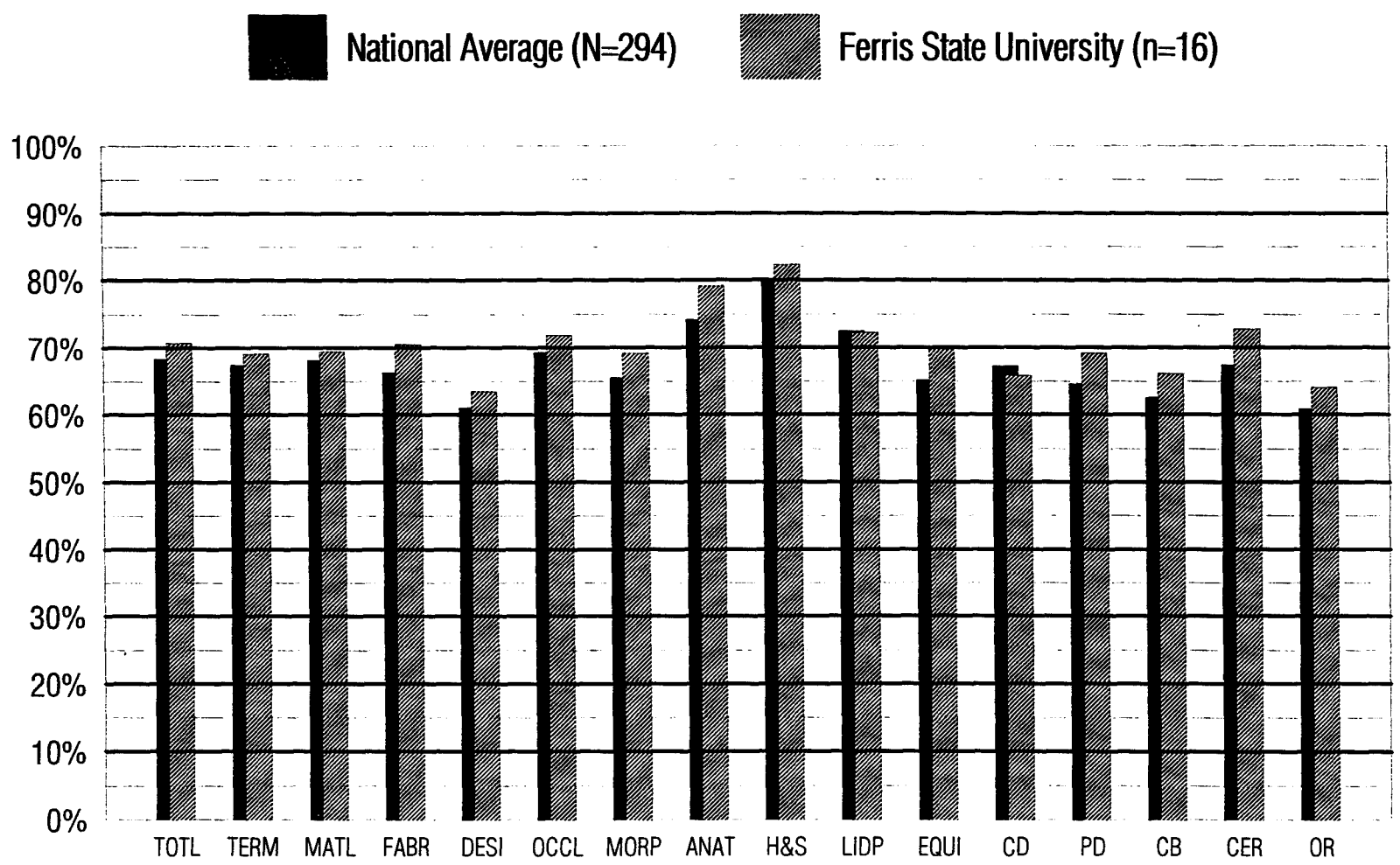
1997 RECOGNIZED GRADUATE EXAMINATION

National Board for Certification



1996 Recognized Graduate Examination

National Board for Certification



APPENDIX H

FERRIS STATE UNIVERSITY
DENTAL TECHNOLOGY - ASSOCIATE IN APPLIED SCIENCE DEGREE

FIRST YEAR

Fall Semester	Cr.	Grade
DTEC 105 Tooth Morphology	3	
DTEC 115 Intro. to Dent. Pros.	8	
MATH 110 Fund. of Algebra	4	
	15	

*First Half Semester
**Second Half Semester

Winter Semester	Cr.	Grade
DTEC 125 Dental Anatomy	1	
+DTEC 126 Ortho. & Pedo.	3	
++DTEC 127 Intro. to Fixed Pros.	6	
CHEM 103 or CHEM 114 or CHEM 121	3-5	
ENGL 150 English 1	3	
	16-18	

SECOND YEAR

Fall Semester	Cr.	Grade
*DTEC 238 Ceramics	4	
**DTEC 239 Part. Dent. Pros.	4	
ENGL 250 English 2	3	
Social Awareness Elective	3	
Cultural Enrichment Elective	3	
	17	

#Winter Semester	Cr.	Grade
DTEC 250 Dent. Tech. Seminar	2	
DTEC 245 Dent. Lab. Mgt.	2	
+DTEC 246 Pros. Specialties	3	
++DTEC 292 Dent. Tech. Intern.	6	
	13	

+ First Five Weeks
++ Last Ten Weeks

Only these courses may be taken in the final semester of the second year.

Prerequisites are listed in parentheses

61 to 63 credits required for graduation

DH:9/17/97
cad:CHECKSHT.DT2

FERRIS STATE UNIVERSITY
DENTAL TECHNOLOGY - ASSOCIATE IN APPLIED SCIENCE DEGREE

FIRST YEAR

Fall Semester	Cr.	Grade
DTEC 105 Tooth Morphology	3	
DTEC 115 Intro. to Dent. Pros.	8	
MATH 110 Fund. of Algebra	4	
	15	

*First Half Semester
**Second Half Semester

Winter Semester	Cr.	Grade
DTEC 125 Dental Anatomy	1	
+DTEC 126 Ortho. & Pedo.	3	
++DTEC 127 Intro. to Fixed Pros.	6	
CHEM 103 or CHEM 114 or CHEM 121	3-5	
ENGL 150 English 1	3	
	16-18	

SECOND YEAR

Fall Semester	Cr.	Grade
*DTEC 238 Ceramics	4	
**DTEC 239 Part. Dent. Pros.	4	
ENGL 250 English 2	3	
Social Awareness Elective	3	
Cultural Enrichment Elective	3	
	17	

#Winter Semester	Cr.	Grade
DTEC 250 Dent. Tech. Seminar	2	
DTEC 245 Dent. Lab. Mgt.	2	
+DTEC 246 Pros. Specialties	3	
++DTEC 292 Dent. Tech. Intern.	6	
	13	

+ First Five Weeks
++ Last Ten Weeks

Only these courses may be taken in the final semester of the second year.

Prerequisites are listed in parentheses

61 to 63 credits required for graduation

DH:3/14/96
cad:CHECKSHT.DT2

General Information

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

Approximately 100 educational programs -- including doctorates, master's, bachelor's and associate degrees -- are offered through the colleges of Allied Health Sciences, Arts and Sciences, Business, Education, Optometry, Pharmacy and Technology.

A wide variety of student organizations are active on campus, encompassing social, athletic, political, performing arts 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 50 percent of its approximately 8,000 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.

How To Enroll

Student applications may be obtained by writing to: Admissions Office, Ferris State University, 420 Oak St., Big Rapids, MI 49307-2020.

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 in advance of the semester in which the student expects to enroll.

Further information may be obtained by calling the Admissions Office at 1-800-4-FERRIS (MI,IL,IN,OH,WI) or (616) 592-2100.

Financial Aid

At Ferris, students may qualify for some form of financial aid, including scholarships, grants-in-aid, long-term loans or part-time employment.

The University annually awards more than $40 million in total student aid.

For more information, write: Financial Aid Office, Ferris State University, 420 Oak St.,Big Rapids, MI 49307-2020 or call: 1-800-4-FERRIS (MI,IL,IN,OH,WI) or (616) 592-2100.

The Art of the Dental Technician

FERRIS STATE UNIVERSITY

College of Allied Health Sciences

Dental Technology

Associate in Applied Science Degree

What Are Dental Technicians?

Dental technicians construct prosthetic replacements for natural teeth that have been lost due to disease or accident.

As members of the dental health team, the dental technician's skills and knowledge are invaluable. In a combination of both art and science, the dental technician creates appliances from dentists' prescriptions. Examples of dental appliances for patients include complete and partial dentures, fixed crown and bridgework, dental ceramics, and orthodontic appliances.

Dental Technology Careers are Personally Satisfying

Careers in dental technology are both challenging and rewarding for those interested in aiding the nation's dental health efforts and who enjoy working with their hands.

Ferris State University dental technology graduates are in great demand throughout the country. Overall, dental technicians can expect good salaries, job security and opportunities for advancement.

Dental technicians are employed in private dental offices, commercial dental laboratories, governmental agencies and hospitals. Experienced technicians may establish their own dental laboratories and become independent business owners.

Career options also include work for dental supply companies as technical representatives, sales representatives or researchers.

Curriculum

Ferris State University's two-year dental technology program is the only program in the state of Michigan and is fully accredited by the American Dental Association. It is 18 months of intensive study covering all phases of the profession which includes a 10 week internship. The dental technology curriculum is designed to provide technical background through classroom instruction.

The technical courses are a complete study of dental sciences and dental laboratory techniques and practices. Classes are held in modern laboratories and offer extensive practical instruction.

About one third of the course requirements are general education classes designed to broaden the student's academic experience.

General Education

ENGL 150	English 1	3
ENGL 250	English 2	3
MATH 110	Fundamentals of Algebra *mathsubscore of 19 or higher or math proficiency)*	4 *(or ACT*

(Select one, 3-5 credits course from the following:)

CHEM 103	Preparatory Chemistry	3
CHEM 114	Introduction to General Chemistry	4
CHEM 121	General Chemistry 1	5

Electives:

	Cultural Enrichment	3
	Social Awareness	3

Major

DTEC 105	Tooth Morphology	3
DTEC 115	Intro to Dental Prosthodontics	8
DTEC 125	Dental Anatomy 1	
DTEC 126	Orthodontics and Pedodontics	3
DTEC 127	Intro to Fixed Prosthodontics	6
DTEC 238	Ceramics	4
DTEC 239	Partial Denture Prosthodontics	4
DTEC 245	Dental Laboratory Management	2
DTEC 246	Prosthodontic Specialties	3
DTEC 250	Dental Technology Seminar	2
DTEC 292	Dental Technology Internship	6

Major Elective

DTEC 297	Special Studies in Dental Technology	1-6 (Variable)

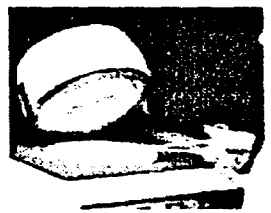
Minimum semester credit hours required for dental technology A.A.S. degree: 61-63

Dental Technology Program Offers Laddering Options

Successful completion of the four-semester program leads to an associate degree in applied science.

Graduates may then choose to enter the profession or transfer into another Ferris curriculum leading to a bachelor of science degree. All academic credit earned in the dental technology associate degree program is directly transferable.

Who May Enroll?



Applicants must have a high school diploma or the GED equivalent for admission into the program. People who like to work with small instruments and have a high degree of manual dexterity are likely to excel in this field of study. Good vision, hand/eye coordination and color perception are also helpful.

People who have prior work experience in a commercial dental laboratory, a dental office, the civil service or armed forces, or who have previous college credit may apply for advanced standing by contacting the director of dental technology (see below).

For more information about this program, write:

Dental Technology
Ferris State University
200 Ferris Drive
Big Rapids, MI 49307-2740

or call:
(616) 592-2261 or
1-800-GO-BULLDOGS

FACTS TO KNOW ABOUT DENTAL TECHNOLOGY AT FERRIS STATE UNIVERSITY

Ferris ranks number 3 of the accredited programs in the United States participating in the National Board for Certification's Recognized Graduate Examination.

We offer a ten week internship for our students in their final semester.

We have ten scholarships and two loan funds available for Dental Technology students.

Students have presented clinics at both state and national conventions.

We are able to place graduates on Local, State, National and International levels.

The University has a commitment to maintaining "State of the Art" equipment.

We are the only American Dental Association accredited Dental Technology Program in the State of Michigan.

Our graduates are eligible to take the National Board for Certification's Recognized Graduate Examination which, if passed, allows them to become Certified Dental Technicians (C.D.T.) after two years in practice instead of the required five year period.

Ferris State University has the 2 + 2 option available to our students which offers an additional two year option to complete a Bachelors degree in Health Care Systems Administration, Education, Business or Applied Biology.

All faculty and staff are Certified Dental Technicians and hold Bachelors degrees in Education, and two of the four hold Masters degrees.

The Dental Technology Program is active in Continuing Education programs for practicing technicians.

Ferris State University offers both pre-allied health and pre-dentistry programs.

Each year the Dental Technology Program recognizes several outstanding students for their academic achievement.

Various faculty and staff of the Dental Technology Program hold offices or serve as consultants in international, national and state organizations such as the People to People Health Foundation, Inc. (Project HOPE), National Board for Certification, American Association of Dental Schools, American Dental Association, and Michigan Association of Commercial Dental Laboratories.

Appendix I
PROGRAM REVIEW PANEL EVALUATION RESULTS

Program:_____

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

1. Student Perception of Instruction **Average Score 4.2**

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 4**

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 4**

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 4.6**

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 4.4**

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.

Dental Technology

APRC 1997-1998

Section 4 of 5

6. Use of Profession/Industry Standards **Average Score 4.8**

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 4**

5 4 3 2 1

Current follow-up data on completers and leavers are consistently and systemically 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 4.2**

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 4.2**

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 4.6**

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**

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**

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 4.8**

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 4.8**

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 not consider individual student differences.

15. Adequate and Availability of Instructional Materials and Supplies **Average Score 4.8**

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.

FERRIS STATE UNIVERSITY
COLLEGE OF ALLIED HEALTH SCIENCES

DENTAL TECHNOLOGY PROGRAM
RESPONSE TO THE REQUEST OF THE APRC

MARCH 16, 1998

CONTENTS

APPENDICES

Definitions

DEFINITIONS OF TERMS USED IN THIS DOCUMENT

For the purpose of explanation, the following definitions are provided:

American Dental Association (ADA), Commission on Accreditation, Accredited Dental Technology Program:

An ADA accredited dental technology program must meet the following criteria:

1. Educational Setting: A dental laboratory technology program must be established in an accredited institution that has a primary mission of providing post-secondary education.
2. Community Resources: The community served by the educational institution must offer adequate professional resources to support the dental technology program. Includes commercial dental laboratories in the State of Michigan and advisory committee members and distribution.
3. Administration: Administrative Structure must insure the attainment of program goals. Includes relationship between the dental laboratory technology program and the institution.
4. Financial Support: Financial support for the dental laboratory technology program must assure fulfillment of program goals. Includes financial support for administrative, faculty, and support staff salaries, supplies and equipment, library holdings and faculty/staff professional development.
5. Curriculum: The curriculum must be defined in terms of program goals, general and specific instructional objectives, and evaluation procedures to assess attainment of goals and objectives. Includes professional, science and general education courses.
6. Admissions: Admission of the dental laboratory technology students shall be based on specific written criteria, procedures and policies.
7. Faculty: The program shall be staffed by instructors who are well qualified in subject matter, dental laboratory technical skills and education methodology.
8. Facilities: Physical facilities and equipment must be adequate to permit achievement of the dental laboratory technology program's objectives. Includes laboratory and lecture classrooms, and faculty offices.
9. Learning Resources: A wide range of printed materials and instructional aids and equipment shall be available for utilization by students and faculty.
10. Students: Policies and procedures to protect and serve students must be established and implemented.
11. Evening Programs: An evening dental laboratory program is required to meet all accreditation requirements and is evaluated as a separate entity.
12. Assess Outcomes: Each program must regularly evaluate the degree to which its goals are being met through a formal assessment of outcomes.
13. Asepsis/Bloodborne Pathogen: Each program must provide instruction for asepsis and have a bloodborne pathogen policy.

Certification Eligibility: Applicants may qualify for the Certified Dental Technician (CDT) examination from the National Board for Certification (NBC) by meeting any one of the following education and experience requirements:

1. Recognized Graduates (RG) may apply for the CDT examination upon completion of a least two years of practical experience in dental technology, in addition to, and not concurrent with, their two years of formal education.
2. Graduates of Commission-accredited dental technology education programs (non-RGs) may apply for the NBC's Comprehensive examination after completion of two years of practical experience in addition to their education, and may apply for the CDT examination upon successful completion of the Comprehensive examination.
3. Technicians trained and educated in other settings may apply for the Comprehensive Examination upon completion of at least five years of education and/or experience in dental technology; they may apply for CDT testing after the Comprehensive examination.

Recognized Graduate Examination Eligibility: Candidates for graduation by participating Commission-accredited dental technology education programs may apply for the NBC's Recognized Graduate (RG) examination. Recognized Graduate status is conferred upon the candidate after successful completion of the RG examination and upon completion of at least two additional years of practical laboratory experience, the Recognized Graduate may file an application to take the Certified Dental Technician (CDT) examination.

No graduate may remain in the RG program for more than four years without taking the CDT examination. After the four-year period has elapsed, the technician may become eligible for certification only by meeting the same criteria as all other non-RG technicians – including successful completion of a Comprehensive educational equivalency examination.

To obtain certification, the RG must pass written and practical examinations in his or her chosen specialty.

Comprehensive Examination Eligibility: The educational prerequisite to become a Certified Dental Technician (CDT) is graduation from a two-year dental technology education program that is accredited by the Commission on Dental Accreditation. For experienced technicians who do not otherwise meet the CDT criteria, the National Board for Certification offers the Comprehensive Examination as an equivalency measure.

To obtain certification, the experienced technician must also pass written and practical examinations in his or her chosen specialty.

Recognized Graduate/Comprehensive Examination Content:

These examinations are equivalent in content and structure. The total test includes the fifteen (15) sub-tests. The sub-tests are defined:

Terminology:	The recall of terms or their definitions.
Material:	That which is used in the fabrication of appliances and/or devices.
Fabrication:	The steps employed by the technician in creating appliances or devices.
Appliance Design:	The conceptualization of a unique appliance to accomplish a specific task.
Occlusion:	Relation of teeth to one another.
Morphology:	Form and structure of teeth.
Anatomy:	Oral Anatomy
Health and Safety:	Infectious disease control techniques and materials, other topics related to potential hazards and appropriate protective measures in the laboratory.
Laboratory Industry & Dental Profession:	Legal, ethical and historical facts about the dental laboratory industry and the dental profession.
Equipment:	Use, function and maintenance of laboratory equipment.
Complete Dentures:	Relates to the specialty. Use of materials and procedures to fabricate the appliance.
Partial Dentures:	Relates to the specialty. Use of materials and procedures to fabricate the appliance.
Crown & Bridge:	Relates to the specialty. Use of materials and procedures to fabricate the appliance.
Ceramics:	Relates to the specialty. Use of materials and procedures to fabricate the appliance.
Orthodontics:	Relates to the specialty. Use of materials and procedures to fabricate the appliance.

I. INTRODUCTION

The Ferris State University, Dental Laboratory Technology Program is the only such program in the State of Michigan and is accredited by the American Dental Association Commission on Dental Accreditation. It has been in existence at Ferris for over thirty years and has approximately 500 alumni who are laboratory owners, supervisors and technicians; dentists; educators; sales representatives; and state, national and international leaders of dental organizations.

The alumni are a vital part of the dental laboratory industry in the State of Michigan. They are strong supporters of the program who have provided monetary and moral support for our students and graduates through donations to the program, providing internship sites, speaking to students regarding new technologies and about real life expectations of them. That formal education is critical for their success in a very competitive business. Graduates must be prepared for tomorrow's challenges.

The present student population ranges in age from 18 to 42 years with five being international students from Canada, Israel, Columbia, Romania, and Syria. We have an excellent history of accommodating the disabled and those who are re-training due to either injury or the ambitious desire to operate their own business.

Since August 1997 the faculty have been exploring different ways to make the program more accessible to students and still provide a high quality graduate to the industry. We have looked at existing curricula from other institutions that offer both associate degree and certificate programs, i.e., Milwaukee Area Technical College, Milwaukee, Wisconsin; Portland Community College, Portland, Oregon; Triton Community College, River Grove, Illinois; New York City Community College, New York, New York, and Gwinnett Technical Institute, Lawrenceville, Georgia.

We have made telephone calls and corresponded with program directors and faculty of these programs. We have also discussed success rates of certificate programs with the American Dental Association Commission on Accreditation. All of these programs have had much success with the addition of certificates to their curriculum. Certificates have increased program enrollment and provided a much-needed service to the dental laboratory industry. The proposed Ferris, AAS and Certificate models, with minor modifications of our present curriculum, will enable us to continue to provide a viable service for both the dental profession and dental laboratory industry in the State of Michigan.

