Ferris State University
College of Technology

Minor – Desktop Publishing
AAS, Printing and Digital Graphic Imaging technology
BS, Printing Management
BS, New Media Printing and Publishing

Printing and Imaging Technology Management Department

Academic Program Review Report

September 13, 2002

MEMORANDUM

DATE: November 21, 2002

TO: Academic Senate

FROM: Academic Program Review Council

RE: Recommendations for:
Bachelor of Science Degree in Printing Management
Bachelor of Science Degree in New Media Printing and Publishing
Associate in Applied Science Degree in Printing and Digital Imaging Technology
Minor in Desktop Publishing

CC: Pat Klarecki, Weilin Chang, Laurie Chesley, Thomas Oldfield, Barbara Chapman

DESCRIPTION OF PROGRAMS:

Associate in Applied Science Degree in Printing and Digital Imaging Technology

Students study the theory and perform operations in electronic pagination systems digital image assembly, digital tone and color editing, web publishing, platemaking, sheetfed and web offset lithography, binding and auxiliary operations as well as electronic color separation, digital proofing and color correction. Other courses include business and general education classes in communication skills, math, social awareness and global consciousness to meet Ferris general education requirements.

As the printing industry is affected by technological changes, especially the impact of the computer, it is important to have a fundamental knowledge of basic printing. Building on basic courses including typographic layout and design, paper technology, color theory, ink technology, quality control, maintenance and printing estimating, each student has an opportunity to specialize in prepress, press or to be a printing generalist.

With this specialization, graduates may work in the production of printing materials as digital imaging specialists, color proofers, image assemblers, press operators, scanner operators or quality control technicians; as well as for ink and paper supply companies, in the maintenance and installation of equipment or as print shop owner/operators.

Bachelor of Science Degree in Printing Management

Graduates of the printing management bachelors degree program may become estimators, production planners, plant managers, production control expediters, customer service representatives printing sales personnel, and digital imaging specialists.

Printing management is a third and fourth year curriculum. Entering students must have an associate degree in printing and digital graphic imaging from Ferris or another college or university.

Building on their associate degree technical printing background, students estimate printing costs; price, plan, and schedule to expedite production; perform cost analysis; determine

budgeted hourly costs; purchase materials and equipment; establish plant layout; understand the marketing function as it relates to printing; and follow OSHA and EPA requirements.

Required courses outside of the graphic arts area include the areas of accounting, economics, industrial management, business law, communication skills, and completing all of Ferris general education requirements as outlined in the General Education section of the University catalog.

Students learn the theory and practice of printing management in lecture and laboratory situations. With an industry approach to problem solving, graduates are in high demand for their ability to enter the management arena ready to be productive employees. Their background in the technical aspect of printing, along with managerial skills, computer competencies and communication skills insures that they are an asset as a manager, a supplier or equipment sales representative or as a technical service employee.

This program operates year around. A working internship is required during the summer between the third and fourth years. The internship furnishes actual working experience for the student, increases industry-awareness of the Ferris graphic arts program, and could be a possible springboard to future employment. Most other printing management courses are also offered on campus during the summer.

Bachelor of Science Degree in New Media Printing and Publishing

The use of new and emerging media to communicate is inevitable. The printing industry has taken a leadership role in using these new media trends to expand business opportunities beyond conventional roles. There is a void in the skill sets required and the skill sets available for employment. Eighty-five percent of the printing companies in the USA employ less than 25 people. These employers cannot afford to have a large staff of various technical people to solve the wide array of problems. These employers need generalists with specific skills in the area of printing and digital graphic communications.

As software advancements have made the operation of computers much easier, employers of FSU graduates have indicated that they do not need software-trained students. Employers need graduates who have a solid knowledge of the theory behind software applications and a firm understanding of networking and digital workflow. Students will work in state-of-the-art computer laboratories primarily on the Macintosh platform with some work on PCs and supporting network platforms. Digital workflow, digital file re-purposing web page creation, file server maintenance are all-important aspects of the program.

COST INFORMATION:

According to the office of Institutional research, the 1999-2000 cost data is as follows:

	Total cost per SCH
BS in Print Management	$192.15
BS in New Media Printing and Publishing	Not Available
AAS in Printing and Digital Imaging	$283.25

Total program cost	
BS in Print Management	$12,297.44
BS in New Media Printing and Publishing	Not Available
AAS in Printing and Digital Imaging	$17,844.67

RECOMMENDATIONS:

We recommend that the programs be continued.

(1) The program has a number of important strengths:

- They are central to Ferris' mission.
- The B.S. program in Printing Management is unique (1 of 2 in the state). It is the first program to be accredited by the Accreditation Council for Collegiate Graphic Communications. The BS degree in New Media Printing and Publishing is the first such degree in the country.
- There is strong industrial support for the program
- There is a very high demand for graduates of the program as is evidenced by the almost 100% placement rate of students. The average starting salary for graduates of the B.S. program in Printing Management of $31,850.
- The program provides service to non-majors through the minor in Desktop Publishing, the photography course, and courses for the Technical and Professional Communications curriculum.
- The commitment of the faculty to providing quality instruction is high.
- The faculty is experienced and well qualified.
- The faculty responds to the needs of the students.
- The faculty is very involved in continuing education and consulting activities.
- The faculty is continually updating the curriculum to meet the needs of industry.
- The faculty has been able to acquire extensive equipment from industry

(2) We recommend that the following steps need to be taken to maintain the quality of these program:

- The program faculty and the administration of the College of Technology and the University should remain committed to continuation of recruitment activities. Significant progress has been made since the last program review, but the programs are still under capacity. The implementation of the new minor in Desktop Publishing and the new BS in New Media Publishing and Printing appear to be steps in the right direction in attracting additional students. University Advancement and Marketing should work with the faculty to develop a focused marketing strategy to inform potential students of the existence and potential for jobs in the field of printing.
- The administration of the College of Technology should consider remodeling the existing facilities (primarily the dark rooms) to allow the programs to make better use of existing spaces

- The program faculty should continue to seek donations from industry to replace aging equipment, to provide scholarships for qualified students, and for use in faculty development.
- The program faculty should continue review and revise the curriculum and instructional delivery methods to meet the needs of industry and accommodate the rapid changes that continue to occur in the field.

Criteria Summary for
Minor - Desktop Publishing
AAS Degree in Printing and Digital Graphic Imaging Technology
BS Degree in Print Management
BS Degree in New Media Printing and Publishing

AAS Degree in Printing and Digital Graphic Imaging Technology

The printing industry, this countrys third largest manufacturing industry, is currently undergoing one of the largest technical revolutions ever. The digitalization of information and images has created a high demand for high technology employees. Through continual hands-on experience in all printing and digital graphics imaging courses, the Ferris student receives solid training based on lectures by experienced professionals, textbook assignments, and heavy doses of actually doing the work.

Students study the theory and perform operations in electronic pagination systems digital image assembly, digital tone and color editing, web publishing, platemaking, sheetfed and web offset lithography, binding and auxiliary operations as well as electronic color separation, digital proofing and color correction. Other courses include business and general education classes in communication skills, math, social awareness and global consciousness to meet Ferris general education requirements.

As the printing industry is affected by technological changes, especially the impact of the computer, it is important to have a fundamental knowledge of basic printing. Building on basic courses including typographic layout and design, paper technology, color theory, ink technology, quality control, maintenance and printing estimating, each student has an opportunity to specialize in prepress, press or to be a printing generalist.

With this specialization, graduates may work in the production of printing materials as digital imaging specialists, color proofers, image assemblers, press operators, scanner operators or quality control technicians; as well as for ink and paper supply companies, in the maintenance and installation of equipment or as print shop owner/operators.

For admission, a student needs a high school diploma with a 2.0 GPA or better.

Graduates must complete all Ferris general education requirements as outlined in the General Education section of the University catalog.

BS Degree in Print Management

Printing constitutes the third largest manufacturing industry in the United States. It ranks first in the number of manufacturing establishments. Automation and computerization of many production processes has increased volume in the printing industry, and has created new needs for knowledgeable management personnel.

Graduates of the printing management bachelors degree program may become estimators, production planners, plant managers, production control expediters, customer service representatives printing sales personnel, and digital imaging specialists.

Printing management is a third and fourth year curriculum. Entering students must have an associate degree in printing and digital graphic imaging from Ferris or another college or university.

Building on their associate degree technical printing background, students estimate printing costs; price, plan, and schedule to expedite production; perform cost analysis; determine budgeted hourly costs; purchase materials and equipment; establish plant layout; understand the marketing function as it relates to printing; and follow OSHA and EPA requirements.

Required courses outside of the graphic arts area include the areas of accounting, economics, industrial management, business law, communication skills, and completing all of Ferris general education requirements as outlined in the General Education section of the University catalog.

Students learn the theory and practice of printing management in lecture and laboratory situations. With an industry approach to problem solving, graduates are in high demand for their ability to enter the management arena ready to be productive employees. Their background in the

technical aspect of printing, along with managerial skills, computer competencies and communication skills insures that they are an asset as a manager, a supplier or equipment sales representative or as a technical service employee.

This program operates year around. A working internship is required during the summer between the third and fourth years. The internship furnishes actual working experience for the student, increases industry-awareness of the Ferris graphic arts program, and could be a possible springboard to future employment. Most other printing management courses are also offered on campus during the summer.

BS Degree in New Media Printing and Publishing

The printing industry is this countrys third largest manufacturing industry. Technological advances and the demands of todays society have placed tremendous pressure for change in the way we communicate. While traditional printing is still the largest communications media used, other media such as the Internet, CD and DVD interactive technologies are complementing the traditional communications methods. To meet the needs of their customers, printers are offering many new media solutions.

The use of new and emerging media to communicate is inevitable. The printing industry has taken a leadership role in using these new media trends to expand business opportunities beyond conventional roles. There is a void in the skill sets required and the skill sets available for employment. Eighty-five percent of the printing companies in the USA employ less than 25 people. These employers cannot afford to have a large staff of various technical people to solve the wide array of problems. These employers need generalists with specific skills in the area of printing and digital graphic communications.

As software advancements have made the operation of computers much easier, employers of FSU graduates have indicated that they do not need software-trained students. Employers need graduates who have a solid knowledge of the theory behind software applications and a firm understanding of networking and digital workflow. Students will work in state-of-the-art computer laboratories primarily on the Macintosh platform with some work on PCs and supporting network platforms. Digital workflow, digital file re-purposing web page creation, file server maintenance are all-important aspects of the program.

Admissions to the new media printing and publishing curriculum will be open to those students who have successfully completed Ferris associate degree in printing and digital graphic imaging technology (PTEC) or an equivalent associate degree from a community college. Transfer credits will be examined and accepted where appropriate from other associate degree programs such as visual communications, computer information systems, etc.

- **CENTRALITY TO FSU MISSION:**

  The programs in Printing are central to the mission of Ferris State University. These programs emphasize preparation for a career, which clearly is consistent with the mission of Ferris State University.

- **UNIQUENESS AND VISIBILITY OF PROGRAM:**

  The BS program in Printing Management is unique (1 of 2 in the state). It is the first program to be accredited by the Accreditation Council for Collegiate Graphic Communications.

  The BS degree in New Media Printing and Publishing is the first such degree in the country.

  AAS Degree in Printing and Digital Graphic Imaging Technology is one of nine in the state and is unique because it has retained its emphasis on production.

  The minor in Desktop Publishing is the only minor in the College of Technology open to entire campus.

  The programs are visible to industry but could be more visible to prospective students.

- **SERVICE TO STATE, NATION, WORLD:**

  Printing is the 3rd largest manufacturing industry and in July 2000 there were 2000 vacant jobs in Michigan. The graduates of these programs help fill this need for employees.

- **DEMAND BY STUDENTS:**

  Enrollment has increased during the last few years. The challenge is to make prospective students aware of the print media industry.

- **DEMAND FOR GRADUATES:**

  The programs are unable meet the demand of industry for graduates.

- **PLACEMENT RATE AND AVERAGE SALARY OF GRADUATES:**

  Placement rate is essentially 100%. The typical initial salary of the BS graduate in these programs is $30,167 per year and the average salary of alumni is $50,000.

- **SERVICE TO NON-MAJORS:**

  The program provides service to non-majors through the minor in Desktop Publishing, the photography course, and courses for the Technical and Professional Communications curriculum.

- **QUALITY OF INSTRUCTION:**

  The BS program in Printing Management is accredited by the Accreditation Council for Collegiate Graphic Communications. The student and graduate surveys indicate that the quality of instructions is high.

- **FACILITIES AND EQUIPMENT:**

  The facilities are adequate although, the programs would be able to make better use of the existing space if the walls of the darkroom in Swan 220 and 223 were removed. The roof leak in the computer lab in the Swan Annex should be repaired.

- **LIBRARY INFORMATION RESOURCES:**

  The library information resources are adequate.

- **COST:**

According to the office of Institutional research, the 1999-2000 cost data is as follows:

Total cost per SCH	
AAS Degree in Printing and Digital Imaging	$283.25
BS Degree in Print Management	$192.15
BS Degree in New Media Printing and Publishing	Not Available
Total program cost	
AAS Degree in Printing and Digital Imaging	$17,844.67
BS Degree in Print Management	$12,297.44
BS Degree in New Media Printing and Publishing	Not Available

- **FACULTY:**
  - **QUALIFICATIONS:**

    The faculty is qualified.
  - **PROFESSIONAL AND SCHOLARLY ACTIVITIES:**

    The faculty is involved in the professional organizations in the field and is active in scholarly activities. The faculty had been effective in obtaining industry support for the programs in the department.
  - **QUANTITY:**

    The number of faculty is adequate for the needs of the program.
- **ADMINISTRATIVE EFFECTIVENESS:**

  The turnover of upper level administration in the College of Technology has had a disruptive effect on the ability of the Department to plan and carry out its mission.

MEMORANDUM

DATE: November 21, 2002

TO: Academic Senate

FROM: Academic Program Review Council

RE: General Recommendations for Programs reviewed in the 2002-2003 review cycle

CC: Vice-Presidents Chapman, Oldfield, and Chesley; All Deans

Approximately one year ago 12 panels charged with reviewing a total of 18 programs were formed. These panels were composed of program faculty and friends of the program. The panels collected information, analyzed that information, and wrote thorough and rigorous reports that detailed the status of the programs. These reports also identified needs of the programs. Based upon the written documents submitted to the Academic Program Review Council, the answers to written questions generated by the Council, and discussion with panel members and program administrators, the APRC has generated specific recommendations for each program reviewed. These recommendations have been submitted as separate memos. On behalf of the entire University, the APRC extends its appreciation and gratitude for the work done by the program review panels.

GENERAL RECOMMENDATIONS

The following recommendations are derived from our collective review of the programs and represent our suggestions for addressing concerns that affect more than one program in the University. A review of general recommendations from previous Academic Program Review Council reports reveals that, although progress has been made, some programs still encounter the same or similar difficulties observed in previous years. It is clear many of these problems must be solved at the institutional level. If a similar recommendation was made previously, the years are indicated in parentheses.

THERE SHOULD BE A MORE THOROUGH PROOFREADING OF THE UNIVERSITY CATALOG BEFORE IT IS PUBLISHED.

At the beginning of each recommendation memo, under the section titled program description, a statement concerning each program is reproduced exactly as it appears in the online catalog. Often, the first impression of the University that is gained by prospective students and the general public is obtained through the Catalog. Therefore, it is a matter of concern when there are misspellings and examples of poor use of language in one of the most visible documents of the University.

THE ANNUAL REPORT ON THE CUMULATIVE IMPACT OF ACADEMIC PROGRAM REVIEW RECOMMENDATIONS SHOULD LIST THE RECOMMENDATIONS MADE BY THE COUNCIL AND THE SPECIFIC ADMINISTRATIVE RESPONSE TO THEM.

The Academic Program Review Council would like to thank Vice-President Chapman for providing the Senate and the Council with an Annual Report on the Cumulative Impact of Academic Program Review, which was in the form of a memo dated August 5, 2002. The Council recognizes that it may not be possible for the University to completely address all of the recommendations made by the Council in a calendar year and appreciates the efforts of the administration to follow up on the issues that are raised. The Council notes, however, that some of the actions taken do not directly correspond to the actual recommendations of previous Councils. For the sake of clarity of communication, the Council requests that in future updates, starting with the current review cycle, there be a list of the specific recommendations of the Council and the administrative response to them (2001-2002). There is a precedent for this in the memo from Teshome Abebe, former Provost and Vice-President for Academic Affairs dated July 30, 1996 in which he provided a status report on the progress that had been made concerning the Senate-approved APRC recommendations for programs reviewed in 1995-1996.

OTHER DIVISIONS OF THE UNIVERSITY SHOULD BE REVIEWED WITH RESPECT TO THE QUALITY OF SERVICE THAT THEY PROVIDE TO ACADEMIC PROGRAMS AND THE EDUCATIONAL MISSION OF THE UNIVERSITY. FEED BACK CONCERNING THE OUTCOME OF THESE REVIEWS SHOULD BE SUPPLIED TO THE ACADEMIC SENATE AND THE ACADEMIC PROGRAM REVIEW COUNCIL.

The Council appreciates the decision by the administration to develop a review process for University Advancement and Marketing and the computer consortia. The council would like to point out, however, that the focus of these reviews as described in the memo from Dr. Chapman dated August 5, 2002 does not completely address the concerns of previous Academic Program Review Councils. Hopefully the QI2000+ Committee mentioned in the document will establish a thorough process of review of divisions in the University that support and serve academic programs so that, when problems arise because of policy or implementation of policy, a mechanism will be in place to correct the problems and allow affected programs input in the development of new policies. The purpose of this request is to ultimately improve the quality of academic programs (2000-2001, 2001-2002).

THE UNIVERSITY SHOULD REVIEW THE POLICIES ASSOCIATED WITH THE ISSUING OF STUDENT ID CARDS AND THE PROCEDURES FOR ASSIGNING STUDENT BARCODES.

Students still have trouble accessing library databases from off-campus. Barcode numbers needed for database login are not tracked when ID's are issued so students must call the library to have their barcode entered before they can access the databases from off-campus. The FLITE staff has worked diligently to alleviate some of these problems, however, much of the difficulty could be avoided by coordination between Telcommunications and FLITE.

THE UNIVERSITY AND, IN PARTICULAR, THE COLLEGE OF ARTS AND SCIENCES, SHOULD ENSURE THAT AN ADEQUATE NUMBERS OF COURSES, OFFERED IN AN APPROPRIATE FORMAT (12 WEEKS), ARE OFFERED DURING THE SUMMER SEMESTER.

The curricular design in several of the colleges (particularly Allied Health and Business) requires that students build a full load schedule during the summer. While offering courses of varying lengths during the summer may be convenient for faculty, such an arrangement makes it extremely difficult for students to achieve a full load of classes. That in turn may cause the student to choose a course based on the timeframe in which it is offered rather than the its educational value.

THE UNIVERSITY SHOULD REQUIRE THAT THE ADMINISTRATIVE PROGRAM REVIEW FORMS SHOULD BE FILLED OUT ACCURATELY AND COMPLETELY.

The Administrative Program Review documents provided to the council by the program panels varied significantly with respect to their completeness and reliability. In several cases, questions on the form were not answered and data related to enrollment according to class standing and the number of graduates in a given year was not listed. The Council relies heavily on this document in assessing the status and viability of each program.

THE DESIGN AND DISTRIBUTION OF SURVEYS FOR ACADEMIC PROGRAM REVIEW SHOULD BE PROCESSED THROUGH A CENTRAL UNIVERSITY OFFICE WITH INPUT FROM THE PROGRAM REVIEW PANEL.

The academic program review process relies extensively on information gathered through surveys. It is apparent to the council that this type of activity should be coordinated through a central office, which provides services to panels for programs undergoing review. Most program faculty are not trained or experienced in survey methodology. This often results in poorly designed surveys, low response rate, and information of dubious validity. This problem is compounded by the fact that other divisions within the University are sending out different surveys, in many cases to some of the same individuals. It is true that different divisions within the University may be interested in obtaining different kinds of information, however there is certainly a basic core of information that is important to all units within the University. A standardized survey form should be designed and distributed utilizing established survey methodology. This form should allow individual programs or units in the University to ask additional specific questions related to information unique for their needs. The staff of this central office should provide support for follow up procedures to ensure adequate response rates. They should also assist the program review panels in the use of applicable statistical procedures to insure proper interpretation of the data.

THE UNIVERSITY NEEDS TO HAVE A CENTRAL DATABANK THROUGH WHICH ALUMNI AND GRADUATES OF PROGRAMS ARE TRACKED.

Most panels reported that significant numbers of surveys were returned due to an incorrect address. There is no question that in this mobile society it is difficult to keep track of individuals, however, if there is a cooperative approach to collecting data from various sources on campus, it should be possible to increase the reliability of existing databases.

INSTITUTIONAL RESEARCH SHOULD COMPILE THE INFORMATION REQUIRED BY PROGRAM FACULTY AND ADMINISTRATORS FOR THE PROGRAMS UNDERGOING THE ACADEMIC PROGRAM REVIEW PROCESS.

The document titled Academic Program Review: A Guide for Participants lists some specific types of information that are required for the review process. Currently, the seeking out and collecting of relevant programmatic information on an individual basis is an inefficient process and is an inordinately consuming use of program faculty and administrator's time. The previous Academic Program Review Council did meet with a representative from Institutional Research last spring to discuss their methods of data collection and how they arrived at their interpretation of the data. At that time, this individual expressed a willingness to work with the Panels in obtaining the information that they need. The current Academic Program Council should develop a specific list of the information that is required and communicate this to the staff in Institutional Research. The council requests administrative approval for this expansion of duties by the staff of Institutional Research (2001-2002).

THE UNIVERSITY SHOULD CONTINUE TO EXPLORE WAYS IN WHICH IT CAN HELP PROGRAMS MAINTAIN AND ACQUIRE NEW EQUIPMENT AS THE NEEDS OF INDUSTRY CHANGE.