The movement of the dental technology program to Grand Rapids with the proposed multiple entry points and curriculum modifications would increase enrollment, provide more options for an entry level job, and better serve the industry, profession and community.

II. CURRICULUM MODIFICATIONS

A. Multiple Entry

The dental technology program has, in the past, only offered a fall entry into the program. We propose to offer entry in fall as well as winter semesters to accommodate the many needs of prospective students. Multiple entry will decrease waiting time for students to enter the associate degree program or provide the opportunity for an entering student to complete two certificate options within a one-year period. According to the program directors, multiple entry points have been very successful for recruiting purposes at Triton Community College, River Grove, Illinois, New York City Community College, New York, New York , Bates Vocational-Technical Institute, Tacoma, Washington and Milwaukee Area Technical College, Milwaukee, Wisconsin. These changes were made with minor modifications of class offerings throughout the two-year program. **(See Appendix 1: Tracks A & B Checksheets.)**

B. Associate in Applied Science Modifications *

The proposed Associate Degree Program has the following modifications to its professional curriculum:

- Reduction of three laboratory hours per week in the specialty courses, e.g., DTEC 115, Introduction to Dental Prosthodontics, DTEC 126, Orthodontics and Pedodontics, DTEC 127, Introduction to Fixed Prosthodontics, DTEC 238, Ceramics, and DTEC 239, Partial Denture Prosthodontics. *NO reduction of credit.*
- Change the name of DTEC 115, Introduction to Dental Prosthodontics to DTEC 115, Complete Denture Prosthodontics.
- Eliminate all lecture hours and three laboratory hours per week in DTEC 246, Prosthodontic Specialties. *Reduction of 1 hour credit.* DTEC 250 supports laboratory review in DTEC 256.
- DTEC 250, Dental Technology Seminar is offered both Fall and Winter Semester.
- DTEC 105, Tooth Morphology was moved from Fall Semester of the First Year to Winter Semester of the First Year. It will be presented in the first five weeks of the semester. *NO reduction of credit.*
- DTEC 125, Dental Anatomy was moved from Winter Semester of the First Year to Fall Semester of the First Year.
- DTEC 245, Dental Laboratory Management was moved from Winter Semester of the Second Year to Fall Semester of the Second Year.
- The program requires 60 - 62 credits to graduate. *Reduction of 1 hour credit.*

The faculty believe that the reduction of laboratory hours in the specialty courses and lecture hours in support courses will not affect accreditation of the program by the Commission on Dental Accreditation of the American Dental Association, the quality of instruction or integrity of the program. This modification will provide more accessibility to the program and potentially increase enrollment.

The swapping of DTEC 105 and DTEC 125 will accommodate the presentation and completion of certificates within one semester. But, more importantly, DTEC 125, Dental Anatomy (head and neck) supports DTEC 115 and DTEC 105, Tooth Morphology (tooth anatomy) prepares students for DTEC 127, Fixed Prosthodontics.

The name change of DTEC 115, Introduction to Dental Prosthodontics to DTEC 115, Complete Denture Prosthodontics better describes the course and supports the intent of the Certificate proposal.

Moving DTEC 245 to Fall Semester will better accommodate certificates and morning (AM) First-Year and afternoon (PM) Second-Year scheduling and better facilitate the learning of students with a fifteen week course vs. a five week course.

Offering DTEC 250 both Fall and Winter Semesters will accommodate the *Recognized Graduate Examination* review and graduation requirements of the students who entered the program in Winter Semester. This course could be offered in a condensed format presented on weekends to attract On-the-Job-Trained dental technicians that are preparing for the National Board for Certification, Comprehensive Examination. **(See Appendix 2: Potential Class Schedules for Associate Degree and Certificates.)**

The availability of self-study and review opportunities could also be increased. There is presently the opportunity for Computer Assisted Instruction in Dental Terminology, Tooth Morphology/Dental Anatomy and Certified Dental Technician/Recognized Graduate/Comprehensive Examination Board Review. Video-taping demonstrations from the specialty laboratories is available and taping lectures would be helpful. The available material is extremely valuable to support didactic and technical instruction and is used by students for review.

There is an additional untapped potential for the program to establish weekend courses in the southeastern part of the State of Michigan that would be a resource for employed technicians and expansion of the Certificate model. There is also, because of decreased prosthodontic emphasis in dental schools, an opportunity for linkage with these schools to teach dental prosthodontic procedures to dental students. There are dental schools at the University of Michigan, Ann Arbor and the University of Detroit-Mercy.

To meet the general education requirements for the Associate in Applied Science degree, students will need to access either Kendall or Grand Rapids Community College to complete those courses. They must complete ENGL 150, ENGL 250, MATH 110, CHEM 103 or CHEM 114 or CHEM 121, Social Awareness and a Cultural Enrichment Electives or their equivalencies. Realizing that Kendall's tuition is expensive in comparison to Ferris' tuition, perhaps these students could take the equivalencies through Kendall at the Ferris tuition rate. Otherwise, students may elect to take the less expensive option of completing these requirements at Grand Rapids Community College.

C. Associate in Applied Science (Portfolio)

The potential for the AAS (Portfolio) option may increase with the program in Grand Rapids with a large On-the-Job-Trained dental laboratory population. As many laboratories hire technicians *off-the-street,* with no formal dental technology education, there can be the opportunity for technicians to use their documented work experience with additional formal education to earn an AAS in Dental Technology. The model would include documented total years experience in the specialty/ies worked, ability to meet the objectives of the granted course credit, NBC Certification in the specialty/ies worked, references, and interview, etc. Possible portfolio scenarios, but not limited to, are identified in **Appendix 3: Portfolio Options**.

Students completing any of the Associate in Applied Science degree options are eligible to take the Recognized Graduate Examination administered by the National Board for Certification in Dental Laboratory Technology, Inc. (if not previously Certified).

D. Certificate Programs

The proposal for college credit certificates in complete and fixed prosthodontics is a result of increased inquiries for training in selected specialties and survey results. The certificate program is integrated with the Associate degree program. All students will take didactic and laboratory courses that provide instruction in dental science and specialty skills. All credits earned by those enrolled in the certificate program go directly into the AAS degree. Thus, those completing certificates have the opportunity to ladder into the Associate degree.

The certificate program enhances the opportunity for graduates to specialize in a *chosen specialty,* make an early entry into the job market with minimum expense, and know that they will be able to fabricate dental appliances and produce an income. They will also be able to return to the program if they wish to either earn an additional certificate or complete the associate degree. It is a win-win-win situation for the student, program and industry.

1. <u>The Certificate in Complete Dentures</u>
   - DTEC 115, Introduction to Dental Prosthodontics
   - DTEC 125, Oral Anatomy*

   A student enrolled in the Certificate in Complete Dentures will complete both DTEC 115 and DTEC 125. This certificate can be completed in one semester (Fall) by attending these courses. The time commitment per week for students will be 12 hours of laboratory per week and four hours of lecture for DTEC 115 and one hour per week lecture for DTEC 125.

   Completion of these courses will provide a foundation for entry level employment as a denture technician.

2. The Certificate in Crown and Bridge
   - DTEC 105, Tooth Morphology*
   - DTEC 127, Introduction to Fixed Prosthodontics

   A student enrolled in the Certificate in Crown and Bridge will complete both DTEC 105 and DTEC 127. This certificate can be completed in one semester (Winter) by attending these courses. The time commitment per week will be six hours of laboratory per week and six hours of lecture for DTEC 105 during the first five weeks of the semester and 12 hours of laboratory per week and four hours of lecture for DTEC 127 during the last 10 weeks of the semester.

   Completion of these courses will provide a foundation for entry level employment as a crown and bridge technician.

* Advanced Credit for lecture if completed in High School Dental Program with Articulation Agreement

Students completing certificates will not be eligible to take the Recognized Graduate Examination administered by the National Board for Certification in Dental Laboratory Technology, Inc.

The proposed changes in the associate degree program and the addition of certificate offerings needs to be submitted through the curriculum approval process.

(See Appendix 4: DTEC 105, DTEC 115, DTEC 125, DTEC 127 Course Outlines.)

With the configuration of the certificate program as stated above, we would anticipate the same results as offered by Mr. Frank Loffredo, Program Director, Triton College, River Grove, Illinois.

The certificate program has become an important part of the degree curriculum in the areas of recruitment, retention, incentives and curriculum flexibility. Recruitment of students has increased because the program offers a one-year commitment to earn a certificate that has resulted in increased retention in the associate degree program. The one-year program is less intimidating for the international, English as a Second Language (ESL), or older student.

Mr. Patrick Godin of Milwaukee Area Technical College, Milwaukee, Wisconsin has had success in recruiting non-traditional students, particularly because of the part-time and certificate opportunities for them to go back to school. Their certificate program is three semesters (one-year) in length with the student going to school two to three and one-half days per week. These students have more control over their laboratory time through the use of "proficiency labs." These laboratory periods allow the more skilled students progress more rapidly and allow less skilled students develop the skills necessary for them to be successful. That program is exploring co-op courses as elective credits. They are also planning computer aided instruction to supplement didactic lectures.

III. MOVEMENT OF DENTAL TECHNOLOGY PROGRAM TO GRAND RAPIDS

Moving the dental technology program to the Grand Rapids geographical market area offers several advantages for Ferris State University and the dental technology industry. The proposed curriculum model offers an opportunity for dual entry into the Associate Degree, has minor modifications to course sequencing and laboratory hours and proposals for integrated certificates in Complete Dentures and Crown and Bridge.

As Grand Rapids is a larger metropolitan area than Big Rapids with a much more diverse population having wider interests and a multiplicity of needs, the program will have a larger pool of potential students to recruit. The programs could be offered to employed technicians seeking advanced training, cross-training or those wishing to complete a degree; a training center for dental laboratories that need support in upgrading the skills of their technicians, or for high school career education students seeking college credit with a jump-start into a career. All of these groups can be accommodated and succeed with preparation and cooperation between the industry, secondary schools, and the program. Many continuing education seminars for dental technicians are available commercially or through dental manufacturers, however, these seminars deal primarily with either a specific technique for trained technicians or introduction to new materials by manufacturers. A small dental laboratory may not have the trained technicians to send to these seminars, or the seminars do not meet their basic training or employment needs. The revised program will be able to assist that laboratory with either training for their technicians or providing a new graduate employee. A high school student who is dual enrolled in both a secondary career center dental program and the Ferris dental technology certificate program may receive advanced credit for anatomy or morphology courses completed through the career center. Giving value for training or education received. It is essential that Articulation Agreements be approved and implemented. An educational program that has the preparation for teaching and the cooperation and support of the community, industry and secondary education can meet the needs of all, the community, technician student, secondary career education and the industry.

The revised curriculum structure combined with the move to Grand Rapids, Michigan will make the program more accessible for On-the-Job-Trained laboratory personnel. However, a shorter, more condensed schedule can be developed to meet specific needs of an individual or a laboratory. A major advantage of the proposed curriculum will allow students to enroll full-time or part-time in either the Associate Degree or Certificate Program. The part-time option has the advantage for someone who is employed can still complete a degree too. Since the certificate classes are the same as those for the degree, it is easy for someone to switch to the two-year program and continue into the second year.

Recruitment of both high school and non-traditional students, including the physically disabled, is critical for the success of the associate and certificate programs. Many students may not be certain this is their career vocation and a one semester or one-year commitment is not as intimidating as a two-year program. The certificate may be more attractive for older students who may not feel capable of completing a two-year program, but this may also be an opportunity for career exploration for the high school, physically disabled, and older student.

However, since students completing requirements for certificates are mainstreamed with students completing requirements for the Associate degree, it is hoped that their experiences will be positive. It is the goal that those who complete the certificate curriculum will continue and complete the associate degree program. The accomplishment of the certificate will hopefully give students the confidence to attempt advanced technical training. However, if the graduate elects to go to work after completing a certificate, that option is a success because the graduate is employable.

The movement of the Dental Technology Program to Grand Rapids will provide the opportunity for the College of Allied Health Sciences to utilize the vacated classroom space to either expand it's offerings of programs or consolidate it's on-campus programs in a single setting and still provide the only formal educational dental technology program in the State of Michigan.

The goal of the program is to enroll a mix of 15-20 certificate and associate degree students per year. We request a three-year period to increase enrollment and to develop programs and educational and professional associations within the new market.

Assuming a mixed total annual enrollment of 40 students in the program, with a mix of 30 associate degree full-time students at 12-16 enrolled hours and five (5) certificate students with nine (9) enrolled hours and five (5) certificate students with seven (7) credit hours, the projected revenue would be:

Thirty (30) students at full-time equals $114,240.00 (1997-98 FSU Tuition). This does not take into consideration any general education courses that may be transferred or taken at Kendall or Grand Rapids Community College.

A. Potential Revenue:

$114,240... Thirty students at full-time.
7,200... Five (5) students at nine (9) hours.
5,600... Five (5) students at seven (7) hours.
$127,040... Total Annual Revenue.

B. Cost:

$130,923... The teaching cost with three (3) full-time faculty.
41,895... Benefit Package
13,428... S & E Budget (FY 1996-1997)
$186,246... Total Annual Cost*

*This does not include administrative or clerical cost.

IV. FACILITY REQUIREMENTS FOR GRAND RAPIDS

The laboratory classroom facilities for this program will require space that will accommodate seating for 20 students at laboratory benches, workspace to perform model pouring and trimming, articulation of models, boil-out and packing of dentures, burn-out of crown and bridge and partial molds, casting of crowns & bridges and partials, and finishing and polishing procedures. The laboratory should also provide space for storage, natural gas for Bunsen burners, boil-out and casting procedures, compressed

air, exhaust of noxious fumes – from burnout, bench suction to protect the students from inhaling grindings from finishing and polishing and sufficient lighting.

Considering the present facilities, minus one laboratory classroom, a 1,500 square foot facility that would provide teaching and storage capability is required for the program. The existing laboratory benches and equipment in the Victor F. Spathelf Center for Allied Health can be re-installed in Grand Rapids.

There is also the need to provide office space with computers with word processing and Ferris mainframe access for faculty to advise students, prepare for classes taught, and maintain records. Clerical support needs be identified to support the program. Students should have access to library, computer laboratories and student services.

Administrative support for the program will be provided by the Program Director moving with the program to Grand Rapids. As several programs are also being considered for movement to Grand Rapids, the program and administration will potentially be part of a "Team FSU" at Grand Rapids.

A recommended transition for the move, without interruption of classes, can take place with the dismantling of one laboratory classroom to be moved to Grand Rapids while using the remaining laboratory and scheduling classes to accommodate both first-year and second-year students.

V. NEEDS ASSESSMENT SURVEY RESULTS

A total of 1,943 surveys were mailed to Michigan dentists and commercial dental laboratories to assess the projected need for trained dental laboratory technicians in the State of Michigan, support for offering certificate programs in dental technology, and the movement of the dental technology program to Grand Rapids. One thousand five hundred ninety-three (1,593) surveys were mailed to a random sampling of Michigan dentists in six geographical areas that resulted in a 23% return. There were 350 dental laboratory surveys sent to all of the known dental laboratories, as listed by the Michigan Association of Commercial Dental Laboratories, with a 30% return. (**See Appendix 5: Survey Documents, Results and Graphs.**)

A. Dentists

The major findings from the dentists are as follows:
There is a need for degree/certificate dental technicians trained in all five specialties of dental laboratory technology. Although this training was rated high, the hiring of a graduate trained in five specialties was not rated high because many dental offices do not have a facility to accommodate the hiring of an in-office dental technician.

- Support of the certificate prepared dental technician in Complete Dentures was 66%
- Support of the certificate prepared dental technician in Crown and Bridge was 69%
- Support of the certificate prepared dental technician in Orthodontics was 64%
- Support of the move of the dental technology program to Grand Rapids was 68% positive, 12% negative, and remaining 20% had no comment.

Some of the surveys returned from the dentists were incomplete which indicated that these areas did not apply to them or they were not knowledgeable of the information.

B. Laboratories

The major findings from the commercial dental laboratories are as follows:

- A need for training was identified; however, a high percentage of training would be obtained in-house or from manufacturers.
- 71% were in favor of recommending employees/students to attend a certificate program at Ferris State University, 13% were not in favor of recommendation, while 16% had no comment.
- There was a support of 62% that would seek graduates from a certificate program at Ferris State University, 13% said they were not supportive of a certificate program, and 25% had no comment.
- There was 56% in support of moving the dental technology program to Grand Rapids; 18% were not in favor; and, 26% did not comment.

Through the data collected and many conversations with laboratory owners and employees, we interpret this information to indicate that there are not enough trained technicians to fill the demand.

Overall, there appears to be a greater need, in the future, of trained technicians for dental laboratories. Because of the lack of trained dental technicians, the laboratories are training in-house to meet their productivity needs though this may not be the preference of educational choice for these laboratories.

VI. PROGRESS OF RECRUITMENT PLAN

The following Progress Reports of the Recruitment Plan and Outcomes Assessment were part of a report submitted to the College of Allied Health Sciences as part of the College Plan.

The recruiting plan was developed by the dental technology program for the timeline of October 1997 to August 1999.

Goal 1: To initiate/continue recruiting activities at the Career Centers in Michigan.

Letters were mailed to the 57 Intermediate School Districts and 267 High Schools in the State of Michigan in October 1997 and are presently being contacted individually by telephone for a personal visitation from the program. Those visited are listed below:

(1) Taylor Career Center, Taylor, MI, November 6, 1997. Presented "hands-on" demonstrations of dental technology to morning and afternoon classes in the Health Occupations Department.
(2) Newaygo County Career-Tech Center, Fremont, MI, Nov. 10, 1997. A second-year dental technology student helped with recruitment by providing "hands-on" demonstrations while information was presented on the dental technology program. Two sessions presented.

(3) Montcalm Area Career Center, Sidney, MI, November 13, 1997. Presented "hands-on" demonstrations of dental technology to morning and afternoon classes in the Health Occupations Department.
(4) Montcalm Area ISD, Sidney, MI, December 6, 1997. Presented dental technology during six sessions throughout the day as a panel speaker. There were 25 sophomore students attending each session. The students were from the following school districts: Carson City-Crystal, Central Montcalm, Greenville, Lakeview, Montabella, Tri County, and Vestaburg.
(5) February 21, 1998 – Recruitment/Information booth at the Chicago Dental Society Midwinter Meeting. The booth was provided by "Lab Management Today" in support of the program.
(6) Tuscola Career Technical Center, Caro, MI, February 23, 1998. Presented "hands-on" demonstrations of dental technology to morning and afternoon classes in the Health Occupations Department.
(7) Loy Norrix High School, Kalamazoo, MI, March 4, 1998. Presented two dental technology "hands-on" demonstrations to Juniors and Seniors of the 2-dimensional and 3-dimensional art classes.
(8) Allegan Technical Career Center, Allegan, MI, March 5, 1998. Presented dental technology "hands-on" demonstrations to morning and afternoon classes of the Health Occupations Department.

Goal 2: To attract as many students and families to the FSU campus as possible to visit the Dental Technology program.

Dental technology faculty and staff participate in Career Focus and Autumn Adventure every year.
The program provided displays and demonstrations for the Technical Conference students on October 23, 1997.

Goal 3: Acquaint counselors and teachers of Health Occupation programs at Career Centers with the dental technology program.

Mary Waldron presented at the Health Occupation Educator's Conference in October 1997.
The Department Head met with counselors during the Technical Conference on October 23, 1997 to discuss program entrance requirements and career opportunities for dental technicians and dental hygienists.

Goal 4: Send an acknowledgment letter with appropriate recruiting materials and reply cards to every student who sends a Student Profile Report to FSU (ACT's). **and**
Goal 5: Implement a mail marketing program to qualified prospective students.

Introductory letters about dental technology were mailed in November 1997 to all American College Test (ACT) and Educational Opportunity Service (EOS) prospects (June 1998 graduates) who submitted their scores to Ferris State University.

Goal 6: Participate in Career Fairs

3rd Annual Science and Engineering Fair, Big Rapids, MI, March 11, 1998. Displayed dental technology information and spoke with students.

Goal 7: Participate in on-campus recruiting activities to promote the Dental Technology program.

Enrolled dental technology students developed visual recruitment aids to recruit in Rankin Center as part of an Independent Study course of the program. Roger Daugherty was be their advisor on these activities. Mary Waldron teaches CAHS 100 in the Fall and Winter semesters. Roger Daugherty is teaching FSUS 100 in the Winter semester.

November 12, 1997 - Mecosta-Osceola Career Center, Big Rapids, MI. Approximately 25 students visited the dental technology laboratories. "Hands-on" demonstrations were provided. The high school students "shadowed" the dental technology students.
Jan.28, 1998 – Tour/Visitation from Traverse Bay Career Technical Center, 25-30 students in two groups toured the allied health building.

Feb. 10, 1998 – Tour of 18 students from the Bay Arenac Skills Center, Bay City, MI; these students came to tour the dental technology program and see the dental technology facilities.

(See Appendix 6: Recruitment Plan.)

VII. PROGRESS OF STUDENT OUTCOMES ASSESSMENT

There is a plan for assessing student learning outcomes containing short term and long term components that are linked to the unit action plan and a faculty committee identified to revise and update the goals. The dental technology faculty, on an ongoing basis, reviews achievement of the program goals.

In Academic Year, 1996-97, the dental technology program met the following goals:

- One hundred percent (100%) of dental technology students passed the Recognized Graduate Examination.
- One hundred percent (100%) of surveyed employers reported satisfaction with the graduates' preparedness.
- One hundred percent (100%) of surveyed graduates are either working in their profession or enrolled in higher education courses.

Assessment has been and will continue to be an ongoing process. Results of assessment analysis are used to modify and improve all facets of the dental technology program. The following are some of the recent changes resulting from the outcome assessment process:

- The internship program was re-introduced into the curriculum in Academic Year 1997, after a two-year absence, at the recommendation of the advisory committee, alumni and employers.
- Teaching of CAHS 100 and FSUS 100 classes providing allied health students exposure to the dental technology program and its faculty assisting in higher retention rates of first time in college students.
- There is a major recruitment emphasis at career centers and high schools in Michigan.

(See Appendix 7: Outcomes Assessment.)

VIII. REASSIGNMENT OF STAFF

Ferris State University has experienced a decreasing enrollment for the past five years and is now only experiencing minimal increases on a semester to semester basis. The dental technology program has experienced fluctuating or reduced enrollments for years. A year with strong program enrollment is followed by a year with decreased enrollment. At the same time, industry demand for program graduates remains high and graduate placement exceeds 90%.

Over that same period of time, low enrollment in the program created a need for reduction of two faculty positions through attrition or re-training and reassignment to other programs. These positions were not re-filled, leaving the program with three full-time faculty members. The program has continued to lose enrolled students, with a decreased need to provide multiple sections for laboratory instruction. It has been identified that there is presently a 2.33 FTE need for program instruction.

The proposed restructuring of the curriculum has a 2.0 FTE need for instruction if 15-20 new students enroll each year. There is again, a resultant decreased need for a faculty position in the program, however, the faculty requests that every effort be made by the administration to reassign one of the remaining dental technology faculty members.

To continue the program with a reduction in staff, it is essential that the academic, professional, and teaching credentials of the remaining staff are appropriate to support the academic program. The remaining staff must have a broad and comprehensive experience and teaching base, and hold "Certification" in their areas of instruction.

IX. CONCLUSION

The dental technology program has virtually reinvented itself. It has administered a needs assessment to the dental profession and dental laboratory industry in the State of Michigan requesting their input and advice about potential certificate programs and the movement of the dental technology program to Grand Rapids. The dental profession and laboratory industry responded overwhelmingly in support of both the certificate program and move to Grand Rapids.

The program's proposal to the APRC has modifications to its professional program that includes:

- Identification of target groups for recruitment.
- Multiple entry points into the program.
- Curriculum changes for restructuring laboratory, lecture and credit hours.
- Development of a portfolio AAS model.
- Introduction of certificate programs in complete dentures and crown and bridge.
- A recommendation for reassignment of a faculty member.
- Supported the original recommendation for moving the program to Grand Rapids.
- Identified facility needs and transition for the move to Grand Rapids.
- An overall plan for the future success of the program.

The faculty have answered the call of the APRC and Academic Senate to justify the existence of dental technology at Ferris State University. They have written letters and made numerous telephone calls to other dental technology programs in the United States and found that many programs are modifying their curriculum format to better meet the needs of the industry and serve a changing student population.

The faculty and staff have explored several options and believe that the presented document provides the best option for the program.

Another Thought:

Future Challenges for Dental Technology Education
By Thomas Anthony, MSHP, CDT and Allan L. Castle, BS, CDT
Journal of Dental Technology, March 1998

The dental laboratory industry is continuing to advance and grow in complexity and with that advancement and growth comes a need to increase the training and educational level of future dental technicians. The dental technology programs must play an important role in evaluating the educational requirements (for the field); failure to respond to these challenges will result in inferior on-the-job training in both commercial and dental office laboratories.

Another factor having a direct effect on the future practice of dental laboratory technology is the education received by dentists. The length of dental school curriculum in the US has remained at four years since 1920. Within that four-year time frame, all aspects of the practice of dentistry must be imparted to the dental student. The dramatic advances and changes in dental materials, dental equipment, legal requirements and clinical technique have caused a constant evolution of the content of the dental education. However, one trend noted in this evolutionary process is the reduction in the amount of time devoted in the curriculum for the fabrication of prosthetic appliances by dental students. This reduction in the amount of exposure through prosthetic appliance construction results in the limitation of the graduating dentist's ability to evaluate the quality of prosthetic appliances. It also results in a higher reliance by the dentist on the dental laboratory as a source of information related to the capabilities of particular prosthetic devices and the technical aspects of appliance construction.

Appendix 1: A & B Track Checksheets

FERRIS STATE UNIVERSITY
DENTAL TECHNOLOGY – ASSOCIATE IN APPLIED SCIENCE DEGREE
FALL ENTRY

TRACK A

FIRST YEAR

Fall Semester	Cr.	Grade
DTEC 115, Intro. to Dental Pros.	8	_____
DTEC 125, Dental Anatomy	1	_____
MATH 110, Fund. of Algebra	4	_____
ENGL 150, English 1	3	_____
	16	

Winter Semester	Cr.	Grade
+DTEC 105, Tooth Morphology	3	_____
+DTEC 126, Ortho. & Pedo.	3	_____
++DTEC 127, Intro. to Fix. Pros.	6	_____
ENGL 150, English 1	3	_____
Select 1 Chemistry course: CHEM 103 **OR** CHEM 114 **OR** CHEM 121	3-5	_____
	15-17	

+ First Five Weeks
++ Last Ten Weeks

SECOND YEAR

Fall Semester	Cr.	Grade
*DTEC 238, Ceramics	4	_____
**DTEC 239, Part. Dent. Pros.	4	_____
DTEC 245, Dental Lab. Mgt.	2	_____
ENGL 250, English 2	3	_____
Social Awareness Elective	3	_____
Cultural Enrichment Elective	3	_____
	19	

***First Half Semester**
****Second Half Semester**

#Winter Semester	Cr.	Grade
+DTEC 246, Pros. Specialties	2	_____
+DTEC 250, Dent. Tech. Sem.	2	_____
++DTEC 292, Dent. Tech. Intern.	6	_____
	10	

 # Only Dental Technology Courses may be taken in the final semester of the second year.

60 to 62 credits required for graduation

FERRIS STATE UNIVERSITY
DENTAL TECHNOLOGY – ASSOCIATE IN APPLIED SCIENCE DEGREE
WINTER ENTRY

TRACK B

FIRST YEAR

Winter Semester	Cr.	Grade
+DTEC 105, Tooth Morphology	3	_____
+DTEC 126, Ortho. & Pedo.	3	_____
++DTEC 127, Intro. to Fix. Pros.	6	_____
MATH 110, Fund. of Algebra	4	_____
Cultural Enrichment Elective	3	_____
	19	

+ First Five Weeks
++ Last Ten Weeks

SECOND YEAR

#Winter Semester	Cr.	Grade
+DTEC 246, Pros. Specialties	2	_____
++DTEC 292, Dent. Tech. Intern	6	_____
	8	

 # Only Dental Technology Courses may be taken in the Winter Semester of the second year.

Fall Semester	Cr.	Grade
*DTEC 238, Ceramics	4	_____
*DTEC 239, Partial Dent. Pros.	4	_____
DTEC 245, Dent. Lab. Mgt.	2	_____
ENGL 150, English 1	3	_____
Select 1 Chemistry course: CHEM 103 **OR** CHEM 114 **OR** CHEM 121	3-5	_____
	16-18	

Fall Semester	Cr.	Grade
DTEC 115, Intro. to Dental Pros.	8	_____
DTEC 125, Dental Anatomy	1	_____
DTEC 250, Dental Tech. Sem.	2	_____
ENGL 250, English 2	3	_____
Social Awareness Elective	3	_____
	17	

***First Half Semester**
****Second Half Semester**

60 to 62 credits required for graduation

Appendix 2: Potential Class Schedules for Associate Degree and Certificates

Appendix 2

COLLEGE OF ALLIED HEALTH SCIENCES
STUDENT SCHEDULE

PROGRAM: DTPC : Pre-Internship

NAME: Appendix 2 STUDENT #: SEMESTER: FALL: First Semester

#	CALL #	PREFIX	NUMBER	SECTION	ROOM #	CREDITS	HOUR	MONDAY	TUESDAY	WEDNES.	THURS.	FRIDAY
1							8:00 - 8:50	115	115	115	115	
2							9:00 - 9:50	LAB	LAB	LAB	LAB	
3							10:00 - 10:50					
4							11:00 - 11:50	125	XXXXXX XXXXXX	250 *	XXXXXX XXXXXX	
5							12:00 - 12:50 40		245		245	
6							1:00 - 1:50	115 238/239	115 238/239	115 238/239	115 238/239	
7							2:00 - 2:50	238/239	238/239	238/239	238/239	
8							3:00 - 3:50	LAB	LAB	LAB	LAB	
9							4:00 - 4:50					
		ALTERNATE	COURSES				5:00 - 5:50					
A							6:00 - 6:50					
B							7:00 - 7:50					
C							8:00 - 8:50					
D												

COMMENTS:

* Written Essay

AUTHORIZED SIGNATURE

MS:6/6/94 cad:STUDENT.SCH

COLLEGE OF ALLIED HEALTH SCIENCES
STUDENT SCHEDULE

PROGRAM: DTDE / RE-INVENT

NAME: _____ STUDENT #: _____ SEMESTER: Fall: First Half Semester
First & Second Year

#	CALL #	PREFIX	NUMBER	SECTION	ROOM #	CREDITS	HOUR	MONDAY	TUESDAY	WEDNES.	THURS.	FRIDAY
1							8:00 - 8:50	115	115	115	115	
2							9:00 - 9:50	LAB	LAB	LAB	LAB	
3							10:00 - 10:50					
4							11:00 - 11:50	125	XXXXXX XXXXXX	250 *	XXXXXX XXXXXX	
5							12:00 - 12:50 46		245		245	
6							1:00 - 1:50	115 LECTURE 238 LECTURE	115 LECTURE 238 LECTURE	115 LECTURE 238 LECTURE	115 LECTURE 238 LECTURE	
7							2:00 - 2:50	238	238	238	238	
8							3:00 - 3:50	LAB	LAB	LAB	LAB	
9							4:00 - 4:50					
		ALTERNATE	COURSES				5:00 - 5:50					
A							6:00 - 6:50					
B							7:00 - 7:50					
C							8:00 - 8:50					
D												

COMMENTS:

* Winter Entry

_____
AUTHORIZED SIGNATURE

MS: 6/6/94 cad: STUDENT.SCH

COLLEGE OF ALLIED HEALTH SCIENCES
STUDENT SCHEDULE

PROGRAM: DTPC / RE-INVENT

NAME: _____ STUDENT #: _____ SEMESTER: Fall: Second Half Semester
First & Second Years

#	CALL #	PREFIX	NUMBER	SECTION	ROOM #	CREDITS	HOUR	MONDAY	TUESDAY	WEDNES.	THURS.	FRIDAY
1							8:00 - 8:50	115	115	115	115	
2							9:00 - 9:50	LAB	LAB	LAB	LAB	
3							10:00 - 10:50					
4							11:00 - 11:50	125	XXXXXX XXXXXX	250 *	XXXXXX XXXXXX	
5							12:00 - 12:50		245		245	
6							1:00 - 1:50	115 LECTURE 239 LECTURE	115 LECTURE 239 LECTURE	115 LECTURE 239 LECTURE	115 LECTURE 239 LECTURE	
7							2:00 - 2:50	239	239	239	239	
8							3:00 - 3:50	LAB	LAB	LAB	LAB	
9							4:00 - 4:50					
		ALTERNATE	COURSES				5:00 - 5:50					
A							6:00 - 6:50					
B							7:00 - 7:50					
C							8:00 - 8:50					
D												

COMMENTS:

* WINTER ENTRY

_____
AUTHORIZED SIGNATURE

MS:6/6/94 cad:STUDENT.SCH

178

COLLEGE OF ALLIED HEALTH SCIENCES
STUDENT SCHEDULE

PROGRAM: Re-Entry

NAME: _____ STUDENT #: _____ SEMESTER: Winter : First & Second Term

#	CALL #	PREFIX	NUMBER	SECTION	ROOM #	CREDITS	HOUR	MONDAY	TUESDAY	WEDNES.	THURS.	FRIDAY
1							8:00 - 8:50	126/127	126/127	126/127	126/127	105
2							9:00 - 9:50	LAB	LAB	LAB	LAB	LAB
3							10:00 - 10:50					
4							11:00 - 11:50	250	XXXXXX XXXXXX	250	XXXXXX XXXXXX	105 LECTURE
5							12:00 - 12:50 40	126/127 LECTURE	250 126/127 LECTURE	126/127 LECTURE	250 126/127 LECTURE	
6							1:00 - 1:50 40	105 LECTURE	105 LECTURE	105 LECTURE	105 LECTURE	
7							2:00 - 2:50	246	246	246	246	105
8							3:00 - 3:50	LAB	LAB	LAB	LAB	LAB
9							4:00 - 4:50					
		ALTERNATE	COURSES				5:00 - 5:50					
A							6:00 - 6:50					
B							7:00 - 7:50					
C							8:00 - 8:50					
D												

COMMENTS:

_____
AUTHORIZED SIGNATURE

MS:6/6/94 cad:STUDENT.SCH

COLLEGE OF ALLIED HEALTH SCIENCES
STUDENT SCHEDULE

PROGRAM: Recruiter DTDC

NAME: _____ STUDENT #: _____ SEMESTER: Winter & First Five Weeks
First & Second Year

#	CALL #	PREFIX	NUMBER	SECTION	ROOM #	CREDITS	HOUR	MONDAY	TUESDAY	WEDNES.	THURS.	FRIDAY
1							8:00 - 8:50	126	126	126	126	105
2							9:00 - 9:50	LAB	LAB	LAB	LAB	LAB
3							10:00 - 10:50					
4							11:00 - 11:50	250	XXXXXX XXXXXX	250	XXXXXX XXXXXX	105 LECTURE
5							12:00 - 12:50 40	126 LECTURE	250 126 LECTURE	126 LECTURE	250 126 LECTURE	
6							1:00 - 1:50 40	105 LECTURE	105 LECTURE	105 LECTURE	105 LECTURE	
7							2:00 - 2:50	246	246	246	246	105
8							3:00 - 3:50	LAB	LAB	LAB	LAB	LAB
9							4:00 - 4:50					
		ALTERNATE	COURSES				5:00 - 5:50					
A							6:00 - 6:50					
B							7:00 - 7:50					
C							8:00 - 8:50					
D												

COMMENTS:

_____
AUTHORIZED SIGNATURE

COLLEGE OF ALLIED HEALTH SCIENCES
STUDENT SCHEDULE

PROGRAM: Rad. Therapy DTRL
First Year

NAME: _____ STUDENT #: _____ SEMESTER: Winter : First Five Weeks

#	CALL #	PREFIX	NUMBER	SECTION	ROOM #	CREDITS	HOUR	MONDAY	TUESDAY	WEDNES.	THURS.	FRIDAY
1							8:00 - 8:50	126	126	126	126	105
2							9:00 - 9:50	LAB	LAB	LAB	LAB	LAB
3							10:00 - 10:50	↓	↓	↓	↓	↓
4							11:00 - 11:50		XXXXXX XXXXXX		XXXXXX XXXXXX	105 LECTURE
5							12:00 - 12:50	126 LECTURE	126 LECTURE	126 LECTURE	126 LECTURE	↓
6							1:00 - 1:50	105 LECTURE	105 LECTURE	105 LECTURE	105 LECTURE	
7							2:00 - 2:50					105
8							3:00 - 3:50					LAB
9							4:00 - 4:50					↓
		ALTERNATE	COURSES				5:00 - 5:50					
A							6:00 - 6:50					
B							7:00 - 7:50					
C							8:00 - 8:50					
D												

COMMENTS:

_____
AUTHORIZED SIGNATURE

COLLEGE OF ALLIED HEALTH SCIENCES
STUDENT SCHEDULE

PROGRAM: DTDC
LAST 10 WEEKS

NAME: _____ STUDENT #: _____ SEMESTER: WINTER - FIRST YEAR

#	CALL #	PREFIX	NUMBER	SECTION	ROOM #	CREDITS	HOUR	MONDAY	TUESDAY	WEDNES.	THURS.	FRIDAY
1							8:00 - 8:50	127	127	127	127	
2							9:00 - 9:50	LAB	LAB	LAB	LAB	
3							10:00 - 10:50					
4							11:00 - 11:50		XXXXXX XXXXXX			
5							12:00 - 12:50	127	127	127	127	
6							1:00 - 1:50					
7							2:00 - 2:50					
8							3:00 - 3:50					
9							4:00 - 4:50					
		ALTERNATE	COURSES				5:00 - 5:50					
A							6:00 - 6:50					
B							7:00 - 7:50					
C							8:00 - 8:50					
D												

COMMENTS:

_____
AUTHORIZED SIGNATURE

MS:6/6/94 cad:STUDENT.SCH

COLLEGE OF ALLIED HEALTH SCIENCES
STUDENT SCHEDULE

PROGRAM: RE-INVENT DENTAL 2ND YEAR

NAME: _____ STUDENT #: _____ SEMESTER: WINTER: FIRST FIVE WEEKS

#	CALL #	PREFIX	NUMBER	SECTION	ROOM #	CREDITS	HOUR	MONDAY	TUESDAY	WEDNES.	THURS.	FRIDAY
1							8:00 - 8:50					
2							9:00 - 9:50					
3							10:00 - 10:50					
4							11:00 - 11:50	250	XXXXXX XXXXXX	250	XXXXXX XXXXXX	
5							12:00 - 12:50		250		250	
6							1:00 - 1:50 40					
7							2:00 - 2:50	246	246	246	246	
8							3:00 - 3:50	LAB	LAB	LAB	LAB	
9							4:00 - 4:50					
		ALTERNATE	COURSES				5:00 - 5:50					
A							6:00 - 6:50					
B							7:00 - 7:50					
C							8:00 - 8:50					
D												

COMMENTS:

_____
AUTHORIZED SIGNATURE

MS:6/6/94 cad:STUDENT.SCH

COLLEGE OF ALLIED HEALTH SCIENCES
STUDENT SCHEDULE

PROGRAM: DTDC

LAST 10 WEEKS

NAME: _____ STUDENT #: _____ SEMESTER: Winter - Second Year

#	CALL #	PREFIX	NUMBER	SECTION	ROOM #	CREDITS	HOUR	MONDAY	TUESDAY	WEDNES.	THURS.	FRIDAY
1							8:00 - 8:50	292	292	292	292	292
2							9:00 - 9:50					
3							10:00 - 10:50					
4							11:00 - 11:50		XXXXXX XXXXXX		XXXXXX XXXXXX	
5							12:00 - 12:50					
6							1:00 - 1:50					
7							2:00 - 2:50					
8							3:00 - 3:50					
9							4:00 - 4:50					
		ALTERNATE	COURSES				5:00 - 5:50					
A							6:00 - 6:50					
B							7:00 - 7:50					
C							8:00 - 8:50					
D												

COMMENTS:

_____
AUTHORIZED SIGNATURE

MS:6/6/94 cad:STUDENT.SCH

COLLEGE OF ALLIED HEALTH SCIENCES
STUDENT SCHEDULE

PROGRAM: DTR : Continuing

NAME: _____ STUDENT #: _____ SEMESTER: Fall

#	CALL #	PREFIX	NUMBER	SECTION	ROOM #	CREDITS	HOUR	MONDAY	TUESDAY	WEDNES.	THURS.	FRIDAY
1							8:00 - 8:50	115	115	115	115	
2							9:00 - 9:50	LAB	LAB	LAB	LAB	
3							10:00 - 10:50					
4							11:00 - 11:50	125	XXXXXX XXXXXX		XXXXXX XXXXXX	
5							12:00 - 12:50					
6							1:00 - 1:50	115 LECTURE	115 LECTURE	115 LECTURE	115 LECTURE	
7							2:00 - 2:50					
8							3:00 - 3:50					
9							4:00 - 4:50					
		ALTERNATE	COURSES				5:00 - 5:50					
A							6:00 - 6:50					
B							7:00 - 7:50					
C							8:00 - 8:50					
D												

COMMENTS:

_____
AUTHORIZED SIGNATURE

2/6/98

COLLEGE OF ALLIED HEALTH SCIENCES
STUDENT SCHEDULE

PROGRAM: DTEC : CERTIFICATE

NAME: _____ STUDENT #: _____ SEMESTER: WINTER

#	CALL #	PREFIX	NUMBER	SECTION	ROOM #	CREDITS	HOUR	MONDAY	TUESDAY	WEDNES.	THURS.	FRIDAY
1							8:00 - 8:50	127	127	127	127	105
2							9:00 - 9:50	LAB	LAB	LAB	LAB	LAB
3							10:00 - 10:50					
4							11:00 - 11:50		XXXXXX XXXXXX		XXXXXX XXXXXX	105 LECTURE
5							12:00 - 12:50	127 LECTURE	127 LECTURE	127 LECTURE	127 LECTURE	
6							1:00 - 1:50	105 LECTURE	105 LECTURE	105 LECTURE	105 LECTURE	
7							2:00 - 2:50					105
8							3:00 - 3:50					LAB
9							4:00 - 4:50					
		ALTERNATE	COURSES				5:00 - 5:50					
A							6:00 - 6:50					
B							7:00 - 7:50					
C							8:00 - 8:50					
D												

COMMENTS:

DTEC 105 : 1ST FIVE WEEKS
DTEC 127 : LAST 10 WEEKS

_____
AUTHORIZED SIGNATURE

MS:6/6/94 cad:STUDENT.SCH

Appendix 3: Associate in Applied Science Degree (Portfolio)

ASSOCIATE IN APPLIED SCIENCE (Portfolio)

The potential for this option may increase with the program in Grand Rapids with a large OJT dental laboratory population. Possible portfolio scenarios, but not limited to, are as follows:

Crown and Bridge Technician (Portfolio)

Potential Credit Granted for a Crown and Bridge Technician:

DTEC 105, Tooth Morphology
DTEC 127, Fixed Prosthodontics
DTEC 292, Dental Technology Internship
*DTEC 245, Dental Laboratory Management
(*if holds management position in laboratory)
*DTEC 246, Prosthodontic Specialties

If Certified Dental Technician (CDT) in Crown and Bridge:
All of Above
+ DTEC 125, Dental Anatomy
+DTEC 250, Dental Technology Seminar

If **CDT**: Must complete the following:
DTEC 115, Intro. to Dental Prosthodontics (*or equivalent)
DTEC 126, Ortho. & Pedo. (*or equivalent)
DTEC 238, Ceramics (*or equivalent)
DTEC 239, Partial Denture Prosthodontics (*or equivalent)
DTEC 245, Dental Laboratory Management (*if does not hold mgt. position in laboratory)
ENGL 150, English 1
ENGL 250, English 2
MATH 110, Fund. of Algebra (**or equivalent)
CHEM 103 OR CHEM 114 OR CHEM 121
Social Awareness Elective
Cultural Enrichment Elective

If **NOT CDT**: Must complete the following:
DTEC 115, Intro. to Dental Prosthodontics (*or equivalent)
DTEC 125, Dental Anatomy
DTEC 126, Ortho. & Pedo. (*or equivalent)
DTEC 238, Ceramics (*or equivalent)
DTEC 239, Partial Denture Prosthodontics (*or equivalent)
DTEC 245, Dental Laboratory Management (*if does not hold mgt. position in laboratory)
DTEC 250, Dental Technology Seminar
ENGL 150, English 1
ENGL 250, English 2
MATH 110, Fund. of Algebra (**or equivalent)
CHEM 103 OR CHEM 114 OR CHEM 121
Social Awareness Elective
Cultural Enrichment Elective

*Equivalent: Supervised and documented employment experience.
**Equivalent: Math subscore of 19 on ACT

Dental Ceramist (Portfolio)

Potential Credit Granted for a Dental Ceramist:

DTEC 105, Tooth Morphology
DTEC 238, Ceramics
DTEC 292, Dental Technology Internship
*DTEC 245, Dental Laboratory Management
(*if holds management position in laboratory)
*DTEC 246, Prosthodontic Specialties

If Certified Dental Technician (CDT) in Ceramics:
All of Above
+DTEC 125, Dental Anatomy
+DTEC 250, Dental Technology Seminar

If **CDT**: Must complete the following:
DTEC 115, Intro. to Dental Prosthodontics (*or equivalent)
DTEC 126, Ortho. & Pedo. (*or equivalent)
DTEC 127, Fix. Prostho. (*or equivalent)
DTEC 239, Partial Denture Prosthodontics (*or equivalent)
DTEC 245, Dental Laboratory Management (*if does not hold mgt. position in laboratory)
ENGL 150, English 1
ENGL 250, English 2
MATH 110, Fund. of Algebra (**or equivalent)
CHEM 103 OR CHEM 114 OR CHEM 121
Social Awareness Elective
Cultural Enrichment Elective

If **NOT CDT**: Must complete the following:
DTEC 115, Intro. to Dental Prosthodontics (*or equivalent)
DTEC 125, Dental Anatomy
DTEC 126, Ortho. & Pedo. (*or equivalent)
DTEC 127, Fix. Prostho. (*or equivalent)
DTEC 239, Partial Denture Prosthodontics (*or equivalent)
DTEC 245, Dental Laboratory Management (*if does not hold mgt. position in laboratory)
DTEC 250, Dental Technology Seminar
ENGL 150, English 1
ENGL 250, English 2
MATH 110, Fund. of Algebra (**or equivalent)
CHEM 103 OR CHEM 114 OR CHEM 121
Social Awareness Elective
Cultural Enrichment Elective

*Equivalent: Supervised and documented employment experience
**Equivalent: Math subscore of 19 on ACT

Denture Technician (Portfolio)

Potential Credit Granted for a Denture Technician:

DTEC 115, Introduction to Dental Prosthodontics
DTEC 125, Dental Anatomy
DTEC 292, Dental Technology Internship
*DTEC 245, Dental Laboratory Management
(*if holds management position in laboratory)
*DTEC 246, Prosthodontic Specialties

If Certified Dental Technician (CDT) in Complete Dentures:
All of Above
+DTEC 105, Tooth Morphology
+DTEC 250, Dental Technology Seminar

If **CDT**: Must complete the following:
DTEC 126, Ortho. & Pedo. (*or equivalent)
DTEC 127, Fixed Prosthodontics (*or equivalent)
DTEC 238, Ceramics (*or equivalent)
DTEC 239, Partial Denture Prosthodontics (*or equivalent)
DTEC 245, Dental Laboratory Management (*if does not hold mgt. position in laboratory)
ENGL 150, English 1
ENGL 250, English 2
MATH 110, Fund. of Algebra (**or equivalent)
CHEM 103 OR CHEM 114 OR CHEM 121
Social Awareness Elective
Cultural Enrichment Elective

If **NOT CDT**: Must complete the following:
DTEC 105, Tooth Morphology (*or equivalent)
DTEC 126, Ortho. & Pedo. (*or equivalent)
DTEC 127, Fix. Prostho. (*or equivalent)
DTEC 238, Ceramics (*or equivalent)
DTEC 239, Partial Denture Prosthodontics (*or equivalent)
DTEC 245, Dental Laboratory Management (*if does not hold mgt. position in laboratory)
DTEC 250, Dental Technology Seminar
ENGL 150, English 1
ENGL 250, English 2
MATH 110, Fund. of Algebra (**or equivalent)
CHEM 103 OR CHEM 114 OR CHEM 121
Social Awareness Elective
Cultural Enrichment Elective

*Equivalent: Supervised and documented employment experience.
**Equivalent: Math subscore of 19 on ACT

FERRIS STATE UNIVERSITY

MEMORANDUM

TO: President William A. Sederburg

FROM: Joe Chartkoff, Interim Vice President for Academic Affairs

SUBJECT: Academic Senate Vote on APRC Recommendation to Close Dental Technology Program

DATE: April 8, 1998

Yesterday the Academic Senate met and considered the revised report from the Academic Program Review Council concerning the future of the Dental Technology Program. Prof. Douglas Haneline, Chair of the APRC, reported to the Senate that his committee concluded after additional study that the program should be closed. As reported in the Senate's Minutes (attached), the Senate voted 17 to 6 against suuporting that recommendation.

Prof. Haneline has circulated a memorandum this morning (attached) which outlines procedures to be followed in the event that the Academic Senate does not accept a recommendation from APRC regarding the future of a program. Following this set of procedures, the first step has already been taken. Senate President Gregory Key has communicated the decision of the Senate to the office of the Vice President for Academic Affairs. At this point, the VPAA is required to consider the recommendations of the Senate, the APRC and the PRP, and based on them to make a recommendation to you. My recommendation is presented below.

On receipt of this recommendation, you are called upon to make your own recommendation in the matter. If your recommendation differs from that of the Senate, and since the case involves a program discontinuation, a conference committee needs to be formed, following Sec. 8 of the Senate Charter.

Because of the tight schedule between now and the next Board of Trustees meeting of May 8, and the Academic Affairs/Student Affairs Committee of the Board which meets April 29, I have discussed the steps needed to expedite the formation and work of such a committee, if needed, with Senate President Key. President Key will be prepared, if necessary, to go to the Senate Executive Committee as early as next Monday (April 13) to request the appointment of three faculty members to a conference committee. I will be prepared to provide suggestions at the same time of the names of three administration representatives to form the remainder of the committee.

OFFICE OF THE VICE PRESIDENT
FOR ACADEMIC AFFAIRS
1349 Cramer Circle, Bishop 408, Big Rapids, MI 49307-2737
Phone 616 592-2300 Fax 616 592-3592

The committee will be asked to review the relevant documents and to issue its report in time for the April 28 meeting of the Senate. The Senate's response and your own can be conveyed to the Academic Affairs/Student Affairs Committee of the Board the next day. All parties desire that the final resolution be determined and communicated to all affected individuals at the earliest effective opportunity.

CC: Prof. Gregory Key, President, Academic Senate
Prof. Douglas Haneline, Chair, Academic Program Review Council

FERRIS STATE UNIVERSITY

MEMORANDUM

TO: President William A. Sederburg

FROM: Joe Chartkoff, Interim Vice President for Academic Affairs JEC

SUBJECT: VPAA Recommendation Concerning Academic Senate Vote on APRC Recommendation to Close Dental Technology Program

DATE: April 8, 1998

As provided under the Academic Senate Charter, I have been advised of a difference in recommendations between the Senate and the Academic Program Review Council over a proposed program closure. I have reviewed the documentation provided by the Senate, the Academic Program Review Council, and the Program Review Panel. I also have attended Senate discussions leading to its decisions at the end of last Fall Semester and yesterday.

Based on these reviews, and in consideration of many thoughtful perspectives on the substantial number of issues involved, I have developed a recommendation to provide to you. In overall consideration, I find myself in support of the recommendation of the Academic Program Review Council that the Dental Technology Program be closed.

If you would like explanation in greater detail than is given below, please let me know. From my perspective, the most critical issues are these:

1. The program has been shrinking in enrollment for several years. Reasons for this decline are varied. Most lie outside the control of the University and are found in the industry itself. While those few students who complete the program have a good record of finding employment in the industry, the vast majority who find employment at comparable levels do not need a college degree to do so. The possession of a college degree in the field proves to have little effect on employability or salary level.

2. In contrast to programs elsewhere in the University, this program has not developed an effective student recruiting strategy even though the need to do so has been evident for several years and resources to do so have been made available. Neither has the program developed an effective relationship with the industry and employers to gain sufficient support and endorsement of the training program and its value.

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3. The economic burden to the University for the support of a program with a very high cost for providing the program to a small and declining number of students should not be the ruling criterion but remains undeniably significant for responsible decision-making. This particular program is distinctive in that its faculty do not provide service instruction to other programs, so its value remains narrowly defined. As a way to provide good education to students, it is much less productive than many other approaches even though its instructors are highly appreciated. Given the extremely finite nature of University resources, this direction seems considerably less productive than other directions the College of Allied Health Sciences could be following. The program in its current form would need to triple its enrollment in order to become self-sustaining. There is no sign that such growth is planned or thought possible.

4. The PRP and the Dental Technology faculty have recommended that the program be relocated to FSU/Grand Rapids in order to gain access to a much larger potential student market. The population and business attractiveness of Grand Rapids is undeniable. At the same time, the movement of the program would involve the University expending at least $50,000 to build appropriate lab facilities for annual entering classes currently on the order of 12 students or less per year. At the same time, there is no reliable information to indicate that many more students would be persuaded to spend $8000-$15,000 for two years of college when they can receive on-the-job training paid by their employer at almost the same salary level as students receiving the AA degree are offered. In contrast to the market analyses done by other programs that have moved or are planning to move into Grand Rapids, the Dental Technology program appears not to have done the market analysis needed to show that it has the demand, advantage and industry support needed to make the proposed move an effective one.

FSUNOTES1
04/08/98 09:52 AM

Sent by: Douglas Haneline

Gregory W Key/FSU@Ferris, Joe L Chartkoff/FSU@Ferris, William A Sederburg/FSU@Ferris
Mary R Murnik/FSU@Ferris, Cynthia K Konrad/FSU@Ferris, Norwood R Neumann/FSU@Ferris, Vincent M King/FSU@Ferris, David J Hanna/FSU@Ferris, Gary L Ovans/FSU@Ferris, Karen Norman/FSU@Ferris, Walter J Short/FSU@Ferris, Michael A Cairns/FSU@Ferris
dental tech recommendations

Now that the Academic Senate has voted not to accept the recommendations of APRC regarding the A.A.S. program in Dental Technology, the program review process moves forward in this manner:

- The Academic Senate makes its recommendation to the VPAA.
- The VPAA, taking into consideration the recommendations of the Senate, the APRC, and the PRP, makes a recommendation to the University President.
- The President prepares a recommendation on the matter. If his recommendation differs from the Senate's and if the recommendation involves program reduction or discontinuation, then a conference committee needs to be formed. Section 8 of the Senate charter speaks to this.

If the Board is to act on this matter at its May 8 meeting, then these steps must be taken expeditiously.

FERRIS STATE UNIVERSITY

MEMORANDUM

TO: Vice President Chartkoff

FROM: Greg Key, President, Academic Senate

SUBJECT: **Dental Technology**

DATE: April 8, 1998

On Tuesday, April 8, 1998, the Academic Senate voted not to accept the recommendation of the APRC regarding the closure of the Dental Technology program. The vote was 6 yeas, 17 nays.

I have attached a draft copy of the minutes of that meeting for your information.

GK:phk

ACADEMIC SENATE
901 S. State Street, Big Rapids, MI 49307-2251
Phone 616 592-2691

040898

Ferris State University
Academic Senate Meeting
Tuesday, April 7, 1998 - 10:00 a.m.

DRAFT

I. **Call to Order:** President Key called the meeting to order at 10:05 am in the President's Room.

II. **Attendance**

Senators Present: Abbasabadi, Anderson, Bonning, Conati, Dakkuri, Etienne, Green, Hanna, Hastings-Bishop, Heidemann, Holihan, Huey, Jackson, Kane, Key, Klope, Konrad, Kowalkoski, Krumins, Lovsted, Maas, Nagel, Nikkari, Papo, Pilgrim, Rupe, Ryan, Rye, Shepler, Smith, Squicciarini, Stephen, Valas.

Senators Absent. Adewusi, Klope, Kowalkoski (excused), Maas (excused), Nista (excused), Saladin (excused), Wininger (excused).

Guests. Joe Chartkoff, Tom Oldfield, Elizabeth Hansen, Rose Ann Swartz, Doug Haneline, Deborah Sokoloski, Mary Waldron, Dale Harrison, Richard Hewer, Ron Greenfield

III. **Approval of March 3, 1998, minutes.** Minutes accepted as written.

IV. **Open Forum -** President Key that the document labeled **Post Tenure Review Policy and Procedures** (Attachment A) would not be voted on at this meeting. It was decided that additional Senate meetings will be held on Wednesday, April 15 (Centennial Dining Room, Rankin Center) and Wednesday, April 22 (Pharmacy 101), from 7-9 p.m. each evening.

V. **Committee Reports**

A. **Senate Governance Committee - Senator Heidemann -** As a result of meetings with the Vice Presidents, Senator Heidemann has been placed on the University Planning Committee and a sub-committee dealing with "Quality Circles", with the idea of facilitating communication. Also, meetings in at least one college is regularly scheduling meetings on the fourth Tuesday which is supposed to be used for University Wide Committee meetings.

B. **University Curriculum Committee - Senator Lovsted -** See **Attachment B** for items pending.

C. **Senate Elections Committee - Senator Nagel -** The committee is still working on revising the charter. The committee has been unable to reach

a consensus on some matters. Consensus will be reached before bringing the charter to the Senate.

A special election was held for the University College under the provisions of the charter. A couple of problems did arise and will be resolved in the revised charter.

D. **Graduate Guidelines Committee - Dr. Rose Ann Swartz** - The prior guidelines were used, with some changes (Attachment C). The committee also suggested that if there is to be a deviation from these guidelines, there should be a rationale for that deviation. The recommended changes are:

1. **Admission Requirement**: Addition of a writing sample and the elevation of the TOFOL score to 550.

2. **Special Admissions**: For individuals who want continuing education, but will not become candidates for a degree.

3. **College Graduate Committee**: As more programs are developed, the University needs some way to coordinate efforts and plans. Each college should have a graduate committee to oversee, nurture and aid all graduate programs in that college.

4. **At IV**, no more than 6 hours can or should be independent study and/or special topics unless there is a rationale for it.

5. **Other Requirements**: Alternatives to the thesis, and having these papers professionally bound and on record at the Library. The time limit was changed to 5 years from 6 years.

6. Appendices were included as examples.

Motion by Senator Valas, with support by **Senator Papo** that the Academic Senate accept the document "University Guidelines for Developing Graduate Programs" as a revision to prior Guidelines approved by the Senate. **Senator Hanna** suggested the insertion of *"or as determined appropriate by individual college"* in number 8, after the word doctorate. After a lengthy question and answer period, **Senator Papo** called the question, with support from **Senator Pilgrim.** President Key then stated the document was presented under "Committee Reports", not as new business or old business, and therefore, the motion to accept was out of order.

DRAFT

VI. Old Business

Academic Program Review - Senator Green, with support from **Senator Konrad**, moved to approve the APRC's recommendation to close the Dental Technology Program. After lengthy discussion, **Senator Nagel calls the question.** Question passes unanimously. After a voice vote, President Key calls for a show of hands. Yeas - 6 votes, nays - 17 votes, motion fails.

IX. President Key adjourned the meeting at 11:58 pm.

Respectfully Submitted,

_____
John Kane, Secretary

Approved,

_____
Greg Key, President

FERRIS STATE UNIVERSITY

MEMORANDUM

TO: President William A. Sederburg

FROM: Joe Chartkoff, Interim Vice President for Academic Affairs JEC

SUBJECT: VPAA Recommendation Concerning Academic Senate Vote on APRC Recommendation to Close Dental Technology Program

DATE: April 8, 1998

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Based on these reviews, and in consideration of many thoughtful perspectives on the substantial number of issues involved, I have developed a recommendation to provide to you. In overall consideration, I find myself in support of the recommendation of the Academic Program Review Council that the Dental Technology Program be closed.

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2. In contrast to programs elsewhere in the University, this program has not developed an effective student recruiting strategy even though the need to do so has been evident for several years and resources to do so have been made available. Neither has the program developed an effective relationship with the industry and employers to gain sufficient support and endorsement of the training program and its value.

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Phone 616 592-2300 Fax 616 592-3592

3. The economic burden to the University for the support of a program with a very high cost for providing the program to a small and declining number of students should not be the ruling criterion but remains undeniably significant for responsible decision-making. This particular program is distinctive in that its faculty do not provide service instruction to other programs, so its value remains narrowly defined. As a way to provide good education to students, it is much less productive than many other approaches even though its instructors are highly appreciated. Given the extremely finite nature of University resources, this direction seems considerably less productive than other directions the College of Allied Health Sciences could be following. The program in its current form would need to triple its enrollment in order to become self-sustaining. There is no sign that such growth is planned or thought possible.

4. The PRP and the Dental Technology faculty have recommended that the program be relocated to FSU/Grand Rapids in order to gain access to a much larger potential student market. The population and business attractiveness of Grand Rapids is undeniable. At the same time, the movement of the program would involve the University expending at least $50,000 to build appropriate lab facilities for annual entering classes currently on the order of 12 students or less per year. At the same time, there is no reliable information to indicate that many more students would be persuaded to spend $8000-$15,000 for two years of college when they can receive on-the-job training paid by their employer at almost the same salary level as students receiving the AA degree are offered. In contrast to the market analyses done by other programs that have moved or are planning to move into Grand Rapids, the Dental Technology program appears not to have done the market analysis needed to show that it has the demand, advantage and industry support needed to make the proposed move an effective one.

FERRIS STATE UNIVERSITY

MEMORANDUM

TO: President William A. Sederburg

FROM: Joe Chartkoff, Interim Vice President for Academic Affairs

SUBJECT: Academic Senate Vote on APRC Recommendation to Close Dental Technology Program

DATE: April 8, 1998

Yesterday the Academic Senate met and considered the revised report from the Academic Program Review Council concerning the future of the Dental Technology Program. Prof. Douglas Haneline, Chair of the APRC, reported to the Senate that his committee concluded after additional study that the program should be closed. As reported in the Senate's Minutes (attached), the Senate voted 17 to 6 against suuporting that recommendation.