The Council appreciates the response of the administration documented in Dr. Chapman's August 5, 2002 memo to previous recommendations concerning maintenance and acquisition of equipment. The Council also recognizes there is no way that the University can fund all of the equipment requirements of all of the programs at the University. With a few exceptions, most of the programs reviewed this cycle had adequate facilities and equipment. However, concern was expressed by several program panels related to funding for maintenance, replacement of equipment items, and the purchase of new equipment. Updating of computers to handle increasingly sophisticated software continues to be a problem. The University should continue to provide support for the maintenance of equipment and establish funds the upgrading of equipment. The procedures for requesting such funds should be widely communicated throughout the campus. In addition, the University should continue to encourage and support the efforts of faculty and program administrators as they seek off campus sources of equipment and resources. (1995-1996, 1997-1998, 1998-1999, 1999-2000, 2001-2002)

THE UNIVERSITY SHOULD INVEST IN PROGRAM SPECIFIC ENROLLMENT AND RECRUITING EFFORTS:

The current guidelines for the academic program review process require the APRC to evaluate enrollment in programs as a part of the review process. Low enrollment in a program does have a direct impact on program cost and faculty productivity (as defined by the business operations of the University), particularly in programs that are laboratory and technology intense. Low enrollment does not necessarily have a direct relationship to the quality of education that is delivered to students.

As far as the Academic Program Review Council was able to determine, at least with respect to the programs that were reviewed this year, low enrollment levels were unrelated to the quality of instruction, the availability of jobs in the field, the potential salaries of employees in the field, and even the availability of financial aid in the form of scholarships to students. Some of the under-enrolled programs that were reviewed this year have few or no competitors in the state of Michigan and in some cases in the country. The faculty in several

of these under-enrolled programs has made an intensive recruiting effort, which seems to have had only a limited impact on increasing student numbers. On the other hand, new degree initiatives in the College of Education and Human Services and in the College of Arts and Sciences have resulted in programs with rapidly increasing enrollments but limited opportunities in the job market. The difference seems to be the visibility of programs to prospective students.

It has become apparent to the members of the Council, particularly those who have served several years, that allocating a few marketing dollars to a program with enrollment difficulties and creating an attractive brochure does little to increase student numbers. Asking faculty to spend increasingly more time in recruitment efforts is not a particularly productive or effective approach to solving the problem. Typically faculty members have had little, if any, training in marketing techniques, demographic analysis, and brochure design. Most faculty members choose teaching because of their love of their subject area and their desire to share their knowledge with students, not because of an interest in the marketing of their program to prospective students.

If the University is truly committed to its historic mission of preparing students for a career and wishes to continue to serve the state of Michigan by providing graduates who are prepared to work in vital areas of our economy such as heavy industry or health care and yet maintain the fiscal viability of the University, it must address the issues related to the marketing low enrollment programs at an institutional level. It must supplement the efforts of faculty and administrators in programs with low enrollment through the use of institutional resources for focused marketing that increases the visibility of low enrollment programs and increases the awareness on the part of prospective students that many of the programs at Ferris State University lead to career options in vital industries in which high paying jobs are going unfilled.

THE ACADEMIC SENATE SHOULD REVIEW ITS CHARGE TO THE ACADEMIC PROGRAM REVIEW COUNCIL.

The Academic Program Review Council has begun the second round of program review. It is time to review and to reevaluate the criteria that are utilized as the basis for recommendations that are listed in the document Academic Program Review: A Guide for Participants. The academic program review process should focus on the quality of instruction offered in each program. Some of the criteria mentioned previously seem to have a marginal relationship to that goal, at best. For example, the focus on enrollment, productivity, cost of instruction, demand for graduates and the salaries they achieve are certainly of interest and importance to the administration. The question that arises is whether the academic program review process is the appropriate medium to collect and tabulate that data. Perhaps the academic program review process should focus more directly on what skills or competencies are required of graduates, how effectively programs deliver instruction that provides students with those skills and competencies, how the programs assess the skills and competencies of their students and graduates, and what hinders the programs in their attempts to fulfill their responsibilities to their students.

The Academic Program Review Council, 2002-2003

Jack Buss, Arts and Sciences , Chair
Douglas Fonner, Arts and Sciences
Carrie Forbes, Library and Information Services
Michael P Keating, Optometry
Richard Kowalkoski, University College
Jim Mayhew, Allied Health Sciences
Connie L Morcom, Education and Human Services
Norwood "Woody" Neumann, Pharmacy
Dan Skurski, Technology
William Smith, Business
Randy Stein, Technology

Questions for APR Panel
AAS Degree in Printing and Digital Graphic Imaging Technology
BS Degree in Printing Management
BS Degree in New Media Printing and Publishing

Please list the primary skills, abilities, and knowledge base that you expect that a graduate of your program would possess.

Today's printer is responsible for a lot more than putting ink on paper. The creation and enhancement of high-resolution digital graphic files and the distribution of those images via Local Area Networks, Wide Area Networks, the Internet, CD-ROM, DVD-ROM are all part of the printer's job. There is a job for just about everyone with an interest in working with their hands, mind, and an interest in creative problem solving.

Specifically, verbal and written communications skills are important. A strong knowledge of the entire print manufacturing process, and the ability solve problems are skills that we strive to build in our graduates.

For each skill, ability or knowledge base listed above, identify the major component(s) of your curriculum that are designed to develop that characteristic in your graduate.

The entire AAS in Printing and Digital Graphic Imaging Technology is designed to give a solid foundation of skills and knowledge of the print manufacturing process. There are so many possible careers that are very different from one another but still rely on the same base knowledge that our advisory board and industrial employers demand we teach all students a solid foundation of the process.

Because each and every product manufactured is different from the last, communications of customer's wishes and manufacturing instructions must be clear. Each course in the AAS Program has several writing assignments ranging from lab reports to research papers. Every course in the BS degree programs have weekly writing assignments, term writing assignments, as well as presentations using PowerPoint or other visual aids.

Also as a result of the highly customized nature of the products and services delivered by printing companies, problem solving skills play a role in the success of our graduates. Our laboratory experiences and internships are designed to replicate or place students into real situations. PMGT 361 and 362 are courses that involve students in our "University Printing" operation, a real operating printing company that is run by the students. In addition to real work being manufactured, several practice jobs and situations are presented to teach the students how to problem solve.

Who are your competitors in the state of Michigan?

Western Michigan University has the only other BS Printing Management Program in the state. They currently have about 50 students total enrollment. While their program is heavily theory based and minimizes the application of skill and knowledge they are having an entire new building built which may cause some interference with our recruiting process. Students and parents are impressed with bricks and mortar which sometimes overshadow curriculum and faculty.

There are no other schools in the Mid West offering any type of BS in New Media Printing and Publishing. We are one of only about three in the United States. This provides opportunities to transfer students from community colleges.

There are about 8 community colleges that offer an AAS degree with components similar to ours. Most of which have dropped the "Production" aspect of our industry and focused more on the artistic design side – It is much easier to attract students to graphic design but far more difficult to find them work when and if they graduate. Case by case articulation is given to students who wish to gain either or both of the BS degree options.

Please discuss the attrition that you experience in the AAS and BS programs.

In review of a five year history (Fall 97 – Fall 01) we retain and average of 65% of our freshmen population. That is 65% of the FTIACs continue to their second years. During the same historic period, 53% of our students chose to leave our department with only an AAS in Printing and Digital Graphic Imaging Technology. 47% stayed to begin their junior year in one or both of our BS degree programs. It is interesting to note that fall of 2001 we had 75% of our students continue from their sophomore to junior year. We believe this to be a result of the new BS in New Media Printing and Publishing Degree.

What is the relationship between your students earning a degree and their ability to obtain a job? Is on the job training a viable option for gaining employment in the field?

There is NO shortage of career opportunities for our graduates! According to the FSU 2000-2001 Graduate Follow-Up Report, graduates of both the AAS Printing and Digital Graphic Imaging Technology program and the BS Printing Management program were all placed. The 100% placement rate has been consistent for ten years. Despite the recent economic downturn since 9/11/01, we have seen four companies per graduate come to recruit our students.

The starting salary for BS Printing Management graduates averages $31,850 which is $3,000 to $4,000 higher than the average College of Business "Management" or "Visual Communications" graduate. Employers have consistently seen the value of a FSU Printing Management graduate over on the job training. There are too many unique aspects to our industry to efficiently provide on the job training.

How does the starting salary of an AAS graduate compare with that of a BS graduate?

It has been a challenge to accurately track the starting salaries of the AAS degree graduates. Placement data suggests recipients of a BS Printing Management Degree or New Media Printing and Publishing degree start out earning nearly $10,000 a year more.

What is your enrollment this fall and how does it compare to previous years? Are there any hindrances that are preventing you from reaching the cap?

Total enrollment for fall 02 is relatively stable or the same as fall 01. Freshmen admits are significantly down (-19) from one year ago, however the matriculation from the AAS degree to our offerings of BS degrees is up. The net result is a flat departmental enrollment.

We believe the drop in freshmen admits is amplified by the fact that fall 01 was the largest freshmen class since 1988 which was 15 students greater than fall 00. The recruiting effort was not as great during the 2001-02 school years as it was in past years. Plans are underway to increase the effort in the area of recruiting.

Please describe impact of the surveys that you distribute on the design of your curriculum.

The faculty in the Printing and Imaging Technology Management Department have taken survey data seriously as is evident in our frequent curriculum clean-ups and introductions of new BS and Minor options. This most recent data has initiated a discussion within our faculty group that some attention needs to be given to some of the pre-press courses in the AAS degree. I am confident that before this academic year is complete there will be some revisions submitted.

How difficult is it for your faculty to stay current with technology? What type of funding do you have for faculty development? What are the hindrances that you encounter?

The difficulty of staying current with technology is in the fast rate in which the technology used in our industry changes. We have tremendous industry support which our faculty take advantage of. Companies like Heidelberg, Scenicsoft, and Access Business Group are always inviting us to participate in free training opportunities. Trade Associations like the Printing Industries of Michigan provide scholarships and free training opportunities for faculty.

The challenges fall in scheduling this training around classroom obligations and paying for the travel arrangements. Seldom if ever are there training opportunities here in Big Rapids. Usually our faculty must travel to either the east or west coast. If we are fortunate we can get some faculty development in Chicago.

Historically funding has been provided through department S&E accounts or our department development account. We try to maintain a balance of $20,000 in our development account to fund travel and pay for new equipment and the repairs of existing equipment. Recent economic conditions have put a severe strain on this pool of resourses.

The College of Technology Deans office has recently made available $20,000 to $40,000 of funding for the entire college in which faculty can write a grant to receive some

development support. This is similar the Timme travel grant program which our faculty also participate in. Our faculty have participated in the Timme process for several years.

In section 1, page 5 you discuss the minor in desktop publishing. Do you have any non-PTEC students currently enrolled in these courses?

There are currently three non PTEC students enrolled in some of the courses. These students are from the Technical Communications and the Information Systems programs. We recently sent a mailing to 350 currently enrolled students working on BA or BS degrees in areas we felt might benefit most from a Minor in Desktop Publishing. Since that mailing went out we have enrolled two additional students to start Winter 03.

In section 1, page 6 you suggest that the University should study combining the Copy Center and University Printing. How would this proposal benefit the University? Please describe how you think that this could be implemented and discuss any obstacles to carrying out this proposal.

A report in much greater detail is currently being authored and is planned to be submitted to the administration before the end of the semester.

In summary, the advancement in technology and reduction in cost of that technology has opened the doors for amateur graphic designers (same rationale for the Desktop Publishing Minor). As we sample the printed products being used and distributed around campus we see terrible inconsistencies in quality. In addition, a desktop color laser or ink jet printer offers convenience to a user but at a very high cost per copy if multiple copies are being generated. The institution needs to look at its procurement policies with regard to the purchase of ALL PRINTED material and centralize this function as it is done at most universities in the United States. A combined Copy Center/University Printing operation would allow for a centralized, more diverse offering of products and services.

The Printing and Imaging Technology Management Department offers some of the most technologically advanced equipment available to reproduce a number of the university publications. We do however currently utilize student labor as part of our "real world" curriculum to operate this equipment. Unfortunately, our ability to produce a consistent product on time is limited with the exclusive use of student labor.

If the Copy Center operation were to be merged with our University Printing operation all technologies would be available for the students copy center to use. Printed products and imaging services could be provided to the university with greater quality and at a lower cost than what outside vendors provide. Students would be given an even greater "Real life" experience in class, and valuable capital equipment would be utilized more efficiently, institutional dollars would remain on campus.

In section 1, page 6 you discuss digitization of information. To what degree has your curriculum been modified in recent years to address this trend?

The addition of the BS New Media Printing and Publishing and Minor in Desktop Publishing is the most obvious modification. As state earlier, we have revised or cleaned up our curriculum each year for the last five years, mostly as a result of the digital revolution. Print is not dead in fact there has been a large surge to use print for marketing. (See attached survey article)

In section 3, page 7 a significant numbers of employer indicated that many of your students were lacking in communication skills. What are you doing to address that deficiency?

We have in our curriculum ENGL 150, 250, and 311. Students are advised as to the importance of these courses and are routinely sent to use services like the writing center available on campus to assist them. In addition, there are writing assignments in ALL PTEC, PMGT and NMPP courses. These range for lab reports, and course notebooks to term and weekly research papers. Some faculty, with their own money, have hired Languages and Literature Department faculty or their designees to assist in the "grammatical" grading of these papers.

A large number of courses require some type of class presentation using PowerPoint to aid in the delivery of verbal information. Guest speakers from our industry have been brought in each year to give all department assemblies on "How to interview for a job", "How to build a network at career fairs", or "How to communicate at the work place"

In the summary in section 5, page 1 you indicate that there are apparently some services not provided by the computer consortium. Please elaborate.

Please understand some history - We use one of only two Macintosh computer labs on campus. This, in and of itself lends our faculty to feel like second class citizen. Prior to the start of computer support consortia, our department was one of only a few if not the only department that had no paid or contracted computer support in the College of Technology. Our faculty performed 100% of the service and support of our computers.

When the BTC was formed one technician was hired for the sole purpose of maintaining Macintosh computers within the consortium. This was a breath of fresh air but did create some challenges for the BTC, faculty, and staff to learn to work together. The BTC needs to support and have some control over the labs while the faculty needs to have the ability to make adjustments to the systems as part of their instruction.

For the most part things are going very well between the BTC and our department. However, the technician that was once devoted to 100% Macintosh is now serving as the

HEAT administrator and serving other departments in non-Mac support. We have seen a decline in response time and the services once offered to our faculty as a result.

In section 5, page 1 and in the faculty survey charts, it appears that faculty believe that the allocation of budget and capital outlay is not what it could be. Have you submitted unit action plans that include these items? What response have you gotten? What effect would having a capital outlay budget have on your ability to obtain contributions from industry?

Each year for the last three years there has been at least one UAP with regard to capital outlay. In some instances we have been successful in receiving our requests. We received funding for the replacement of our computer lab in 1998, we received funding for the purchase of a printing press, and for the renewal of software licenses.

Comments expressed by the faculty were with regard to this year's UAP request to remodel some unused and unusable lab space. We have several square feet of darkroom space that is not usable. We have requested Minor Capital Improvement money to covert this space into an additional lecture room, quality assurance lab, and a digital photo studio. The project was deemed too expensive.

There are new and emerging technologies available that if we were to have a clean space ready for them we could get donated or consigned.

In section 5, page 1 the comment was made that you need to move programs to Grand Rapids. Is there a serious discussion of this in your department and what, if any, are the obstacles to carrying out those plans?

Over the past several years we have made attempts to offer some courses in the Grand Rapids area. The courses taken in Grand Rapids have largely been attended by working individuals who want to upgrade their skills. We feel there are a couple of topical areas that would be of tremendous value to students working on Visual Design degrees at Kendall and here in Big Rapids. Purchasing print and technological limitations of media are very valuable to designers. However, curriculum is the responsibility of those departments and there has been no interest expressed in our proposals.

Dean Chang has very recently initiated a meeting between Oliver Evans and our faculty to discus opportunities in Grand Rapids.

In section 5, page 1 and section 8, page 2 you indicate that the computers in the computer lab should be replaced. Are these the computers purchased through the special initiative in 1998 identified on page 1 of the special section? What impact does using these older computers have on the education of your students? Has this request been put in a unit action plan or minor caps budget? What is the status of this proposal?

We are in need of replacing the 1998 computer lab. A request has been made through the UAP process and it was decided last year that other COT departments had higher needs

than ours. We are once again requesting UAP funding to replace this lab. We have currently been given the highest priority by our college administration and are hopeful these machines will be replaced by fall 03.

The current computers will not run the latest operating system available. In one year's time, we will be out of cycle with our software titles as a result of the old technology. If we do not update this lab within the next twelve months, student learning will be affected.

In the charts in section 5, page 14, questions 30 and 31 there appears to be dissatisfaction with the use of instructional support staff and clerical support staff. Please comment on this.

It is difficult to understand this at this time. The only explanation we might offer is that there were nine people responding to the survey. It was taken on the same day and perhaps there was some momentary dissatisfaction in this area. We will yield to discussion.

In section 8, page 2 and section 12 page 3 you indicate that there should be renovation of the facilities containing the darkrooms. Has this request been put in a unit action plan or minor caps budget? What is the status of this proposal?

Comments expressed by the faculty were with regard to this year's UAP request to remodel some unused and unusable lab space. We have several square feet of darkroom space that is not usable. We have requested Minor Capital Improvement money to covert this space into an additional lecture room, and quality assurance lab, and a digital photo studio. The project was deemed too expensive.

We will continue to list this in the UAP – If the Copy Center were to merge with us and occupy some of our space this could be accomplished through funding provided by that project.

Ferris State University
College of Technology

ACADEMIC PROGRAM REVIEW REPORT

Minor – Desktop Publishing
Associates in Applied Science in Printing and Digital Graphic Imaging Technology
Bachelor of Science in Printing Management
Bachelor of Science in New Media Printing and Publishing

Printing and Imaging Technology Management Department

Program Review Panel

Patrick Klarecki – PRP Chair Associate Professor/Department Chair PMGT Program Faculty	Donald Santer Associate Professor PDGI Faculty
Robert Beaverson Associate Professor PDGI, NMPP Program Faculty	Dennis Smith Associate Professor PDGI, NMPP Faculty
John Conati Associate Professor PDGI, NMPP Program Faculty	Marshall Williams Associate Professor PDGI, NMPP Faculty
Richard Harmsen Associate Professor PDGI, NMPP Faculty	Joseph Corcoran Vice President Operations FP Horak Co. Interested Individual
William Papo Professor PMGT Faculty	Thomas Brownell Professor Languages and Literature Department
Ramon Robinson Assistant Professor PDGI Faculty	

Ferris State University
College of Technology

ACADEMIC PROGRAM REVIEW REPORT

Minor – Desktop Publishing
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PROGRAM OVERVIEW

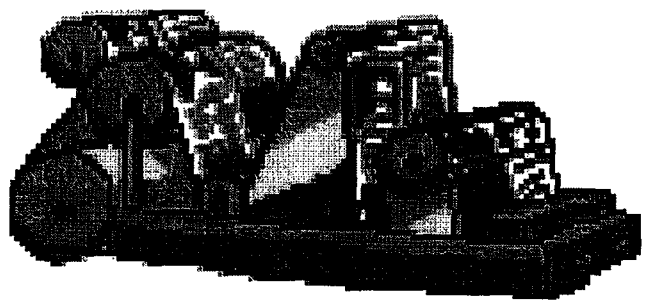
For

Minor - Desktop Publishing

AAS in Printing and Digital Graphic Imaging Technology

BS in Printing Management

BS in New Media Printing and Publishing



HISTORY & MISSION

Printing and Imaging Technology Management Department

The Ferris State University Printing and Imaging Technology Management Department has provided this country's third largest manufacturing industry well-trained professionals for nearly 50 years. Since the inception of the Printing Technology program in 1954, the Printing Management program in 1973, and most recently, the New Media Printing and Publishing program in 2000, several of the 46,000 employers nationwide have sought graduates from these areas. Like many programs here at Ferris, the Printing programs offer a unique set of skills to the students who plan a career in one of the most rapidly changing technological industries in the world.

The mission of all Printing and Imaging Technology Management Department programs is as adopted by the Department Advisory Board at the April 2000 meeting.

Ferris State University's Printing and Imaging Technology Management Department will serve the printing and graphic imaging industry by closely aligning the technical, academic, and management curriculum and instructional methods to the ever-changing needs of the employers. The department is committed to recruiting, training, challenging, and graduating the best possible work force for our industry.

AAS Printing and Digital Graphic Imaging Technology

The "General Printing" program was introduced in 1954 because of a severe shortage of linotype operators needed by the booming newspaper industry. With substantial support from the industry and State of Michigan, curriculum in the area of printing began at Ferris. Not long after its beginning, the program quickly grew to be one of the most recognized and respected in the United States. The associates degree program has modified its curriculum several times over the years to keep current with changes in the print media industry. Like in the beginning, the industries largest suppliers have come forward to provide over $1,000,000 of the latest state-of-the-art technology for our students to experience.

The Printing and Imaging Technology Management Department programs have 100% job placement, with nearly 80% of its graduates continuing on into a BS degree track. According to the Printing Industries of Michigan, "July 2000 had over 2000 vacant jobs in Michigan alone". Even after the United States worst disaster on September 11, 2001, job placement and demand for trained graduates remains high. The skills taught, the method of applied technical instruction, and the state-of-the-art laboratories all contribute to making Ferris' program one of the most recognized and respected in the US.

BS Printing Management

The Ferris State University, Printing Management program began in 1973 as a result of the need for more formally trained business leaders in the printing industry. With two faculty, a curriculum focusing on the unique business operations of print was established. Each job manufactured by a printing company is custom and can be very different from the previous job. Jobs need careful planning, cost

estimating, scheduling, and crystal clear communications with the customer to assure the job is manufactured to the customers' satisfaction.

The print media industry has changed a great deal in 30 years forcing numerous curriculum changes to occur over the years. With these new trends in our industry there is an increased need for formally trained business managers. Printing companies will hire a Printing Management graduate over a general Business Management graduate because of the specific skills learned at Ferris State University in both the AAS Printing and Digital Graphic Imaging Technology degree and the BS Printing Management degree. Business owners simply do not have the time to train a business graduate printing technology or printing technology's gradates business skills. A person entering the work force needs to be able to hit the ground running.