Prof. Haneline has circulated a memorandum this morning (attached) which outlines procedures to be followed in the event that the Academic Senate does not accept a recommendation from APRC regarding the future of a program. Following this set of procedures, the first step has already been taken. Senate President Gregory Key has communicated the decision of the Senate to the office of the Vice President for Academic Affairs. At this point, the VPAA is required to consider the recommendations of the Senate, the APRC and the PRP, and based on them to make a recommendation to you. My recommendation is presented below.

On receipt of this recommendation, you are called upon to make your own recommendation in the matter. If your recommendation differs from that of the Senate, and since the case involves a program discontinuation, a conference committee needs to be formed, following Sec. 8 of the Senate Charter.

Because of the tight schedule between now and the next Board of Trustees meeting of May 8, and the Academic Affairs/Student Affairs Committee of the Board which meets April 29, I have discussed the steps needed to expedite the formation and work of such a committee, if needed, with Senate President Key. President Key will be prepared, if necessary, to go to the Senate Executive Committee as early as next Monday (April 13) to request the appointment of three faculty members to a conference committee. I will be prepared to provide suggestions at the same time of the names of three administration representatives to form the remainder of the committee.

OFFICE OF THE VICE PRESIDENT
FOR ACADEMIC AFFAIRS
1349 Cramer Circle, Bishop 408, Big Rapids, MI 49307-2737
Phone 616 592-2300 Fax 616 592-3592

The committee will be asked to review the relevant documents and to issue its report in time for the April 28 meeting of the Senate. The Senate's response and your own can be conveyed to the Academic Affairs/Student Affairs Committee of the Board the next day. All parties desire that the final resolution be determined and communicated to all affected individuals at the earliest effective opportunity.

CC: Prof. Gregory Key, President, Academic Senate
Prof. Douglas Haneline, Chair, Academic Program Review Council

FSUNOTES1
04/08/98 09:52 AM

Sent by: Douglas Haneline

Gregory W Key/FSU@Ferris, Joe L Chartkoff/FSU@Ferris, William A Sederburg/FSU@Ferris
Mary R Murnik/FSU@Ferris, Cynthia K Konrad/FSU@Ferris, Norwood R Neumann/FSU@Ferris, Vincent M King/FSU@Ferris, David J Hanna/FSU@Ferris, Gary L Ovans/FSU@Ferris, Karen Norman/FSU@Ferris, Walter J Short/FSU@Ferris, Michael A Cairns/FSU@Ferris
dental tech recommendations

Now that the Academic Senate has voted not to accept the recommendations of APRC regarding the A.A.S. program in Dental Technology, the program review process moves forward in this manner:

- The Academic Senate makes its recommendation to the VPAA.
- The VPAA, taking into consideration the recommendations of the Senate, the APRC, and the PRP, makes a recommendation to the University President.
- The President prepares a recommendation on the matter. If his recommendation differs from the Senate's and if the recommendation involves program reduction or discontinuation, then a conference committee needs to be formed. Section 8 of the Senate charter speaks to this.

If the Board is to act on this matter at its May 8 meeting, then these steps must be taken expeditiously.

FERRIS STATE UNIVERSITY

MEMORANDUM

TO: Vice President Chartkoff

FROM: Greg Key, President, Academic Senate

SUBJECT: **Dental Technology**

DATE: April 8, 1998

On Tuesday, April 8, 1998, the Academic Senate voted not to accept the recommendation of the APRC regarding the closure of the Dental Technology program. The vote was 6 yeas, 17 nays.

I have attached a draft copy of the minutes of that meeting for your information.

GK:phk

ACADEMIC SENATE
901 S. State Street, Big Rapids, MI 49307-2251
Phone 616 592-2691

040898

Ferris State University
Academic Senate Meeting
Tuesday, April 7, 1998 - 10:00 a.m.

DRAFT

I. **Call to Order:** President Key called the meeting to order at 10:05 am in the President's Room.

II. **Attendance**

Senators Present: Abbasabadi, Anderson, Bonning, Conati, Dakkuri, Etienne, Green, Hanna, Hastings-Bishop, Heidemann, Holihan, Huey, Jackson, Kane, Key, Klope, Konrad, Kowalkoski, Krumins, Lovsted, Maas, Nagel, Nikkari, Papo, Pilgrim, Rupe, Ryan, Rye, Shepler, Smith, Squicciarini, Stephen, Valas.

Senators Absent. Adewusi, Klope, Kowalkoski (excused), Maas (excused), Nista (excused), Saladin (excused), Wininger (excused).

Guests. Joe Chartkoff, Tom Oldfield, Elizabeth Hansen, Rose Ann Swartz, Doug Haneline, Deborah Sokoloski, Mary Waldron, Dale Harrison, Richard Hewer, Ron Greenfield

III. **Approval of March 3, 1998, minutes.** Minutes accepted as written.

IV. **Open Forum -** President Key that the document labeled **Post Tenure Review Policy and Procedures** (Attachment A) would not be voted on at this meeting. It was decided that additional Senate meetings will be held on Wednesday, April 15 (Centennial Dining Room, Rankin Center) and Wednesday, April 22 (Pharmacy 101), from 7-9 p.m. each evening.

V. **Committee Reports**

A. **Senate Governance Committee - Senator Heidemann -** As a result of meetings with the Vice Presidents, Senator Heidemann has been placed on the University Planning Committee and a sub-committee dealing with "Quality Circles", with the idea of facilitating communication. Also, meetings in at least one college is regularly scheduling meetings on the fourth Tuesday which is supposed to be used for University Wide Committee meetings.

B. **University Curriculum Committee - Senator Lovsted -** See **Attachment B** for items pending.

C. **Senate Elections Committee - Senator Nagel -** The committee is still working on revising the charter. The committee has been unable to reach

a consensus on some matters. Consensus will be reached before bringing the charter to the Senate.

A special election was held for the University College under the provisions of the charter. A couple of problems did arise and will be resolved in the revised charter.

D. **Graduate Guidelines Committee - Dr. Rose Ann Swartz** - The prior guidelines were used, with some changes (Attachment C). The committee also suggested that if there is to be a deviation from these guidelines, there should be a rationale for that deviation. The recommended changes are:

1. **Admission Requirement**: Addition of a writing sample and the elevation of the TOFOL score to 550.

2. **Special Admissions**: For individuals who want continuing education, but will not become candidates for a degree.

3. **College Graduate Committee**: As more programs are developed, the University needs some way to coordinate efforts and plans. Each college should have a graduate committee to oversee, nurture and aid all graduate programs in that college.

4. **At IV**, no more than 6 hours can or should be independent study and/or special topics unless there is a rationale for it.

5. **Other Requirements**: Alternatives to the thesis, and having these papers professionally bound and on record at the Library. The time limit was changed to 5 years from 6 years.

6. Appendices were included as examples.

Motion by Senator Valas, with support by **Senator Papo** that the Academic Senate accept the document "University Guidelines for Developing Graduate Programs" as a revision to prior Guidelines approved by the Senate. **Senator Hanna** suggested the insertion of *"or as determined appropriate by individual college"* in number 8, after the word doctorate. After a lengthy question and answer period, **Senator Papo** called the question, with support from **Senator Pilgrim.** President Key then stated the document was presented under "Committee Reports", not as new business or old business, and therefore, the motion to accept was out of order.

DRAFT

VI. Old Business

Academic Program Review - Senator Green, with support from **Senator Konrad**, moved to approve the APRC's recommendation to close the Dental Technology Program. After lengthy discussion, **Senator Nagel calls the question.** Question passes unanimously. After a voice vote, President Key calls for a show of hands. Yeas - 6 votes, nays - 17 votes, motion fails.

IX. President Key adjourned the meeting at 11:58 pm.

Respectfully Submitted,

_____

John Kane, Secretary

Approved,

_____

Greg Key, President

FSUNOTES1
03/05/98 10:25 AM

Sent by: Douglas Haneline

To: Roger A Daugherty/FSU@Ferris, Mary K Waldron/FSU@Ferris, Deborah S Sokoloski/FSU@Ferris, Dale W Harrison/FSU@Ferris

cc:

Subject: Suggestions for DT Report

Dear Colleagues--

I want to begin by saying once again how much optimism this document gives me about the future of DT. What follows are some suggestions to improve the document.

Format

- number the pages and use a running head
- create a cover sheet
- number the sections and use headings and subheadings
- integrate the graphs in to the text and number
- include a table of contents

Content

- the report needs an executive summary, a kind of introduction, that pulls it all together and shows how (1) the proposal answers questions raised in the review process and in doing so (2) reinvents a DT program that meets the needs of the students, the profession, the workplace/industry, and the university: multiple entry points into the program, certificates, location in an urban area nearer heavily populated areas, program cost reduction, strong support from industry.
- regarding your lab needs in GRR, be specific about your needs, but you should also point out that your departure from BR would free up badly needed space in the VFS building.
- indicate your plan for administrative support; point out that DT could be part of a cluster of FSU programs that might be centered in GRR.
- identify not just the number of FTE but also the capacity of the program; make a cost/revenue calculation for the certificates and the degree program
- I think you should ask for three years to make the thing work.

I hope these comments help.

Doug Haneline

Dental Technology

APRC 1997-1998

Section 5 of 5

Course ID	FSU Teaching Cost	SCH	$$/SCH	Credits	Prog Teaching cost	
CHEM 103	$ 55,923.19	924	$ 60.52	3	$ 181.57	
CULTELE	$ 1,406,110.14	17010	$ 82.66	3	$ 247.99	
DTEC 105	$ 10,199.77	60	$ 170.00	3	$ 509.99	
DTEC115	$ 26,287.49	160	$ 164.30	8	$ 1,314.37	
DTEC125	$ 818.78	20	$ 40.94	1	$ 40.94	
DTEC126	$ 7,961.73	60	$ 132.70	3	$ 398.09	
DTEC127	$ 15,923.46	120	$ 132.70	6	$ 796.17	
DTEC238	$ 32,122.77	80	$ 401.53	4	$ 1,606.14	
DTEC239	$ 13,599.69	80	$ 170.00	4	$ 679.98	
DTEC245	$ 4,957.70	40	$ 123.94	2	$ 247.89	
DTEC246	$ 7,436.66	60	$ 123.94	3	$ 371.83	
DTEC250	$ 1,637.55	40	$ 40.94	2	$ 81.88	
DTEC292	$ 14,873.11	120	$ 123.94	6	$ 743.66	
ENGL150	$ 629,538.44	5982	$ 105.24	3	$ 315.72	
ENGL250	$ 421,957.07	4101	$ 102.89	3	$ 308.67	
MATH110	$ 412,498.12	6412	$ 64.33	4	$ 257.33	
SOCELE	$ 1,460,131.13	19984	$ 73.07	3	$ 219.20	
					$ 8,321.41	TOTAL
					$ 161.69	PROG
					$ 136.42	TOTAL/SCH

Isabel J Barnes
03/20/98 11:22 AM

To: Douglas Haneline/FSU@Ferris
cc: Dale W Harrison/FSU@Ferris, Roger A Daugherty/FSU@Ferris
Subject: Moving costs for DT Labs

FYI

Isabel

---------- Forwarded by Isabel J Barnes/FSU on 03/20/98 11:14 AM ----------

Stephen J Perialas

03/20/98 10:58 AM

To: Isabel J Barnes/FSU@Ferris
cc: Dale W Harrison/FSU@Ferris
Subject: Moving costs for DT Labs

In a meeting with Mike Hughes on March 20, 1998, it was established that the costs to move the Dental laboratory equipment to Grand Rapids would fall in the range of 40 to 50 k depending on the location and utility services available at the new site. This is a fairly good SWAG figure..

Isabel J Barnes
03/25/98 08:50 AM

To: Douglas Haneline/FSU@Ferris
cc:
Subject: Re: dental tech info

Enrollment figures: Furnished to the program and me by Dale

YEar	enrollment
1988	61
1989	55
1990	48
1991	42
1992	31
1993	40
1994	40
1995	26
1996	22
1997	27

It will take a bit longer to do the calculations.

On another subject, I will be meeting with Al Lewis next week. What did the APRC have in mind in regard to a feasibility study of moving the program to Allied Health?

Isabel

Isabel J Barnes
03/19/98 02:01 PM

To: Douglas Haneline/FSU@Ferris
cc: Roger A Daugherty/FSU@Ferris, Dale W Harrison/FSU@Ferris
Subject: Calculation

Doug -

Here are the cost figures we discussed. They are based on the 2.3 FTE faculty that would be required for the program.

Please let me know if I can provide any additional information.

Isabel

---------- Forwarded by Isabel J Barnes/FSU on 03/19/98 01:51 PM ----------

Kathy M Holz
03/19/98 11:18 AM

To: Isabel J Barnes/FSU@Ferris
cc:
Subject: Calculation

$90,754	teaching cost for 2 full-time faculty
30,857	benefit package (34%)
13,428	S&E Budget (FY 96/97)
4,640	2 semester/0.33 FTE SUPP FAC according to the pay schedule for part-time
$139,679	total

Isabel J Barnes
03/25/98 10:00 AM

To: Douglas Haneline/FSU@Ferris
cc: Dale W Harrison/FSU@Ferris, Roger A Daugherty/FSU@Ferris
Subject: Re: dental tech info

Cost recalculation -

I agree with you regarding the total cost of the program at $136/SCH assuming that there were 20 students in each class and that no dental technology overloads were needed. However, when I recalculated the dental technology program costs, I got $$161/program SCH.

I will try to attache the file in excel but I have office 97 and I am not sure you will be able to read it. I can fax you a hard copy.

Isabel

DT COSTS.xls

Partial Denture Technician (Portfolio)

Potential Credit Granted for a Partial Denture Technician:

DTEC 125, Dental Anatomy
DTEC 239, Partial Denture Prosthodontics
DTEC 292, Dental Technology Internship
*DTEC 245, Dental Laboratory Management
(*if holds management position in laboratory)
*DTEC 246, Prosthodontic Specialties

If Certified Dental Technician (CDT) in Partial Dentures:
All of Above
+DTEC 105, Tooth Morphology
+DTEC 250, Dental Technology Seminar

If **CDT**: Must complete the following:
DTEC 115, Intro. to Dental Prosthodontics (*or equivalent)
DTEC 126, Ortho. & Pedo. (*or equivalent)
DTEC 127, Fixed Prosthodontics (*or equivalent)
DTEC 238, Ceramics (*or equivalent)
DTEC 245, Dental Laboratory Management (*if does not hold mgt. position in laboratory)
DTEC 250, Dental Technology Seminar
ENGL 150, English 1
ENGL 250, English 2
MATH 110, Fund. of Algebra (**or equivalent)
CHEM 103 OR CHEM 114 OR CHEM 121
Social Awareness Elective
Cultural Enrichment Elective

If **NOT CDT**: Must complete the following:
DTEC 105, Tooth Morphology (*or equivalent)
DTEC 115, Intro. to Dental Prosthodontics (*or equivalent)
DTEC 126, Ortho. & Pedo. (*or equivalent)
DTEC 127, Fix. Prostho. (*or equivalent)
DTEC 238, Ceramics (*or equivalent)
DTEC 245, Dental Laboratory Management (*if does not hold mgt. position in laboratory)
DTEC 250, Dental Technology Seminar
ENGL 150, English 1
ENGL 250, English 2
MATH 110, Fund. of Algebra (**or equivalent)
CHEM 103 OR CHEM 114 OR CHEM 121
Social Awareness Elective
Cultural Enrichment Elective

*Equivalent: Supervised and documented employment experience.
**Equivalent: Math subscore of 19 on ACT.

Orthodontic Technician (Portfolio)

Potential Credit Granted for an Orthodontic Technician:

DTEC 125, Dental Anatomy
DTEC 126, Orthodontics and Pedodontics
DTEC 292, Dental Technology Internship
*DTEC 245, Dental Laboratory Management
(*if holds management position in laboratory)
*DTEC 246, Prosthodontic Specialties

If Certified Dental Technician (CDT) in Orthodontics:
All of Above
+DTEC 105, Tooth Morphology
+DTEC 250, Dental Technology Seminar

If **CDT**: Must complete:
DTEC 115. Intro. to Dental Prosthodontics (*or equivalent)
DTEC 238, Ceramics (*or equivalent)
DTEC 127, Fix. Prostho. (*or equivalent)
DTEC 238, Ceramics (*or equivalent)
DTEC 239, Partial Denture Prosthodontics (*or equivalent)
*DTEC 245, Dental Laboratory Management (*if does not hold mgt. position in laboratory)
ENGL 150, English 1
ENGL 250, English 2
MATH 110, Fund. of Algebra (**or equivalent)
CHEM 103 OR CHEM 114 OR CHEM 121
Social Awareness Elective
Cultural Enrichment Elective

If **NOT CDT**: Must complete
DTEC 105, Tooth Morphology (*or equivalent)
DTEC 115, Intro. to Dental Prosthodontics
DTEC 127, Fix, Prostho. (*or equivalent)
DTEC 238, Ceramics (*or equivalent)
DTEC 239, Partial Denture Prosthodontics (*or equivalent)
*DTEC 245, Dental Laboratory Management (*if does not hold mgt. position in laboratory)
DTEC 250, Dental Technology Seminar
ENGL 150, English 1
ENGL 250, English 2
MATH 110, Fund. of Algebra (**or equivalent)
CHEM 103 OR CHEM 114 OR CHEM 121
Social Awareness Elective
Cultural Enrichment Elective

*Equivalent: Supervised and documented employment experience.
** Equivalent: Math subscore of 19 on ACT.

Crown and Bridge and Ceramic Technician (Portfolio)

There is also the potential for a dual-qualified technician with experience in two specialties. An example of a technician who is qualified in crown and bridge and ceramics:

Potential Credit Granted for a Crown and Bridge and Ceramic Technician:

DTEC 105, Tooth Morphology
DTEC 127, Fixed Prosthodontics
DTEC 239, Ceramics
DTEC 292, Dental Technology Internship
*DTEC 245, Dental Laboratory Management
(*if holds management position in laboratory)
*DTEC 246, Prosthodontic Specialties

If Certified Dental Technician (CDT) in Crown and Bridge and Ceramics:
All of Above
+ DTEC 125, Dental Anatomy
+DTEC 250, Dental Technology Seminar

If **CDT**: Must complete the following:
DTEC 115, Intro. to Dental Prosthodontics (*or equivalent)
DTEC 126, Ortho. & Pedo. (*or equivalent)
DTEC 239, Partial Denture Prosthodontics (*or equivalent)
DTEC 245, Dental Laboratory Management (*if does not hold mgt. position in laboratory)
ENGL 150, English 1
ENGL 250, English 2
MATH 110, Fund. of Algebra (**or equivalent)
CHEM 103 OR CHEM 114 OR CHEM 121
Social Awareness Elective
Cultural Enrichment Elective

If **NOT CDT**: Must complete the following:
DTEC 115, Intro. to Dental Prosthodontics (*or equivalent)
DTEC 125, Dental Anatomy
DTEC 126, Ortho. & Pedo. (*or equivalent)
DTEC 239, Partial Denture Prosthodontics (*or equivalent)
DTEC 245, Dental Laboratory Management (*if does not hold mgt. position in laboratory)
DTEC 250, Dental Technology Seminar
ENGL 150, English 1
ENGL 250, English 2
MATH 110, Fund. of Algebra (**or equivalent)
CHEM 103 OR CHEM 114 OR CHEM 121
Social Awareness Elective
Cultural Enrichment Elective

*Equivalent: Supervised and documented employment experience.
** Equivalent: Math subscore of 19 on ACT.

Appendix 4: DTEC 105, DTEC 115, DTEC 125, and DTEC 127 Course Outlines

FERRIS STATE UNIVERSITY
DENTAL TECHNOLOGY
FALL SEMESTER

COURSE OUTLINE

COURSE TITLE: DTEC 105, Tooth Morphology

CREDIT HOURS: 3 Semester Hours (2+2)

REVISED: August 21, 1997

PREREQUISITES: Admission to Dental Technology Program or permission of instructor.

COURSE DESCRIPTION:

An introduction to dental nomenclature and tooth development, to include: eruption, exfoliation, anatomic form, contour, function and esthetics. It will also discuss types of restorations, identification systems, oral phenomena and occlusion.

TEXTS REQUIRED:

Anatomy of Orofacial Structures, Brand, Richard W., B.S., D.D.S., F.A.C.D., & Isslehard, Donald E., B.S. C.V. Mosby Co., St. Louis, MO, 4th Edition.

TEACHING METHODS:

Lecture, demonstration, audiovisuals, and individual instruction.

EVALUATION:

A. Lecture

A point system is utilized and students are assigned a grade for lecture which is based on a percentage of the total points allocated for quizzes and examinations during the semester.

B. Laboratory

A point system is utilized and points are assigned for each project required in a course. Quizzes given in laboratory session may be included in this point system.

"Time is a criteria for laboratory grades; all graded projects will have due dates." Each student will be required to turn in their projects on date due. The projects will then be evaluated and a grade determination made.