In 2000, the BS Printing Management degree was the first degree in the world to be accredited by the ACCGC (Accreditation Council for Collegiate Graphic Communications). The ACCGC is an organization that was formed by the Graphic Arts Technical Foundation (GATF), the world's largest trade and technical association for the print industry, because of our industry's need for quality trained young professionals. Since our initial accreditation, the ACCGC has granted accreditation to Florida A&M and is considering applications from Cal Poly, Clemson, Rochester Institute of Technology and University of Wisconsin Stout. Ferris State University set the standard in which all other programs will be measured. Our applied approach to education, the University Printing operation, and the constant review of curriculum, won the praises of the site visitation team.

All graduates of the BS Printing Management program must complete a 400-hour paid internship the summer between their junior and senior year. During the internship, the students must apply their knowledge acquired during their first three years at Ferris. This gives the students an opportunity to apply skills learned in the class and laboratory to real work settings. The internship also gives employers the opportunity to "test drive" a student prior to hiring them full time upon graduation. There are a number of graduates who returned to their internship employer as a full-time employee.

BS New Media Printing and Publishing

The year 2000 marked the start of a new millennium. As the world celebrated this great accomplishment, several historic events were listed as significantly changing history. By most accounts, the invention of movable type by Guttenberg was hailed as the single most important invention of the past millennium as it opened the doors of education and communications. We begin the new millennium with what some are calling an equally significant technological advancement to Guttenberg's. The digitization of information has once again opened new doors for the world to communicate as one.

The faculty and staff of the Printing and Imaging Technology Management Department at Ferris State University saw our print media industry changing in the late 1990's. By working closely with the industry advisory board and other selected industry officials, the BS New Media Printing and Publishing program was started. The first such degree in the world was designed to focus on both the technological changes occurring within the print media industry as well as the business aspects. While only a few new courses were developed as they were determined to be absolutely necessary, several others were modified to address new challenges in our industry. In most cases, courses from the College of Business ISYS program were adapted without modification for this new degree offering.

May 2002 was the first ever graduating class of New Media Printing and Publishing graduates. At the time of this authoring, all are employed. Students graduating with a BS in New Media Printing and Publishing have been trained to facilitate images and data through a variety of media. Today's printing company is not only expected to communicate a customer's message by putting ink on paper, but it must also format it so that it can be used on the world wide web, add animation and audio so that interactive DVD's can be manufactured. Printers are managing digital assets for customers. An example of this is in the textbook manufacturing market where the printer holds all content for the publisher then manufactures and or distributes specific editions and quantities of that content as ordered by the teacher.

Managers and technicians in the print media industry must fully understand the traditional print manufacturing processes as well as the new digital workflow. Graduates of the New Media Printing and Publishing degree are given an appropriate mix in the areas of computer networking, database management, software design and selection. Courses in digital file repurposing, variable data printing, color management as well as web page construction have been added to the Printing and Imaging Technology Management Department's list of offerings. These courses were developed with existing faculty resources and have been able to be offered without the use of temporary or adjunct faculty.

After the completion of the second year for this program enrollment is at half capacity with 20 students. It is projected that we will reach full capacity by Fall 2006. Official enrollment numbers are somewhat inaccurate as the system cannot account for dual enrollments. Currently there are eight students who are working toward both a BS in Printing Management and a BS in New Media Printing and Publishing. Four of those students are listed in the Student Information System (SIS) as PMGT just as four Printing Management students are listed as NMPP.

Like the students in the Printing Management program all New Media students must complete a 400 hour internship. To save resources, the faculty agreed to use one internship course PMGT 393 for both programs. This saves the institution not only faculty salaries, but helps reduce the department S&E budget by consolidating travel expenses. Often more than one intern is located in the same part of the country allowing for an efficient visitation.

MINOR Desktop Publishing

Employers are looking for skills or qualities in potential employees that differentiate them from others. Being "Digital Savvy" by having advanced writing skills, scanning, electronic pagination, multimedia and web publishing skills may just be the difference needed for getting a job. The Minor in Desktop Publishing was originally proposed in September 2000 and was approved by all the appropriate parties in April of 2002.

The Desktop Publishing Minor is designed to complement any Ferris State University major by providing students the skills required to produce high quality visual presentation material. Graduates with a Minor in Desktop Publishing will be well equipped to meet the communications challenges of today's business climate. Employers expect their employees to be able to perform more of the presentation and document preparation tasks that were once done by highly trained professionals. Students majoring in any field that will require the use of both printed and multi-media presentation material should consider this Minor. Students pursuing this minor will be taught skills in web page creation, copy writing, copy preparation, visual presentation skills as well as more detailed uses of the technology not gained through trial and error or tutorials. The program officially opened Fall of 2002.

IMPACT & EXPECTATIONS

Minor Desktop Publishing

With the addition of several BA degrees on campus it is hoped that this Minor will fill some available seat capacity in our computer lab courses, and upper level Language and Literature courses. Because of the technological laboratory intensive nature of the AAS in Printing and Digital Graphic Imaging Technology (PTEC) program, many PTEC course are limited to 15 students while the computer lab will accommodate 21 students. These additional six seats can easily be filled with students working on this minor without adding any resources.

AAS & BS Programs

There is no aspect of life that is not affected by print. Imagine walking through the grocery store and seeing shelves of white boxes, clear plastic bags and bottles, with no indication of what is inside. The next time you drive your car, look at the dashboard and think about how you would know how fast you were driving, what knob you turn to change the fan, heating or cooling. From linoleum floors to the credit cards in your wallet, just about everything in our lives is printed. Printing ranks as the number one manufacturing industry in 10 states. The average state output of printed material in 2001 was $3.1 billion. Quality Printing Technology, Printing Management and New Media programs are critical to the future of our industry. Over the past two years various printing related industry trade associations have, for the first time, spent several hundred-thousand dollars towards promoting careers in our industry to young adults.

For the Printing and Imaging Technology Management Department, the future holds many new challenges despite the positive momentum currently underway. The program has two main concerns. First, the rate at which technology is changing within the printing industry puts several pressures on the department as well as the institution. As the industry changes so should the courses being taught to the students. The faculty must remain experts in their changing fields. This requires a commitment to development.

Secondly, enrollment needs to be increased. Everyone agrees that student tuition is the life blood of our University. More importantly, there have been over 100 companies which have requested Printing Management or Printing and Digital Graphic Imaging Technology graduates each year for the past five years. There were approximately only 30 students who graduated in each of the last three years. The printing industry, which has given equipment and training, might begin to question the value of their investment if there are not more students for them to hire. The initiative currently underway to make students aware of the career opportunities available in the printing industry and the rewards of attending Ferris must continue. Several strategies have been initiated to enhance the enrollment in PTEC, PMGT, and NMPP programs.

PLANS FOR IMPROVEMENT

Curriculum is continually monitored by both the faculty and advisory board. Changes to the curriculum have been and will continue to be made when necessary. Spring if 2002 saw the approval of a Minor in

Desk Top Publishing. Not only will this minor provide BA degree candidates valuable skills in document/image preparation and management, it will help fill the vacant capacity in our program. More and more requests from both private individuals as well as corporations for on-line or remote training have been received. The department must look for ways to balance the need to deliver on-line courses as requested by our industry with the institutional desires and policies to offer complete degrees. In both instances the department is looking at ways to provide these services without compromising the quality of instruction the Printing and Imaging Technology Management Department is known for.

As a result of acquiring many consumable supplies through donations, we have been able to use more of our S&E budget for faculty development. All faculty within our department have regularly attended some type of development activity. The College of Technology Dean's Office has also made available funds for faculty development. Several faculty have taken advantage of the Timme grant process to gain assistance for these activities.

Recruiting initiatives have and will continue. While enrollment is growing it is not as fast as we had hoped. The faculty and staff remain committed to all activities designed to bring students to Ferris State University. All faculty have provided a great deal of time to support the recruiting initiative.

As technology has changed the print media industry, it has also changed the needs of print production here on campus. The University Printing operation once was responsible for manufacturing schedule books, the Torch, the Crimson and Gold Alumni Newsletter, and several other documents. The digitization of information has reduced or eliminated the need for some of these materials to be mass produced but has created a need for the content of information to be managed. Because of the relationships the Printing and Imaging Technology Management Department has with several industry suppliers, we have on this campus the technology necessary to better manage print and information recourses. There should be an institutional study done to examine efficiency that could be gained by consolidating print and document resources into one operation. This could be accomplished by the combining of the Copy Center with University Printing.

ADMINISTRATIVE PROGRAM REVIEW: 2001

Program/Department: AAS Printing and Digital Graphic Imaging Technology / BS Printing Management / BS New Media Printing and Publishing / Printing and Imaging Technology Management Department

Date Submitted: October 23, 2001

Dean: Matrosic

Please provide the following information:

Enrollment

	Fall 1997	Fall 1998	Fall 1999	Fall 2000	Fall 2001
Tenure Track FTE	8.5	9	9	9	9
Overload/Supplemental FTEF	N/A	N/A	N/A	N/A	N/A
Adjunct/Clinical FTEF (unpaid)	N/A	Fall 1998	N/A	N/A	N/A
Enrollment on-campus total*	61/34	82/30	84/34	79/25/7 *	68/30/20 *
Freshman	26	44/0	38/1	36/0/1 *	51/0/0 *
Sophomore	30	30/1	31/0	32/1/0 *	15/0/0 *
Junior	19	8/14	13/9	10/4/4 *	2/13/11 *
Senior	20	0/18	2/24	1/20/2 *	0/17/9 *
Masters	N/A	N/A	N/A	N/A	N/A
Pre – technical	N/A	N/A	N/A	N/A	0
Pre-Professional Students	N/A	N/A	N/A	N/A	N/A
Enrollment off-campus*	N/A	N/A	N/A	N/A	N/A
Traverse City	N/A	N/A	N/A	N/A	N/A
Grand Rapids	N/A	N/A	N/A	N/A	N/A
Southwest	N/A	N/A	N/A	N/A	N/A
Southeast	N/A	N/A	N/A	N/A	N/A

*Use official count (7-day)

If there has been a change in enrollment, explain why: Counts are displayed, AAS PDGI / BS PMGT / BS NMPP

Total amongst the three programs: 68/30/20. Please note: 3 PMGT and 3 NMPP students are actually working towards BS degrees in both areas above numbers above do not reflect this duplication

Capacity:

Estimate program capacity considering current number of faculty, laboratory capacity, current equipment, and current levels of S&E. What factors limit capacity? Faculty load and laboratory equipment

105/40/40 students 90/40/40 majors - Some courses have excess capacity for non-majors

What factors limit program capacity? Faculty load and laboratory equipment

Financial

Expenditures*	FY 97	FY 98	FY 99	FY 00	FY 01
Supply & Expense	$35,156	$35,557	$32,505	$31,450	$52,103
Faculty Prof. Development	N/A	N/A	$ 2,804	$ 1,907	$15,791
General Fund	N/A	N/A	N/A	N/A	$46,995
Non-General Fund	N/A	N/A	N/A	N/A	$ 5,108
UCEL Incentives	N/A	N/A	N/A	N/A	N/A
FSU-GR Incentives	N/A	N/A	N/A	N/A	N/A
Equipment	$25,855	$15,908	$69,084	N/A	$105,000
Voc. Ed. Funds	$25,855	$15,908	N/A	N/A	N/A
General Fund	N/A	N/A	$69,084	N/A	$75,000

Non-General Fund	N/A	N/A	N/A	N/A	$30,000
UCEL Incentives	N/A	N/A	N/A	N/A	N/A
FSU-GR Incentives	N/A	N/A	N/A	N/A	N/A

*Use end of fiscal year expenditures.