C. Point System

Students are assigned a grade for the course based on a percentage of points achieved. Students must achieve a minimum of 73% in both lecture and laboratory to receive a satisfactory grade for this course.

93 – 100 = A	80 - 82 = B-	67 - 69 = D+
90 - 92 = A-	77 - 79 = C+	63 - 66 = D
87 - 89 = B+	73 - 76 = C	60 - 62 = D-
83 - 86 = B	70 - 72 = C-	0 - 59 = F

D. Methods of Evaluation

1. Laboratory projects are assigned with due dates and evaluated on a point system.
2. Announced and unannounced quizzes
3. Practical examinations
4. Final examination

E. Attendance is essential; any absenteeism may have an effect on a student's grade. You must be present when any testing is being administered in order to take the test and receive credit for it. If there is an absence, it is the responsibility of the student to see their instructor the day they return as to the material missed.

CONFERENCES: Instructors are available for conferences during scheduled office hours and by appointment.

SAFETY: All students must be aware and practice the procedures in the safety handout in each course.

GENERAL OBJECTIVES:

Upon completion of this course, the student will be able to demonstrate a knowledge, by definition, discussion and identification of:

1. Dental tooth anatomy
2. Interrelationship of teeth and their supporting structures

SPECIFIC OBJECTIVES:

Upon completion of this course, the student will identify and describe:

1. The tooth, its tissues, roots and crown aspects.
2. Functions of individual teeth, sizes, shapes and locations.
3. Tooth surfaces, line angles, point angles, and the divisions of teeth.
4. Landmarks and anatomy of individual teeth and their functions.
5. Effects and relationships of tooth contour, alignment, contacts and embrasures.

6. Dentitions, naming and coding systems.

7. Development, form and eruption of teeth.

8. Occlusion, occlusal relationships, clinical considerations and oral phenomena.

9. Supporting structures, tissues and their relationships to the tooth.

10. Dental anomalies.

11. Demonstrate knowledge and skill in a laboratory setting meeting dental technology requirements.

30 Total Hours Lecture Instruction

30 Total Hours Laboratory Instruction

1 Hour Examination

FERRIS STATE UNIVERSITY
DENTAL TECHNOLOGY
FALL SEMESTER

COURSE OUTLINE

COURSE TITLE: DTEC 115, Complete Denture Prosthodontics

CREDIT HOURS: 8 Semester Hours (4+15)

REVISED: April 30, 1995

PREREQUISITES: Admission to Dental Technology Program

COURSE DESCRIPTION: A lecture/laboratory course to introduce the student to dental laboratory techniques and dental materials required for fabrication of removable complete dentures. Also covered will be the specialties of dentistry, asepsis requirements and techniques, and laboratory safety rules and their relation to MIOSHA. Laboratory procedures will include the fabrication of dental devices and complete dentures. Emphasis on the safe use and care of laboratory instruments and equipment.

TEXTS REQUIRED: Dental Laboratory Technology, Basic Sciences, AF Pamphlet 162-6, Volume I, May 30, 1991. Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402-9325.

Dental Laboratory Technology, Removable Prosthodontics, AF Pamphlet 162-6, Volume II, December 15, 1991, Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 29402-9325.

TEACHING METHODS: Lecture, demonstration, audiovisuals, and individual instruction.

EVALUATION:

A. Lecture

A point system is utilized and students are assigned a grade for lecture which is based on a percentage of the total points allocated for quizzes and examinations during the semester.

B. Laboratory

A point system is utilized and points are assigned for each project required in a course. Quizzes given in laboratory session may be included in this point system.

"Time is a criteria for laboratory grades; all graded projects will have due dates." Each student will be required to turn in their projects on the date due. The projects will then be evaluated and a grade determination made.

C. Point System

Students are assigned a grade for the course based on a percentage of points achieved. Students must achieve a minimum of 70% in both lecture and laboratory to receive a satisfactory grade for this course.

93 - 100 = A	80 - 82 = B-	67 - 69 = D+
90 - 92 = A-	77 - 79 = C+	63 - 66 = D
87 - 89 = B+	73 - 76 = C	60 - 62 = D-
83 - 86 = B	70 - 72 = C-	0 - 59 = F

D. Methods of Evaluation

1. Laboratory projects are assigned with due dates and evaluated on a point system.
2. Announced and unannounced quizzes
3. Practical examinations
4. Mid-term examination
5. Final examination

E. Attendance is essential; any absenteeism may have an effect on a student's grade. You must be present when any testing is being administered in order to take the test and receive credit for it. If there is an absence, it is the responsibility of the student to see their instructor the day they return as to the material missed.

F. This class will meet on the first three days of examination week at its normal times. Students who have conflicting scheduled examinations in other courses will be excused from attending this class during the portion of the class that the examination takes place.

CONFERENCES: Instructors are available for conferences during scheduled office hours and by appointment.

SAFETY: All students must be aware and practice the procedures in the safety handout in each course.

GENERAL OBJECTIVES:

1. Upon completion of this course, the student will have a knowledge of asepsis procedures, safety practices and the materials used, and the procedures required for fabricating dental devices and appliances.

2. The student will be able to demonstrate his/her theoretical knowledge and ability to utilize concepts and skills related to dental technology.

3. The concepts and theories of construction of dental devices and complete removable prosthodontics.

4. Occlusal concepts as related to complete dentures.

5. Oral landmarks as related to complete dentures.

SPECIFIC OBJECTIVES: LECTURE

Upon completion of this course, the student will satisfactorily demonstrate a theoretical knowledge to:

1. Work safely in the dental laboratory with relation to MIOSHA.
2. Perform asepsis techniques required with the handling of dental related items.
3. Identify the specialties of dentistry.
4. Interpret a prescription for a removable complete denture.
5. Pour preliminary models.
6. Fabricate vacuum plastic and acrylic resin custom trays.
7. Bead, box and pour final impressions.
8. Identify oral landmarks and tooth identification.
9. Fabricate vacuum plastic and shellac resin baseplates for edentulous and partially dentulous arches.
10. Fabricate occlusion rims to proper dimension for edentulous and partially dentulous arches.
11. Articulate various models on both non-adjustable and semi-adjustable articulators.
12. Set various forms of anterior and posterior teeth.
13. Wax-up, contour and festoon denture bases.
14. Process and finish heat cured resin complete dentures.
15. Equilibrate a complete denture in centric and lateral excursive movements.
16. Post-dam a complete denture.
17. Repair a complete denture.
18. Rebase a complete denture.
19. Reline a complete denture.
20. Fabricate an immediate denture.
21. Fabricate an overdenture.
22. Identify and describe various types of complete dentures and their uses.
23. Construct mouthguards.

24. Identify the American Dental Association specifications and methods of testing dental materials.

25. Identify the biological, chemical, mechanical and physical properties of dental materials associated with dental devices and complete denture prosthodontics.

26. Describe the manufacture, storage and setting of gypsum products.

27. Describe the uses, composition, and setting reaction of impression materials.

28. Identify the composition and use of dental waxes.

29. Identify the composition and use of separators.

30. Identify the factors affecting the rate of abrasion used to finish dental devices and appliances.

31. Describe the composition, use and setting reaction of dental plastics.

60 Total Hours Lecture Instruction

1 Hour Examination

SPECIFIC OBJECTIVES: LABORATORY

The student will be able to successfully demonstrate the technical ability to complete the procedural steps to:

1. Pour preliminary models through manipulation of gypsum products.

2. Fabricate vacuum plastic and acrylic resin custom trays.

3. Bead, box and pour final impressions.

4. Fabricate vacuum plastic and shellac resin baseplates for edentulous arches.

5. Fabricate occlusion rims to proper dimension for edentulous arches.

6. Articulate various models on both non-adjustable and semi-adjustable articulators.

7. Set-up various forms of anterior and posterior teeth on maxillary and mandibular complete dentures.

8. Wax-up, contour and festoon maxillary and mandibular complete denture bases.

9. Invest, process, deflask, remount, equilibrate and finish maxillary and mandibular complete dentures.

10. Construct mouthguards.

180 Total Hours Laboratory Instruction

Evaluation will be accomplished upon the completion of each project.

FERRIS STATE UNIVERSITY
DENTAL TECHNOLOGY
FALL SEMESTER

COURSE OUTLINE

COURSE TITLE: DTEC 125, Dental Anatomy

CREDIT HOURS: 1 Semester Hour (1+0)

REVISED: April 30, 1995

PREREQUISITES: DTEC 105 or permission of instructor.

COURSE DESCRIPTION: Designed to instruct the student in head and oral anatomy including the temporomandibular joint, bones of the skull and face, muscles of mastication and facial expression, nerves, tissues, and their inter-relationships.

TEXTS REQUIRED: Anatomy of Orofacial Structures, Brand, Richard W., B.S., D.D.S., F.A.C.D., and Isslehard, Donald E., B.S. C.V. Mosby Co., St. Louis, MO, 4th Edition.

Dental Laboratory Technology, Basic Sciences, AF Pamphlet 162-6, Volume I, May 30, 1991. Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402-9325.

TEACHING METHODS: Lecture, discussion and audiovisuals.

EVALUATION:

A. Lecture

A point system is utilized and students are assigned a grade for lecture which is based on a percentage of the total points allocated for quizzes and examinations during the semester.

B. Point System

93 - 100 = A	80 - 82 = B-	67 - 69 = D+
90 - 92 = A-	77 - 79 = C+	63 - 66 = D
87 - 89 = B+	73 - 76 = C	60 - 62 = D-
83 - 86 = B	70 - 72 = C-	0 - 59 = F

C. Methods of Evaluation

1. Announced and unannounced quizzes
2. Midterm examination
3. Final examination

D. Attendance is essential; any absenteeism may have an effect on a student's grade. You must be present when any testing is being administered in order to take the test and receive credit for it. If there is an absence, it is the responsibility of the student to see their instructor the day they return as to the material missed.

CONFERENCES: Instructors are available for conferences during scheduled office hours and by appointment.

SAFETY: All students must be aware and practice the procedures in the safety handout in each course.

GENERAL OBJECTIVES:

Upon completion of this course, the student will be able to demonstrate a knowledge, by definition, discussion and identification of dental:

1. head and oral anatomy.
2. interrelationship of bones, muscles, teeth and mucosa.

SPECIFIC OBJECTIVES:

Upon completion of this course, the student will identify and describe:

1. The osteology of the skull to include the bony anatomy of the maxilla and mandible.
2. The muscles of mastication and their actions.
3. The depressors of the mandible.
4. The temporomandibular joint and the functional movements of the mandible.
5. List the prominent features of the oral cavity.
6. Name those structures and/or muscles responsible for determining maxillary and mandibular complete denture borders.
7. The functions of the oral mucous membrane, tongue, salivary glands and other oral landmarks as they relate to mastication.
8. The soft tissue anatomy of the oral cavity.

15 Total Hours Instruction

1 Hour Examination

FERRIS STATE UNIVERSITY
DENTAL TECHNOLOGY
FALL SEMESTER

COURSE OUTLINE

COURSE TITLE: DTEC 127, Introduction to Fixed Prosthodontics

CREDIT HOURS: 6 Semester Hours (3+10)

REVISED: April 30, 1995

PREREQUISITES: DTEC 105 and DTEC 126, or permission of instructor

COURSE DESCRIPTION: A ten week lecture/laboratory course in the practical application and theories of fabricating fixed prosthodontic appliances, and the materials required for their construction. Laboratory procedures to include the fabrication of crowns, inlays and onlays, spruing, casting, finishing and polishing of fixed prostheses, and soldering and repair of fixed prostheses.

TEXTS REQUIRED: Dental Laboratory Technology, Fixed and Special Prosthodontic and Orthodontic Appliances, AF Pamphlet 162-6, Volume III, October 15, 1991. Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402-9325.

TEACHING METHODS: Lecture, demonstration, audiovisuals, and individual instruction.

EVALUATION:

A. Lecture

A point system is utilized and students are assigned a grade for lecture which is based on a percentage of the total points allocated for quizzes and examinations during the semester.

B. Laboratory

A point system is utilized and points are assigned for each project required in a course. Quizzes given in laboratory session may be included in this point system. "Time is a criteria for grades. All graded projects will have due dates." Each student will be required to turn in their project on the date due. The project will then be evaluated and a grade determination made.

C. Point System

Students are assigned a grade for the course based on a percentage of points achieved. Students must achieve a minimum of 70% in both lecture and laboratory to receive a satisfactory grade for this course.

93 - 100 = A	80 - 82 = B-	67 - 69 = D+
90 - 92 = A-	77 - 79 = C+	63 - 66 = D
87 - 89 = B+	73 - 76 = C	60 - 62 = D-
83 - 86 = B	70 - 72 = C-	0 - 59 = F

D. Methods of Evaluation

1. Laboratory projects are assigned with due dates and evaluated on a point system.
2. Announced and unannounced quizzes
3. Practical examinations
4. Midterm examination
5. Final examination

E. Attendance is essential; any absenteeism may have an effect on a student's grade. You must be present when any testing is being administered in order to take the test and receive credit for it. If there is an absence, it is the responsibility of the student to see their instructor the day they return as to the material missed.

F. This class will meet on the first three days of examination week at its normal times. Students who have conflicting scheduled examinations in other courses will be excused from attending this class during the portion of the class that the examination takes place.

CONFERENCES: Instructors are available for conferences during scheduled office hours and by appointment.

SAFETY: All students must be aware and practice the procedures in the safety handout in each course.

GENERAL OBJECTIVES: LECTURE

Upon completion of this course, the student will satisfactorily demonstrate his/her knowledge of the concepts and theories of construction of fixed prosthodontics and the materials associated with heir fabrication.

SPECIFIC OBJECTIVES: LECTURE

Each student will be able to demonstrate his/her theoretical knowledge to:

1. Describe the biological, chemical, mechanical and physical properties of dental materials associated with fixed prosthodontics.

2. Identify the metallurgical properties of gold foil and gold alloys, i.e., the fundamental concepts of metallurgy, tarnish, corrosion, composition and classification of these metals.

3. Identify the composition and use of casting investments.

4. Identify the factors affecting the rate of abrasion used to finish fixed restorations.

5. Identify the composition of precious and non-precious solders and techniques for soldering and welding.

6. Interpret a prescription for a fixed restorative appliance and identify treatment plans.

6. Troubleshoot problems in crown and bridge.

7. Fabricate acrylic provisional restoration.

8. Fabricate restorations on various types of articulators.

9. Develop functional occlusion on full-arch articulated casts.

10. Construct proper designs in pontic fabrication.

11. Repair fixed prostheses.

120 Total Hours Laboratory Instruction

Evaluation will be accomplished at the completion of each project.

Appendix 5: Dentists and Laboratories

January 5, 1998

Dear Dentist:

Well-educated, well-prepared dental technicians are central to your success and are of great importance to us as well!

The Ferris State University Dental Technology program is conducting this survey to determine the feasibility of a move to a centrally located area of Grand Rapids to better serve the industry and to make the program available to a larger population base. We are also determining the educational training levels to best suit the needs of the dental laboratory industry; i.e., certificate programs in addition to the associate degree program. Because you are in the position to observe the challenges of the dental technician, your knowledge and experience in these areas represent the primary focus of this survey. Our goal is to assess the needs of the dental laboratory industry and dentistry in order to provide specific educational areas for the graduates for their employment.

Thank you for your time and any information that you may have provided. If you have any questions regarding the survey, contact Dale Harrison, Dept. Head, Allied Dental, at (616) 592-2261.

Deborah Sokoloski, CDT, BS
Technical Instructor

Roger Daugherty, CDT, BS
Technical Instructor

Mary Waldron, CDT, MA
Associate Professor

Dale Harrison, CDT, MsEd
Dept. Head, Allied Dental

cc: Isabel Barnes, Dean
College of Allied Health Sciences

FEASIBILITY STUDY FOR THE 2-YEAR DENTAL TECHNOLOGY PROGRAM TO MOVE TO GRAND RAPIDS LOCATION OF KENDALL/FERRIS STATE UNIVERSITY

Please circle the most appropriate response to the following items:

1. Please identify your place of employment:
   a) private single proprietorship dental office
   b) group practice dental office

2. Your current position in the office/laboratory is:
   a) owner/CEO
   b) supervisor/manager
   c) laboratory technician
   d) dentist
   e) other:_____

3. What type of laboratory service(s) does the laboratory provide for your practice?

Yes	No	a) complete dentures
Yes	No	b) partial dentures
Yes	No	c) crown and bridge
Yes	No	d) ceramics
Yes	No	e) orthodontics
Yes	No	f) implants
Yes	No	g) maxillofacial

4. What is the current size of your in-office laboratory:
   a) 1 technician
   b) 2 - 4 technicians
   c) over 5 technicians
   d) no in-office laboratory
   e) considering an in-office laboratory

5. Is your practice experiencing:
   a) stability
   b) growth

6. Does the in-office laboratory have a need for additional technicians in the following areas:

Yes	No	a) complete dentures
Yes	No	b) partial dentures
Yes	No	c) crown and bridge
Yes	No	d) ceramics
Yes	No	e) orthodontics
Yes	No	f) implants
Yes	No	g) maxillofacial

7. Please indicate who will provide the education and training required to upgrade your technicians?
   a) in-house
   b) manufacturers
   c) educational institutions
   d) educational training consultants
   e) other:_____
   f) unknown

(over)

Ferris State University's Dental Technology program is anticipating offering a certificate (15 week instruction) in Complete Dentures, Crown & Bridge, and Orthodontics as an option in addition to the associate degree in Dental Technology to meet the needs of the dental laboratory industry in Michigan.

8. Do you see a need for a person who is specialty trained (certificate) in complete dentures?
   Yes No

9. Do you see a need for a person who is specialty trained (certificate) in crown and bridge?
   Yes No

10. Do you see a need for a person who is specialty trained (certificate) in orthodontics?
    Yes No

11. Would you support movement of the dental technology program to Grand Rapids?
    Yes No

12. Would you recommend employees/students for a specialized certificate program?
    Yes No

13. Would you hire specialized certificate graduates?
    Yes No

Please indicate below the area of the state in which you are located, sign your name (OPTIONAL) and offer any additional comments or concerns you may have.

On the Michigan map to the left, please place an "X" as to your location.