If you spent UCEL and FSU-GR incentive money for initiatives/items other than faculty professional development and equipment, what were they? Explain briefly. Please also include amounts spent on each initiative/item.

Revenues	FY 97	FY 98	FY 99	FY 00	FY 01
Net Clinic Revenue	N/A	N/A	N/A	N/A	N/A
Scholarship Donations	$25,200	$32,800	$34,900	$41,750	$54,000
Gifts, Grants & Cash Donations	$24,600	$13,725	$1,820	$25,975	$19,800
Endowment Earnings	N/A	N/A	N/A	N/A	N/A
Institute Programs/Services	N/A	N/A	N/A	N/A	N/A
In-Kind	$15,000	N/A	$161,228	$221,130	$109,367

Other

	AY 96/97	AY 97/98	AY 98/99	AY 99/00	AY 00/01
Number of Graduates* - Total	21/16	12/14	19/11	19/16	21/20
- On campus	21/16	12/14	19/11	19/16	21/20
- Off campus	N/A	N/A	N/A	N/A	N/A
Placement of Graduates	78.1%	100%	80%/100%	100/100 %	100/100%
Average Starting Salary	$18,300 / $27,382	$19,000 / $28,000	$20,000 / $28,700	$? / $30,200	$? / $32.300
Productivity - Academic Year Average	197/213	195/218	236/438	247/239	242/171/ 269
- Summer	5/134	54/113	0/93	0/122	0/116/0
Summer Enrollment	N/A	N/A	N/A	N/A	N/A

* Use total for full year (S, F, W)

1. a) Areas of Strength:
   - Nationally Recognized and Accredited
   - Curriculum is current and consistent with our industries needs
   - !00% job placement
   - Strong industrial support with donations of equipment and cash

   b) Areas of Concern and Proposed Action to Address Them:
   - Ability to draw quality students – recruiting is working, record Freshman class
   - Keep University and industry support high – continue marketing

2. Future goals (please give time frame)
   - Continue to grow enrollment – full capacity in 7 years
   - Continue to secure equipment donations – continuous
   - Work to collaborate with other academic and university departments – over next 3 years
   - Collaborate with and take advantage of internet training opportunities

3. Other Recommendations:
   - Continue to look at collaboration with Visual Communications
   - Remodel existing space that is not being utilized

4. Does the program have an advisory committee?

   a) If yes, when did it last meet? Friday, April 27, 2001

   b) If no, why not? By what other means do faculty receive advice from employers and outside professionals? Class and self field trips to companies, consulting and training, and trade expositions.

   c) When were new members last appointed? Friday, April 27, 2001

   d) Are there non-alumni/ae on the committee? How many? Yes, Six

5. Does the program have an internship or other cooperative or experiential learning course? Yes

   a) If yes, is the internship required or recommended? Required

   b) If no, what is the reason for not requiring such an experience?

6. Does the program offer courses through the web? NO

   a) Please list the web-based (fully delivered through the internet) courses the program offered last year? None

   b) Please list the web-assisted (e.g., WebCT) courses the program offered last year.

   - PTEC 143 NMPP 330
   - PTEC 243 NMPP 420

7. What is unique about this program?

   a) For what distinctive characteristic is it know in the state or nation?
      - State of the art technology in the laboratories
      - First Printing Management Program to be accredited by the Graphic Arts Technical Foundation.
      - First New Media Degree in the USA
      - Small class sizes
      - Hands on instruction
      - Curriculum that meets the current and future needs of the printing industry

   b) What are some strategies that could lead to (greater) recognition?
      - Enhanced University support to match corporate donations
      - Net delivered or other distance type courses/seminars

8. Questions about Program Outcomes Assessment (attach additional sheets, if necessary):

   a) What are the program's learning outcomes?
      1. To insure the current tradition of fine program content is being delivered consistent with employer needs.
         Expected outcomes: continuation of 100% job placement
      2. To provide students with an appropriate mix of industrial technological, business technological, communications, decision making and practical work related and life skills, that will allow the graduate to adapt and grow in our rapidly changing printing and imaging technology management industry.

Expected outcomes: continuation of 100% job placement, marked career progression for several years after graduation. The development of new courses or the adoption of existing courses relevant to industrial trends and needs.

3. Increase the number of academically prepared employees for the printing and imaging technology management industry.
   Expected outcomes: Enrollment growth, development of new courses as needed by the industry.
4. To provide students the opportunity to use current industrial and information technology as it is used in the work environment.
   Expected outcomes: Utilize a continuous improvement/replacement model for the planning of future technological changes.

b) What assessment measures are used, both direct and indirect?

1. FSU Career Services placement data
2. Department Alumni follow up survey data
3. Annual Advisory Board meeting/feedback
4. FSU Enrollment data
5. FSU Planning Initiative Process
6. FSU Administrative Program Review
7. FSU Academic Program Review
8. Accreditation Council for Collegiate Graphic Communications Accreditation

c) What are the standards for assessment results?

1. Continuous improvement trends in all areas listed above

d) What were the assessment results for 2000-01?

1. See all data reported in the report

e) How will / how have the results been used for pedagogical or curricular change?

1. As a result of Accreditation Self Study each syllabi and course outline have been review and modified
2. A new minor in desk top publishing is being proposed
3. All three programs had curriculum clean ups submitted for approval
4. The NMPP program will submit new clean ups this year
5.

9. Questions about Course Outcomes Assessment:

a) Do all multi-sectioned courses have common outcomes? Yes

b) If not, how do you plan to address discrepancies?

c) Do you keep all course syllabi on file in a central location? Yes

*If you have questions about the outcomes assessment portions of this survey, please contact Laurie Chesley (x2713).

ADMINISTRATIVE PROGRAM REVIEW: 2001

Form Completed by Patrick Klarecki
Name and Title

Reviewed by Dean_____
Name and Date

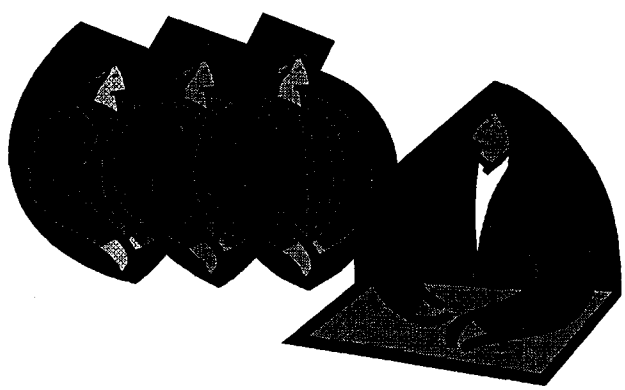
Graduate Follow-Up Survey

Minor Desktop Publishing

AAS Printing and Digital Graphic Imaging Technology

BS Printing Management

BS New Media Printing and Publishing



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Scope and Overview

The Printing and Imaging Technology Management Department graduate addresses were pulled from the Ferris State University Alumni Relations Millennium system. A total of 488 "Good" addresses were pulled form the total list of 756 program alumni. Of the 488 names used, 194 responses or 39% of the total were returned and tabulated.

The survey instrument was constructed to identify several factors such as the beginning and current salaries of our graduates, the use of old and new technology in our industry, and the value of courses offered in the current curriculum. While it is believed alumni hold the answers to many questions and can provide valuable input, this survey was kept short in hopes of getting a better response.

Summary

The data suggests two factors. First, the curriculum offered by the Printing and Imaging Technology Management Department seems to have been viewed as beneficial to the graduates. Nearly all felt the courses offered where either important or relevant to their career field. Second, as new courses have been added over the years, the perception of their relevancy was indicated as relevant or important in most cases.

Salary data suggests that while our graduates' starting salary are average of all university students and low in comparison to some other College of Technology graduates, our alumni are able to make quite a good living years after graduation. In fact, the average salary of our alumni is over $50,000 a year.

FERRIS STATE UNIVERSITY

November 15, 2001

Dear Printing Alumni,

The Ferris State University's Academic Program Review Committee is reviewing all the programs within the Printing and Imaging Technology Management Department. As a graduate of one or more of the programs within the Printing and Imaging Technology Management Department we need your input. The result of the academic program review process can range from increasing the resources and support available to the programs to placing the program on probation. Needless to say the information you provide is very valuable to the Printing and Imaging Technology Management Department.

Please take a couple of minutes to fill out the enclosed survey and return it in the self-addressed stamped envelope. We need to have all surveys returned before December 15, 2001.

You are highly regarded and respected in the printing industry as an alumnus of Ferris State University. The continued value of your diploma and those diplomas that were earned after yours can be enhanced by simply completing and returning the survey document.

Thank you in advance for your continued support.

Sincerely

Ramon Robinson
Associate Professor
Class of 78'

PRINTING AND IMAGING TECHNOLOGY MANAGEMENT DEPARTMENT
915 Campus Drive, Big Rapids, MI 49307-2291
Phone 231 591-2845 Fax 231 591-2082

Ferris State University
Printing and Imaging Technology Management Department

Survey of Graduate Perceptions

Please compete the following and return in the envelope provided: **RETURN BY DECEMBER 15, 2001**

Background

Name:_____
____AAS Printing and Digital Graphic Imaging Technology: Year Grad._____
____BS Printing Management: Year Grad._____
Current Home Address_____
Home Phone Number_____Work Phone Number_____
Company Name and location_____
Position Title _____
E-Mail Address_____

Salary

Initial Salary: Please indicate your starting annual salary upon graduation from Ferris State University:

__Below $20,000 __$20k to $23k __$23k to $26k __$26k to $29k
__$29k to $32k __$32k to $35k __$35k to $38k __$38k to $41k
__$41k and Above

Current Salary: Please indicate your current annual salary:

__Below $20,000 __$20k to $23k __$23k to $26k __$26k to $29k
__$29k to $32k __$32k to $35k __$35k to $38k __$38k to $41k
__$41k to $44k __$44k to $47k __$47k to $50k __$50k to $53k
__$53k to $56k __$56k to $59k __$59k to $62k __ Over $62k

Current Job Responsibilities

Which of the following best describes your current job position?
__ Owner
__Executive Management (Sr. manager, non-owner, overall operations/administrative)
__Production Management (Supervision of others in preparation and production of printed products)
__Production Operations (Primarily involved with equipment operation used in preparation and production of printed products)
__Sales and Marketing (Primarily involved with the sale of printed material, equipment or supplies to the print media industry)

Which of the following best describes your current job responsibilities?
__ Prepress composition (Desktop publishing, text editing, page layout pagination)
__ Traditional Stripping and Imaging (Work with film to manually impose and make flats)
__ Digital prepress (Work at computer work station to impose images and RIP files)
__ Color separation and color editing (operate scanner and make color corrections)
__ Traditional proofing and plate making (Use film flats to expose proofs and plates)
__ Digital proofing and plate making (RIP digital files to make proofs and plates)
__Sheetfed press operation (Press operators, helpers, duplicators through multicolor)
__ Webfed press operation (Press operators and helpers)
__ Digital press operation (Digimaster 9110, DI, Indigo, etc)
__ Binding and finishing operation (all mechanical, perfect, saddle, case binding, cutting, folding, laminating, embossing, stamping or other auxiliary operations)

Impact of curriculum on your career

Please circle your choices in each of the two columns to the right of each topic.

Relevance: Under this column rate the relevance of the topic to your career using:
5=Very Important, 4=Important, 3=Relevant, 2=Not Very Important, 1=Unimportant

Preparation: Under this column rate the preparation you received from your Printing and Imaging Technology Management Department program:
5=Very Important, 4=Important, 3=Relevant, 2=Not Very Important, 1=Unimportant, 0=Not offered at time of enrollment

Course Topic	**Relevance**	**Preparation**
Intro to Graphic Communications	5 4 3 2 1	5 4 3 2 1 0
Binding and Finishing Operations	5 4 3 2 1	5 4 3 2 1 0
Digital Scanning and Tone Reproduction	5 4 3 2 1	5 4 3 2 1 0
Photographic Imaging and Assembly	5 4 3 2 1	5 4 3 2 1 0
Electronic Pagination Systems	5 4 3 2 1	5 4 3 2 1 0
Digital Color Imaging	5 4 3 2 1	5 4 3 2 1 0
Digital and Color Image Assembly	5 4 3 2 1	5 4 3 2 1 0
Sheetfed Press Operation	5 4 3 2 1	5 4 3 2 1 0
Web Offset Press Operation	5 4 3 2 1	5 4 3 2 1 0
Estimating	5 4 3 2 1	5 4 3 2 1 0
Paper & Ink Technology	5 4 3 2 1	5 4 3 2 1 0
Preventive Maintenance	5 4 3 2 1	5 4 3 2 1 0
Math	5 4 3 2 1	5 4 3 2 1 0
English	5 4 3 2 1	5 4 3 2 1 0
Science	5 4 3 2 1	5 4 3 2 1 0
Psychology	5 4 3 2 1	5 4 3 2 1 0
Photography	5 4 3 2 1	5 4 3 2 1 0
Printing Production Planning	5 4 3 2 1	5 4 3 2 1 0
Printing Management	5 4 3 2 1	5 4 3 2 1 0

Production Cost Analysis	5 4 3 2 1	5 4 3 2 1 0
Quality Control Systems in Printing	5 4 3 2 1	5 4 3 2 1 0
Printing Management Internship	5 4 3 2 1	5 4 3 2 1 0
Printing Marketing and Purchasing	5 4 3 2 1	5 4 3 2 1 0
Printing Plant Layout, Organization, OSHA	5 4 3 2 1	5 4 3 2 1 0
Accounting	5 4 3 2 1	5 4 3 2 1 0
Communications	5 4 3 2 1	5 4 3 2 1 0
Management	5 4 3 2 1	5 4 3 2 1 0
Economics	5 4 3 2 1	5 4 3 2 1 0

Ferris State University
Printing and Imaging Technology Management Department

Survey of Graduate Perceptions - **Results**

Background

(53) - AAS Printing and Digital Graphic Imaging Technology: Year Grad. (1968-1999)
(171) - BS Printing Management: Year Grad. (1977-2000)

Salary

Initial Salary: Please indicate your starting annual salary upon graduation from Ferris State University:

(10) Below $20,000	(33) $20k to $23k	(41) $23k to $26k	(58) $26k to $29k
(17) $29k to $32k	(12) $32k to $35k	(11) $35k to $38k	(8) $38k to $41k
(4) $41k and Above			

Current Salary: Please indicate your current annual salary:

(0)Below $20,000	(0) $20k to $23k	(1) $23k to $26k	(3) $26k to $29k
(8) $29k to $32k	(9) $32k to $35k	(12) $35k to $38k	(17) $38k to $41k
(21) $41k to $44k	(18) $44k to $47k	(13) $47k to $50k	(12) $50k to $53k
(10) $53k to $56k	(12) $56k to $59k	(28) $59k to $62k	(30) Over $62k

Current Job Responsibilities

Which of the following best describes your current job position?
(12) Owner
(45) Executive Management (Sr. manager, non-owner, overall operations/administrative)
(76) Production Management (Supervision of others in preparation and production of printed products)
(33) Production Operations (Primarily involved with equipment operation used in preparation and production of printed products)
(28) Sales and Marketing (Primarily involved with the sale of printed material, equipment or supplies to the print media industry)

Which of the following best describes your current job responsibilities?
(10) Prepress composition (Desktop publishing, text editing, page layout pagination)
__ Traditional Stripping and Imaging (Work with film to manually impose and make flats)
(13) Digital prepress (Work at computer work station to impose images and RIP files)
(11) Color separation and color editing (operate scanner and make color corrections)
(2) Traditional proofing and plate making (Use film flats to expose proofs and plates)
(4) Digital proofing and plate making (RIP digital files to make proofs and plates)
(16) Sheetfed press operation (Press operators, helpers, duplicators through multicolor)
(14) Webfed press operation (Press operators and helpers)

(2) Digital press operation (Digimaster 9110, DI, Indigo, etc)
(4) Binding and finishing operation (all mechanical, perfect, saddle, case binding, cutting, folding, laminating, embossing, stamping or other auxiliary operations)

Impact of curriculum on your career

Please circle your choices in each of the two columns to the right of each topic.

Relevance: Under this column rate the relevance of the topic to your career using:
5=Very Important, 4=Important, 3=Relevant, 2=Not Very Important, 1=Unimportant

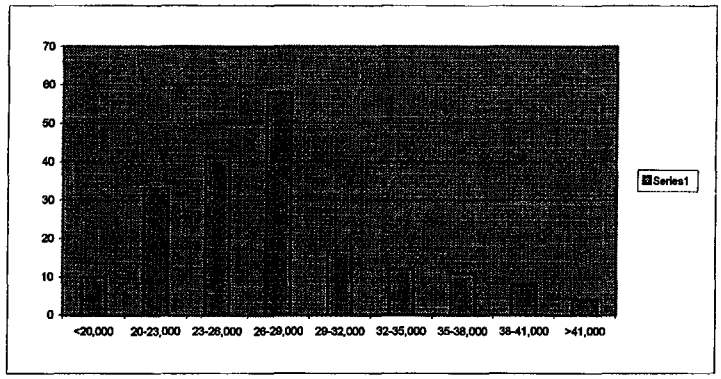
Preparation: Under this column rate the preparation you received from your Printing and Imaging Technology Management Department program:
5=Very Important, 4=Important, 3=Relevant, 2=Not Very Important, 1=Unimportant, 0=Not offered at time of enrollment

Course Topic	**Relevance**					**Preparation**					
	5	**4**	**3**	**2**	**1**	**5**	**4**	**3**	**2**	**1**	**0**
Intro to Graphic Communications	10%	67%	13%	9%	1%	1%	5%	1%	0%	0%	93%
Binding and Finishing Operations	17%	60%	18%	5%	0%	12%	56%	30%	2%	0%	0%
Digital Scanning and Tone Reproduction	22%	63%	15%	0%	0%	11%	35%	26%	4%	2%	22%
Photographic Imaging and Assembly	21%	66%	13%	0%	0%	9%	45%	31%	5%	0%	19%
Electronic Pagination Systems	27%	64%	9%	0%	0%	5%	35%	21%	2%	0%	63%
Digital Color Imaging	36%	54%	10%	0%	0%	5%	31%	19%	3%	0%	42%
Digital and Color Image Assembly	31%	66%	3%	0%	0%	5%	33%	21%	2%	0%	65%
Sheetfed Press Operation	17%	60%	18%	5%	0%	12%	56%	30%	2%	0%	0%
Web Offset Press Operation	11%	56%	24%	9%	0%	11%	51%	31%	7%	0%	0%
Estimating	38%	54%	8%	0%	0%	12%	56%	30%	2%	0%	0%
Paper & Ink Technology	10%	67%	15%	7%	1%	2%	54%	36%	8%	0%	0%
Preventive Maintenance	7%	64%	21%	7%	1%	7%	49%	33%	11%	0%	0%
Math	22%	63%	15%	0%	0%	12%	56%	30%	2%	0%	0%
English	36%	54%	10%	0%	0%	11%	51%	31%	7%	0%	0%
Science	11%	56%	24%	9%	0%	9%	53%	36%	2%	0%	0%
Psychology	10%	69%	13%	8%	0%	10%	54%	28%	6%	2%	0%
Photography	27%	64%	9%	0%	0%	11%	35%	26%	4%	2%	22%
Printing Production Planning	31%	66%	3%	0%	0%	12%	56%	33%	0%	0%	0%
Printing Management	30%	66%	5%	0%	0%	13%	61%	27%	0%	0%	0%
Production Cost Analysis	38%	54%	8%	0%	0%	12%	56%	30%	2%	0%	0%
Quality Control Systems in Printing	36%	54%	10%	0%	0%	11%	51%	31%	7%	0%	0%
Printing Management Internship	27%	64%	9%	0%	0%	5%	35%	21%	2%	0%	63%
Printing Marketing and Purchasing	17%	60%	18%	5%	0%	12%	56%	30%	2%	0%	0%
Printing Plant Layout, Organization, OSHA	11%	56%	24%	9%	0%	11%	51%	31%	7%	0%	0%
Accounting	22%	63%	15%	0%	0%	12%	56%	32%	0%	0%	0%
Communications	36%	54%	10%	0%	0%	11%	54%	34%	1%	0%	0%
Management	33%	57%	5%	5%	0%	7%	49%	33%	11%	0%	0%
Economics	10%	69%	13%	8%	0%	10%	54%	28%	6%	2%	0%

2001 Graduate Survey

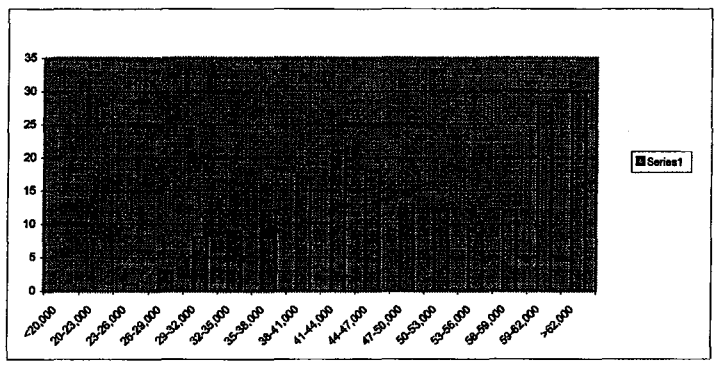
Initial Salary

<20,000	20-23,000	23-26,000	26-29,000	29-32,000	32-35,000	35-38,000	38-41,000	>41,000
10	33	41	58	17	12	11	8	4