Signature_____
(Optional)

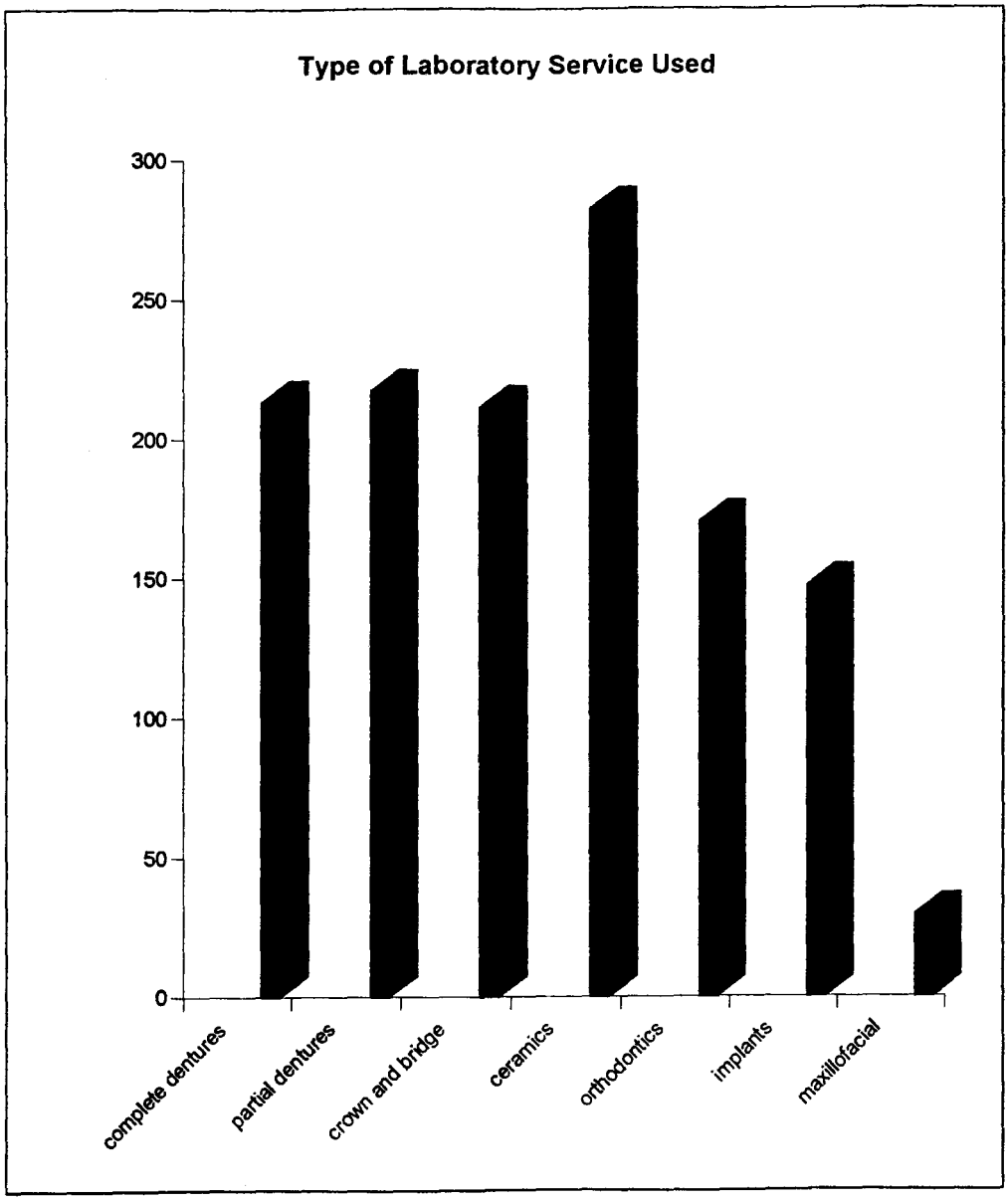
Comments:

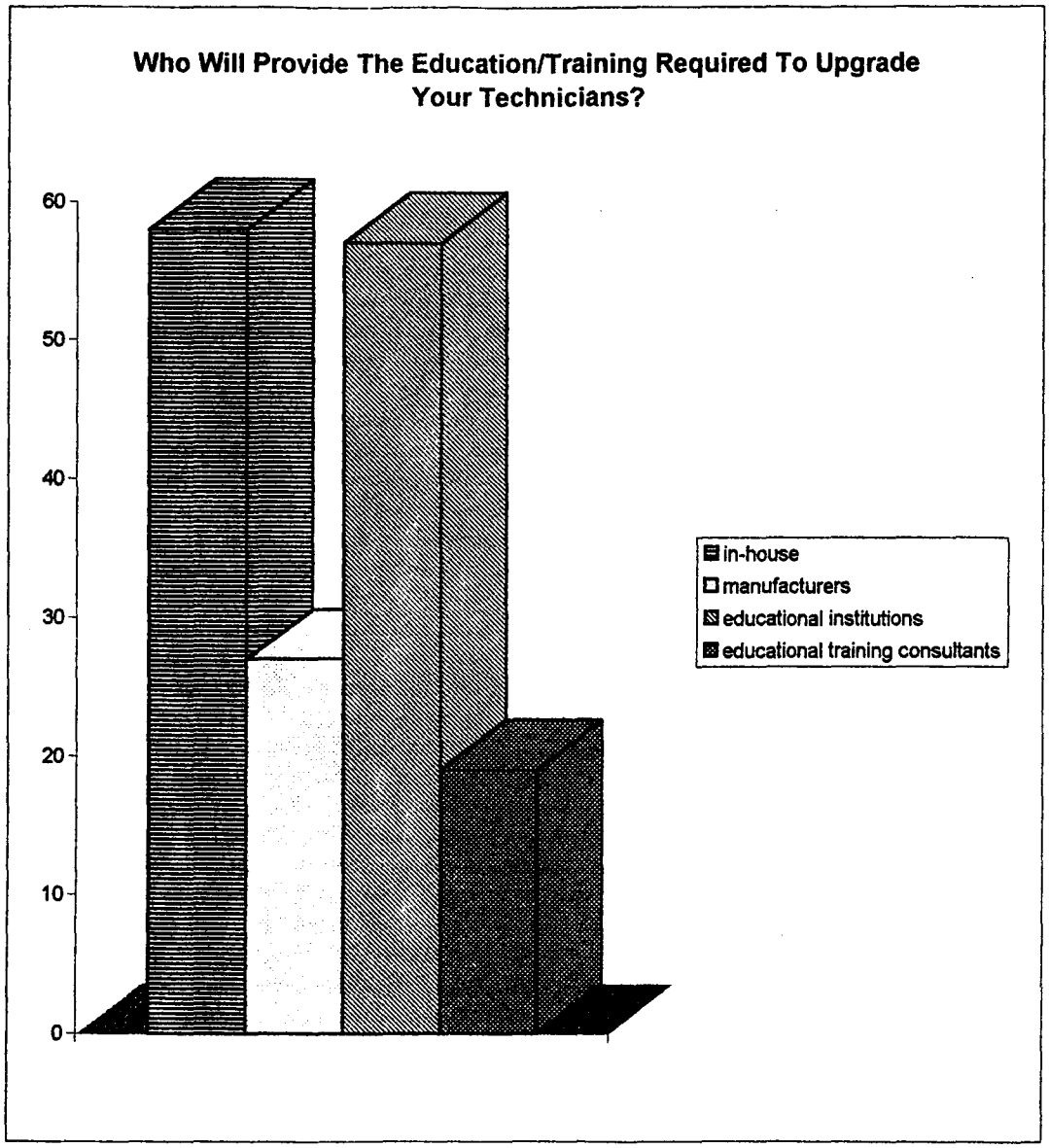
Thank you for participating in this survey; we value your input!!!

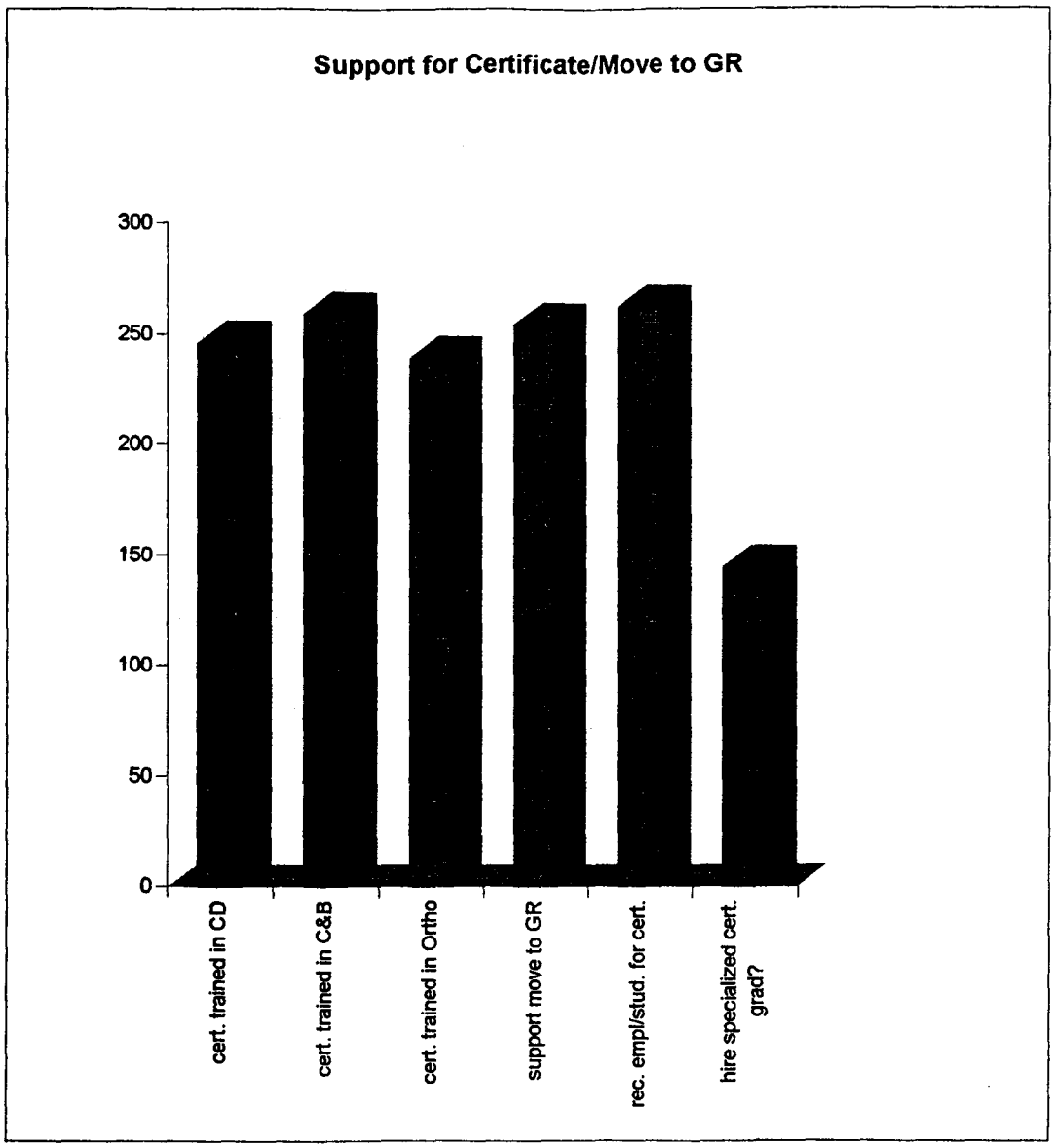
Dental Technology Needs Assessment Survey	
Dentists Responses	
Private Single Proprietorship	191
Group Practice dental office	88
owner/ceo	130
supervisor/manager	4
lab technician	2
dentist	306
complete dentures	213
partial dentures	217
crown and bridge	211
ceramics	282
orthodontics	170
implants	147
maxillofacial	29
size of in-house lab - 1 technician	48
2 - 4 technicians	11
over 5 technicians	1
no in-office lab	191
considering in-house lab	77
practice experiencing stability	99
practice experiencing growth	294
need added technicians in CD	18
need added technicians in RPD	14
need added technicians in C&B	27
need added technicians in Ceramics	28
need added technicians in Ortho	14
need added technicians in Implants	7
need added technicians in Maxillo.	4
in-house	58
manufacturers	27
educational institutions	57
educational training consultants	19
cert. trained in CD	245
cert. trained in C&B	258
cert. trained in Ortho	238

support move to GR				253							
rec. empl/stud. for cert.				261							
hire specialized cert. grad?				143							
Comments:											
I use a number of different comercial labs.											
The number of bite splints I make decreased in the past few years from 8-12 to 1-2.											
There is a great need for highly trained & skilled lab tech's. You cannot be a jack of all trades and do a good job. Outside lab is my choice.											
I have an oral & maxillofacial surgery practice. My need for a lab tech. is limited.											
Hope labs are being surveyed too. Good luck, we need asst. too.											
I do support the idea of training for tech's in a educ. inst. for a short time of 15 weeks.											
However, in that time I don't think a student could learn more than an area at a time.											
I'm so far away that Ferris & Grand Rapids are right next to each other. How about a program at N.M.U??											
I'm not a G.P. Dent. my lab needs are different.											
I have no plans for an in office lab.											
I think the program is quite short, I don't know what your current program curriculum calls for.											
Why does the program have to be close to a larger area?											
Big Rapids needs economic growth, Ferris is a good school.											
I am very pleased with the lab that I use. I do know that they are always looking for qualified employees.											
I see a need for complete/partial lab tech's.											
I don't use any lab service but do agree a move to Grand Rapids sound like a good move.											
I do only crown and bridge work. The equipment is much to costly for an in house lab.											
We have no plans for an in-office lab at this time.											
what will the cost be to establish a teaching facility. maybe marketing the existing program would help increase enrollment.											
I plan on hiring a lab tech. as soon as I have the physical space for a lab.											
I feel that this survey best suits in-office lab dental offices or dental labs. neither apply to me.											
Would like to hire but doubtful because of costs and overhead.											
I am not qualified to judge the needs of questions 8-13.											
Please be aware of the tremendous demand in ceramics more esthetic materials are and will be used.											
I have a general dentist office. I employ no lab tech's. I do have an opinion on FSU training. If you wish to call me do so at 616-651-3269											
But lab tech training needs to be better.											
15 weeks seems very short of the necessary time to have a "special certificate in anything"!											
I do not use your program I think the move is very wise at this time.											
We have a lab in our building therefore we don't need an in house lab.											
Grand Rapids is most likely a good location, but I feel the tri-city area could proved a good student supply.											
Many local labs are in need of skilled techs and not interested in training in their facilities.											
I'm lab relations person for M.D.D.S. & board member of career-line tech asst. program.											
I find it better to send my work out.											

I prefer lab tech. work to be sent outside of the office that way it is independent.
These questions are a bit difficult to answer. A certified tech. may ensure at least a working knowledge of basic A&P function.
However, there are a lot of great non-certified techs in labs too, whose experience would far outweigh the certified techs
Good luck! I would be interested in teaching in G.R for you.
I would like to look at possibly setting up a lab in my office. I would need a good lab tech 616-837-7326 thank you.
At the present time I plan to contract all lab work to area Dental labs.
Hang in there the time is coming. Lab work is pretty poor in general. As a two tier system develops the higher fee the Dr. will pay for the best work.


Type of Laboratory Service Used
300
250
200
150
100
50
0
complete dentures
partial dentures
crown and bridge
ceramics
orthodontics
implants
maxillofacial


Who Will Provide The Education/Training Required To Upgrade Your Technicians?
60
50
40
30
20
10
0
in-house
manufacturers
educational institutions
educational training consultants


Support for Certificate/Move to GR
300
250
200
150
100
50
0
cert. trained in CD
cert. trained in C&B
cert. trained in Ortho
support move to GR
rec. empl/stud. for cert.
hire specialized cert. grad?

January 5, 1998

Dear Laboratory Owner/Technician:

Well-educated, well-prepared dental technicians are central to your success and are of great importance to us as well!

The Ferris State University Dental Technology program is conducting this survey to determine the feasibility of a move to a centrally located area of Grand Rapids to better serve the industry and to make the program available to a larger population base. We are also determining the educational training levels to best suit the needs of the dental laboratory industry; i.e., certificate programs in addition to the associate degree program. Because you are in the position to observe the challenges of the dental technician, your knowledge and experience in these areas represent the primary focus of this survey. Our goal is to assess the needs of the dental laboratory industry and dentistry in order to provide specific educational areas for the graduates for their employment.

Enclosed you will find the survey, a self-addressed envelope and postcard. Please place your name on the postcard and drop it in the mail at the time that you receive the survey. This will indicate to us that the survey will be forthcoming and we will not trouble you in the future with a follow-up phone call.

Thank you for your time and any information that you may have provided. If you have any questions regarding the survey, contact Dale Harrison, Dept. Head, Allied Dental, at (616) 592-2261.

Deborah Sokoloski, CDT, BS
Technical Instructor

Mary Waldron, CDT, MA
Associate Professor

Roger Daugherty, CDT, BS
Technical Instructor

Dale Harrison, CDT, MsEd
Dept. Head, Allied Dental

cc: Isabel Barnes, Dean
College of Allied Health Sciences

FEASIBILITY STUDY FOR THE 2-YEAR DENTAL TECHNOLOGY PROGRAM TO MOVE TO GRAND RAPIDS LOCATION OF KENDALL/FERRIS STATE UNIVERSITY

Please circle the most appropriate response to the following items:

1. Your current position in the laboratory is:
   a) owner/CEO
   b) supervisor/manager
   c) laboratory technician

2. What type of laboratory service(s) does the laboratory provide?

Yes	No	a) complete dentures
Yes	No	b) partial dentures
Yes	No	c) crown and bridge
Yes	No	d) ceramics
Yes	No	e) orthodontics
Yes	No	f) implants
Yes	No	g) maxillofacial

3. What is the current size of your laboratory:
   a) 1 - 3 persons
   b) 4 - 7 persons
   c) 8 - 10 persons
   d) 11 - 15 persons
   e) 16 - 30 persons
   f) greater than 30

4. Is your laboratory experiencing:
   a) stability in the number of technicians
   b) growth in the number of technicians
   c) decline in the number of technicians

5. Does the laboratory have a need for additional technicians in the following areas:

Yes	No	a) complete dentures
Yes	No	b) partial dentures
Yes	No	c) crown and bridge
Yes	No	d) ceramics
Yes	No	e) orthodontics
Yes	No	f) implants
Yes	No	g) maxillofacial
		h) other:_____

6. Please indicate who will provide the education and training required to train or upgrade your technicians?

Yes	No	a) in-house
Yes	No	b) manufacturers
Yes	No	c) educational institutions
Yes	No	d) educational training consultants
Yes	No	e) other:_____
		f) unknown

(over)

Ferris State University's Dental Technology program is anticipating offering a certificate (15 week instruction) in Complete Dentures, Crown & Bridge, and Orthodontics as an option in addition to the associate degree in Dental Technology to meet the needs of the dental laboratory industry in Michigan.

7. Do you see a need for a person who is specialty trained (certificate) in complete dentures?
   Yes No

8. Do you see a need for a person who is specialty trained (certificate) in crown and bridge?
   Yes No

9. Do you see a need for a person who is specialty trained (certificate) in orthodontics?
   Yes No

10. Would you support movement of the dental technology program to Grand Rapids?
    Yes No

11. Would you recommend employees/students to this type of program?
    Yes No

12. Would you seek graduates of this type of program?
    Yes No

13. What areas would you like to see more emphasis on in the educational program?
    Yes No a) implants/attachments
    Yes No b) new acrylic materials (removable or fixed, such as for implants)
    Yes No c) composites
    Yes No d) all ceramic restorations
    Yes No e) productivity
    Yes No f) management
    g) other:_____

Please indicate below the area of the state in which you are located, sign your name (OPTIONAL) and offer any additional comments or concerns you may have.

On the Michigan map to the left, please place an "X" as to your location.

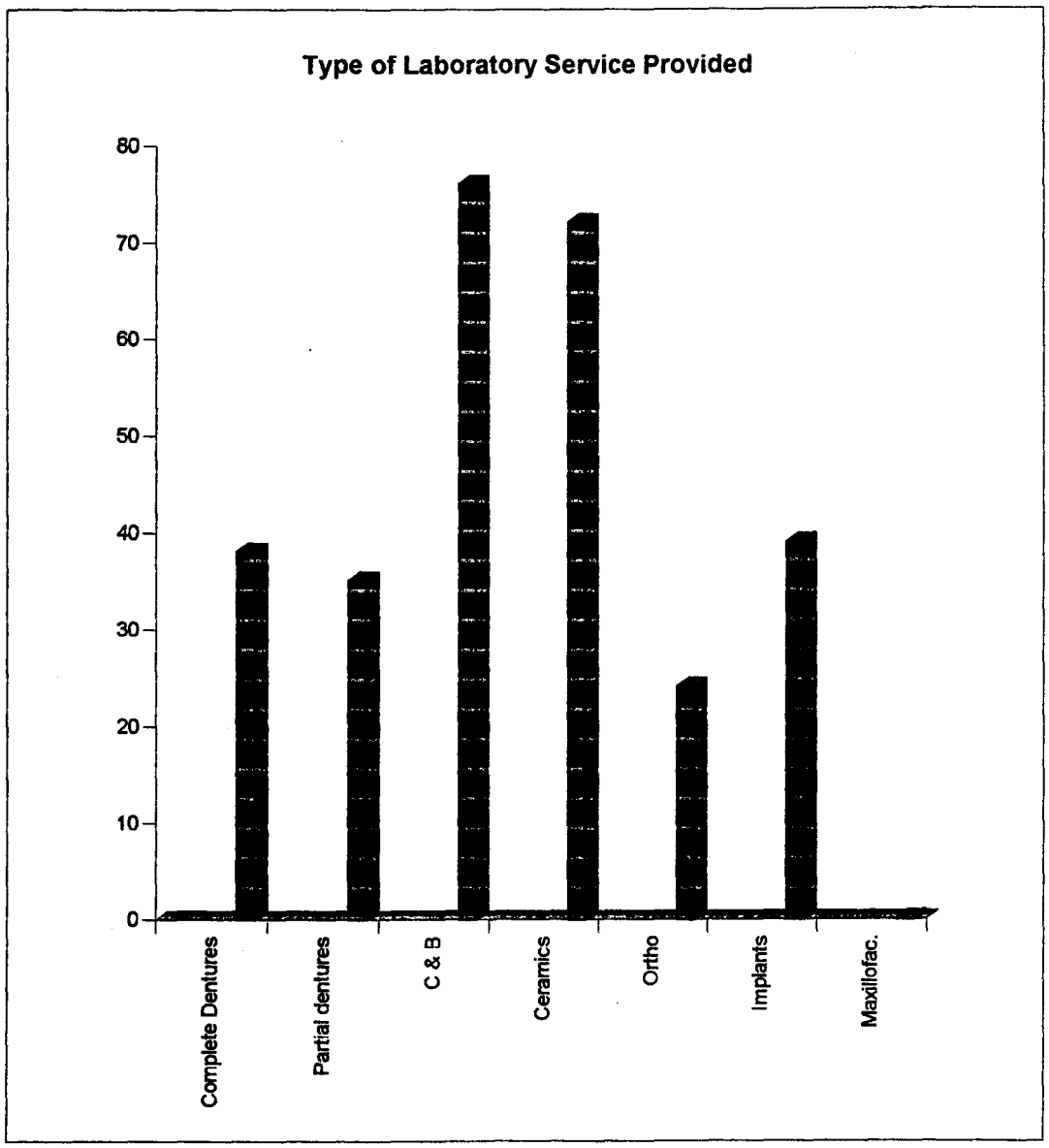
Signature_____
(Optional)

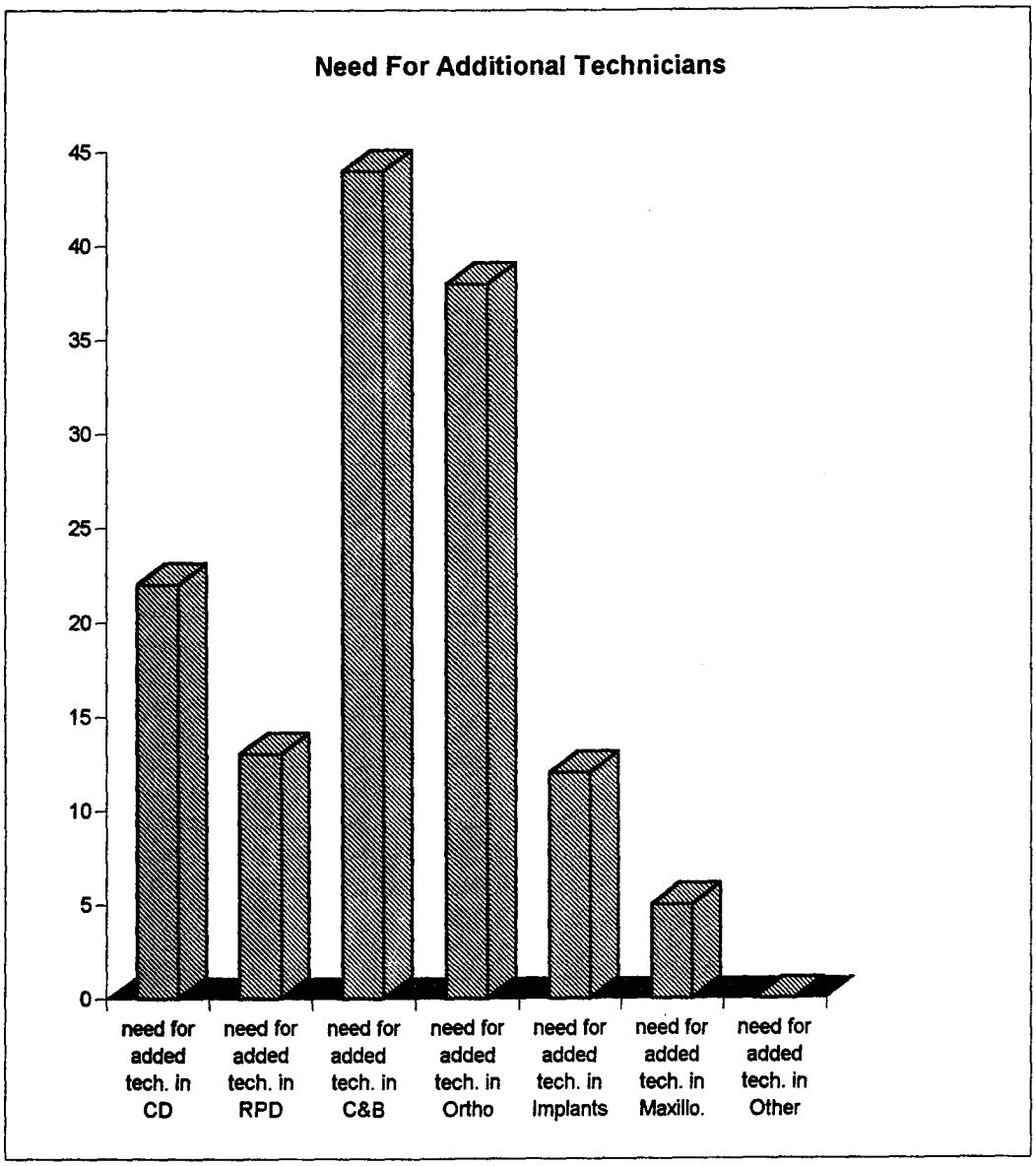
Comments:

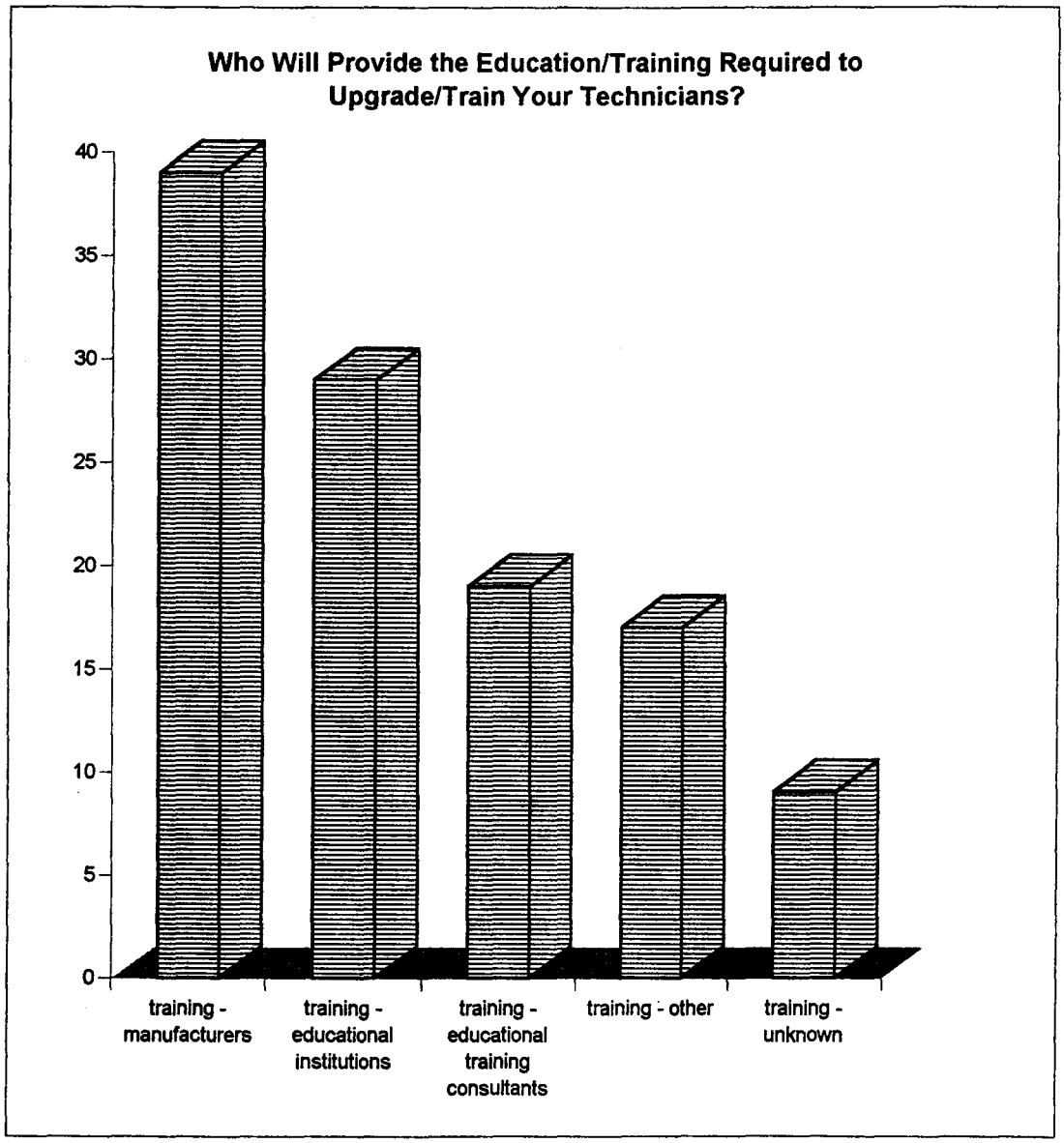
Thank you for participating in this survey; we value your input!!!

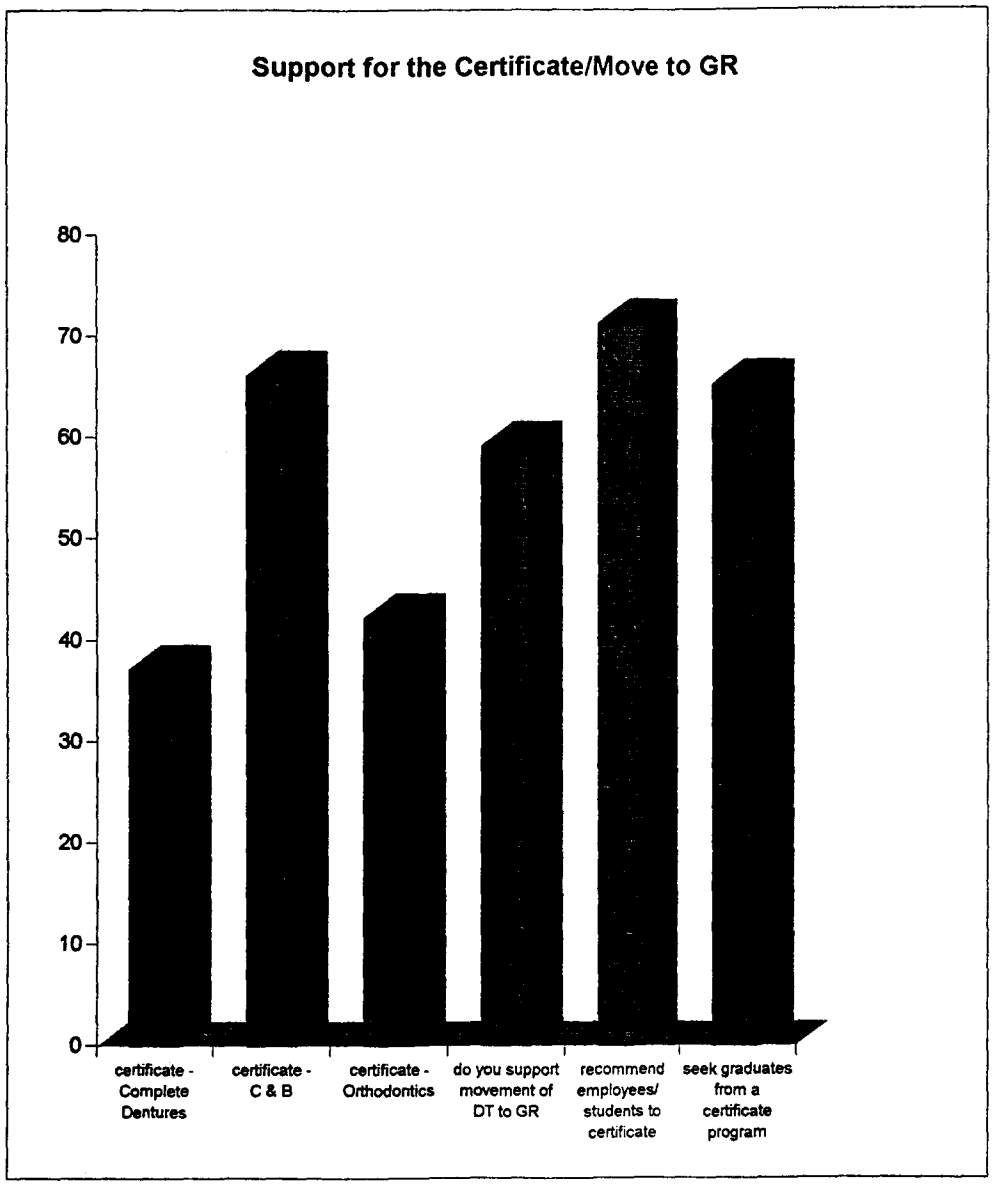
Dental Technology Needs Assessment Survey		
Dental Technicians Responses		
	YES	**NO**
Owner/CEO	73	
Supervisor/Manager	15	
Laboratory Technician	12	
Complete Dentures	38	
Partial dentures	35	
C & B	76	
Ceramics	72	
Ortho	24	
Implants	39	
Maxillofac.	0	
Size of lab: 1-3 person lab	49	
4-7 person lab	26	
8-10 person lab	11	
11-15 person lab	6	
16-30 person lab	5	
greater than 30 person lab	5	
stability in the number of technicians	67	
growth in the number of technicians	19	
decline in the number of technicians	16	
	YES	
need for added tech. in CD	22	
need for added tech. in RPD	13	
need for added tech. in C&B	44	
need for added tech. in Ortho	38	
need for added tech. in Implants	12	
need for added tech. in Maxillo.	5	
need for added tech. in Other	0	
training in-house	52	
training - manufacturers	39	
training - educational institutions	29	

training - educational training consultants	19
training - other	17
training - unknown	9
certificate - Complete Dentures	37
certificate - C & B	66
certificate - Orthodontics	42
do you support movement of DT to GR	59
recommend employees/ students to certificate program	71
seek graduates from a certificate program	65
More emphasis in Implants/Attachments	60
More emphasis in New Acrylic Materials	41
More emphasis in Composites	43
More emphasis in All Ceramic Restorations	54
More emphasis in Productivity	49
More emphasis in Management	49
More emphasis in Other: Seminars	26
Comments:	
A&P most techs need to know more tooth morph.	
The program is not long enough for anything but the basics.	
There should be more in-depth study of all areas. A minimum of 2 school years of study then possible internship.	
Could you please send me more information on your program or information on a closer location maybe Wayne County.	
For questions 7-10, I think theses training classes would be great. I just don't need anyone to be trained right at this time.	
Politics make the world go around. good luck!	
It sure would be nice to have a satellite somewhere near the Detroit area.	
Cross training is valuable for the small or low volume lab. This would assure a fulltime position.	
I am a 1983 grad. of FSU Dental tech. program. My opinion is students need more in-lab & hands-on training in specific areas.	
The 1st yr for basics full yr. C&B / CD / Ortho.	
I think the only value in a 15-week certificate is if its a PTC program.	
We must do short term Ed. programs that we can sent new dental tech's to.	
We need experienced tech's, hiring them away from other lab's seems to be the trend.	
I would like to see more contact by the program to all past grads. to employ a grad. from the program.	
good quality employees.	
Let these people know what their in come will really be like	
A certificate program is the perfect solution as each lab owner has their own way of doing things.	
Consider a basic entry level short-term program as an Intro. to Dental Tech. Basics.	


Type of Laboratory Service Provided
80
70
60
50
40
30
20
10
0
Complete Dentures
Partial dentures
C & B
Ceramics
Ortho
Implants
Maxillofac.


Need For Additional Technicians
45
40
35
30
25
20
15
10
5
0
need for added tech. in CD
need for added tech. in RPD
need for added tech. in C&B
need for added tech. in Ortho
need for added tech. in Implants
need for added tech. in Maxillo.
need for added tech. in Other


Who Will Provide the Education/Training Required to Upgrade/Train Your Technicians?
40
35
30
25
20
15
10
5
0
training - manufacturers
training - educational institutions
training - educational training consultants
training - other
training - unknown


Support for the Certificate/Move to GR
80
70
60
50
40
30
20
10
0
certificate - Complete Dentures
certificate - C & B
certificate - Orthodontics
do you support movement of DT to GR
recommend employees/ students to certificate
seek graduates from a certificate program

Appendix 6: Recruitment Plan

DENTAL TECHNOLOGY RECRUITMENT PLAN

The following recruitment action plan has been developed for the Dental Technology program for the timeline of October 1997 to August 1999.

Goal 1: To initiate/continue recruiting activities at the Career Centers in Michigan.

Objective: Promote Dental Technology programming at FSU; identify prospective students; increase enrollment.

Implementation Plan: Coordination of visits to Career Centers and High Schools; the faculty will be made available to recruit for the program where their schedules will allow.

Goal 2: To attract as many students and families to the FSU campus as possible to visit the Dental Technology program.

Objective: Promote DTEC programming; identify prospective students; increase enrollment.
Implementation Plan: Assign faculty to plan, accommodate, and promote events. Career Focus and Autumn Adventure, respectively, are some of these activities which have taken place.
Goal 3: Acquaint counselors and teachers of Health Occupation programs at Career Centers with the Dental Technology program.

Objective: Promote DTEC programming; increase enrollment.

Implementation Plan: Mary Waldron will present at the Health Occupation Educator's Conference October 1997.

Goal 4: Send an acknowledgment letter with appropriate recruiting materials and reply cards to every student who sends a Student Profile Report to FSU (ACT's).

Objective: Acknowledge receipts of test scores; increase applicant pool; increase enrollment.

Implementation Plan: Letters will be mailed to FSU applicants who have indicated an interest in dental careers on their ACT examinations with follow-up phone calls by faculty and staff.

Goal 5: Implement a mail marketing program to qualified prospective students.

Objective: Identify prospective students; increase applicant pool; increase enrollment.

Implementation Plan: Letters will be mailed to EOS prospective students to identify students interested in the dental technology program and follow-up with phone calls by faculty and staff.

Goal 6: Participate in Career Fairs

Objective: Identify prospective students; increase enrollment.

Implementation Plan: Submit advanced registration materials and assign staff.

Goal 7: Participate in on-campus recruiting activities to promote the Dental Technology program.

Objective: Identify prospective students; increase enrollment.

Implementation Plan: Enrolled students will develop visual recruitment aids to recruit in Rankin Center as part of an Independent Study course of the program. Roger Daugherty will be their advisor on such activities. As part of this activity, the Mecosta-Osceola Career Center, Health

Occupation students will be visiting the Dental Technology program on November 12th, to view presentations given by the DTEC students and to tour the Dental Technology laboratories. Mary Waldron teaches a CAHS 100 class in the Fall semester and the Winter semester. Roger Daugherty teaches a FSUS 100 class in the Winter semester.

Appendix 7: Outcomes Assessment

OUTCOMES ASSESSMENT

The following information is submitted to the Student Outcomes Assessment Committee as part of the university's preparation for the NCA focus visit.

Program Name: Associate Degree in Dental Technology

Responsibility/Timelines: There is a plan for assessing student learning outcomes containing short term and long term components that are linked to the unit action plan and a faculty committee identified to revise and update the goals. The dental technology faculty on an ongoing basis reviews assessing achievement of the goals.

Unit Action Plan Goal 2: Assess the educational experiences for students that prepare them for entry level into their profession.

Short Term Goals: Academic Years 1998-2000

- Ninety percent (90%) of students will pass Recognized Graduate examinations
- Ninety percent (90%) of employers will report satisfaction with preparedness of graduates
- Ninety percent (90%) of graduates will report satisfaction with their preparedness
- Ninety percent (90%) of graduates will be working in their profession and/or enrolled in higher educational opportunities
- All students will gain experience and receive a satisfactory evaluation at approved internship site locations
- Develop curricula for certificates in Dental Technology
- Identify new strategies to facilitate the recruitment process of prospective students

Long Term Goals - 3 to 5 years:

- Revise curriculum to maintain currency with the field
- Identify new strategies which facilitate success for "new traditional students"
- Research developing articulation agreements with career centers and college health occupation programs to facilitate entry into the FSU dental technology program
- Seek alternative program formats which utilize new technologies

Program Goals/Objectives: The following objectives are derived from a more extensive list of objectives developed to guide course development and student outcome assessment.

- Provide diverse educational opportunities for students
- Establish and maintain professional relationships with practitioners in the dental health community
- Maintain program quality and integrity
- Improve recruitment and retention
- Interact with dental health professionals
- Secure outside resources to maintain program quality
- Provide opportunities and assistance for faculty development

- Provide an atmosphere for all students to advance their potential

Program Assessment Tools:

- Evaluation in final internship course, DTEC 292, of the student's performance and in recognition of their role as a dental technician
- Student surveys during the program
- Graduate surveys
- Employer surveys
- Advisory Committee surveys
- Performance on the Recognized Graduate examination
- Placement rates

Distribution of Assessment Results/Data Analysis: the Department Head maintains Documentation. Data is analyzed and shared by the dental technology faculty at department meetings with dental hygiene faculty. Appropriate data is also shared with the Dean of the College of Allied Health Sciences, and the Outcomes Assessment Committee.

Use of Results: Assessment has been and will continue to be an ongoing process. Results of assessment analysis are used to modify and improve all facets of the dental technology program. The following are some of the recent changes resulting from the outcome assessment process:

The internship program was re-introduced into the curriculum in Academic Year 1997, after a two-year absence, at the recommendation of the advisory committee, alumni and employers.

Teaching of CAHS 100 and FSUS 100 classes providing allied health students exposure to the dental technology program and its knowledgeable faculty assisting in higher retention rates of first time in college students.

Greater emphasis on recruitment at career centers and high schools across Michigan.

Future Program Planning:

Dental Technology Program Review: The dental technology program is currently undergoing a program review. Many of the conclusions and recommendations as they relate to student outcome assessment are outlined in this document. The implementation of changes is an ongoing process.

Accreditation of the Dental Technology program: the American Dental Association accreditation team will visit The dental technology program in 1998. Much preparation and the generation of the required document will be occurring during the 1997-98 school year.

Development of a certificate program in dental technology to meet the needs of industry and the changing student body.

The dental technology program administration and faculty are committed to ongoing outcome assessment. Our efforts are to produce a program that is not only outstanding, but also the only ADA Accredited Dental Technology program in the state of Michigan. And one in which the students are satisfied with the education received and employers are satisfied with our graduates.
10/97