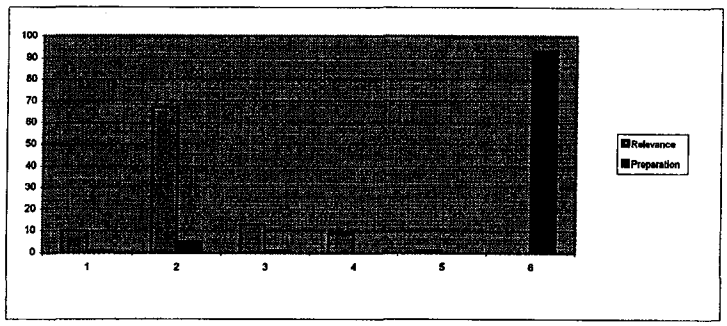
Current Salary

<20,000	20-23,000	23-26,000	26-29,000	29-32,000	32-35,000	35-38,000	38-41,000	41-44,000
0	0	1	3	8	9	12	17	21



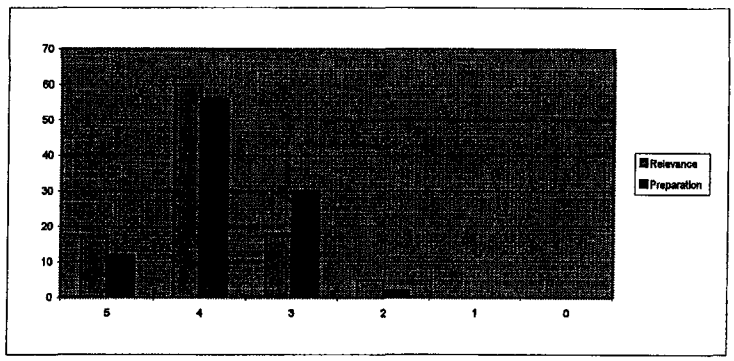
Course Relevance and Preparation
Intro to Graphic Communications

	5	4	3	2	1	0
Relevance	10	67	13	9	1	0
Preparation	1	5	1	0	0	93



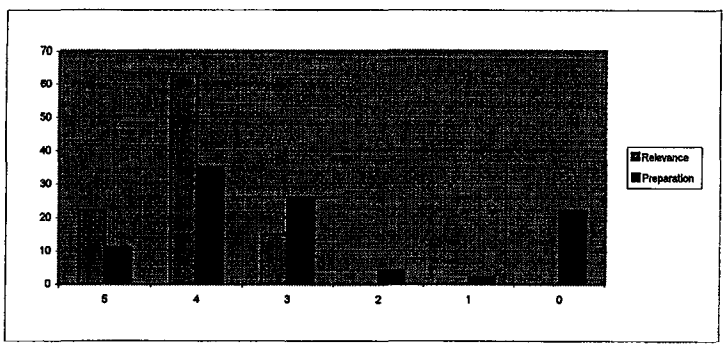
Binding and Fininshing Operations

	5	4	3	2	1	0
Relevance	17	60	18	5	0	0
Preparation	12	56	30	2	0	0



Digital Scanning and Tone Reproduction

	5	4	3	2	1	0
Relevance	22	63	15	0	0	0
Preparation	11	35	26	4	2	22

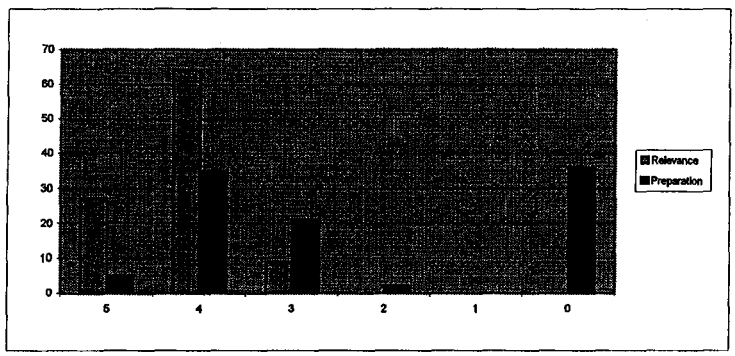


Photographic Imaging and Assembly

	5	4	3	2	1	0
Relevance	21	66	13	0	0	0
Preparation	9	45	31	5	0	19

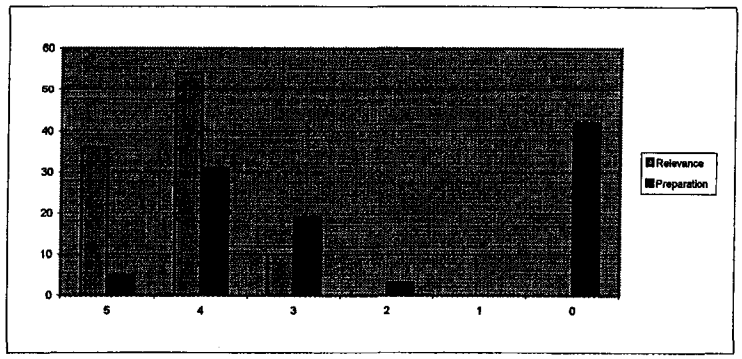
Electronic Pagination Systems

	5	4	3	2	1	0
Relevance	27	64	9	0	0	0
Preparation	5	35	21	2	0	36



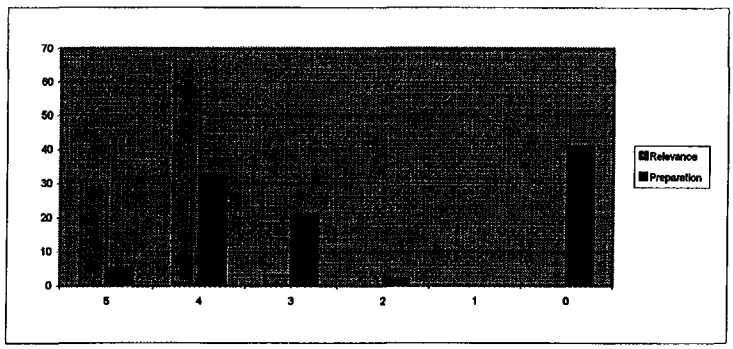
Digital Color Imaging

	5	4	3	2	1	0
Relevance	36	54	10	0	0	0
Preparation	5	31	19	3	0	42



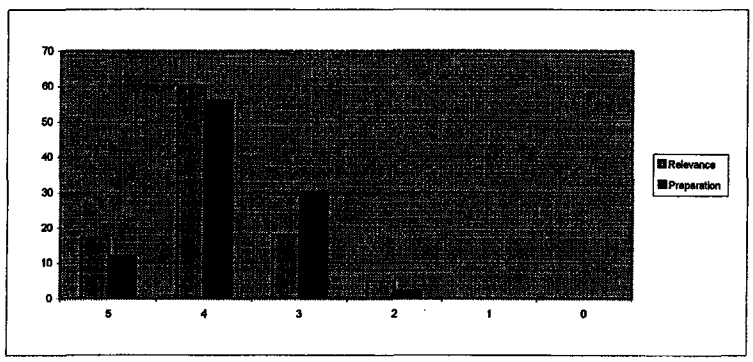
Digital and Color Image Assembly

	5	4	3	2	1	0
Relevance	31	66	3	0	0	0
Preparation	5	33	21	2	0	41



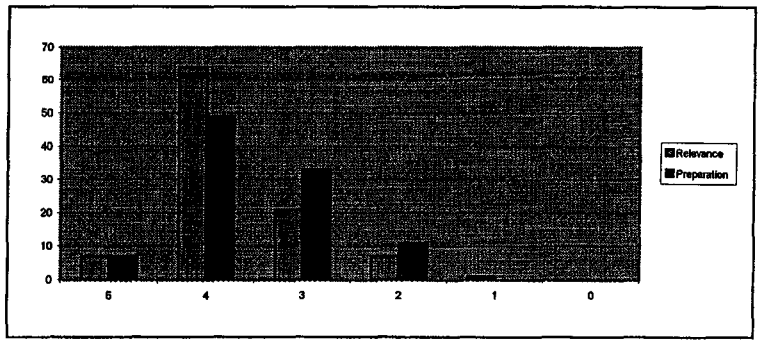
Sheetfed Offset Presswork

	5	4	3	2	1	0
Relevance	17	60	18	5	0	0
Preparation	12	56	30	2	0	0



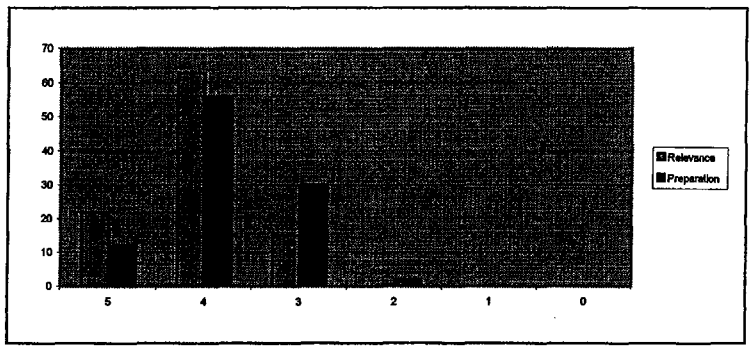
Preventive Maintenance

	5	4	3	2	1	0
Relevance	7	64	21	7	1	0
Preparation	7	49	33	11	0	0



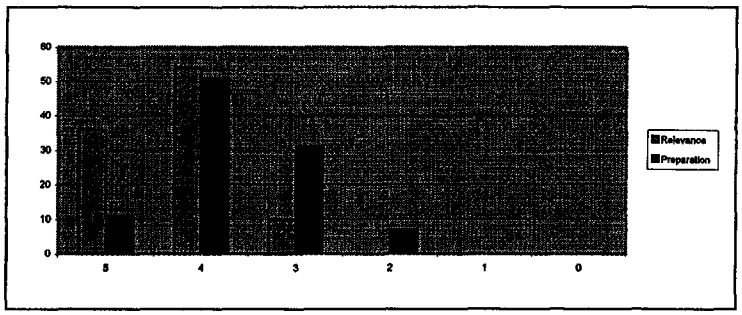
Math

	5	4	3	2	1	0
Relevance	22	63	15	0	0	0
Preparation	12	56	30	2	0	0

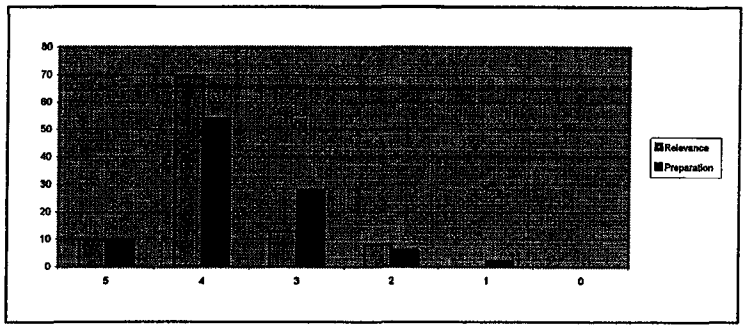


English

	5	4	3	2	1	0
Relevance	36	54	10	0	0	0
Preparation	11	51	31	7	0	0

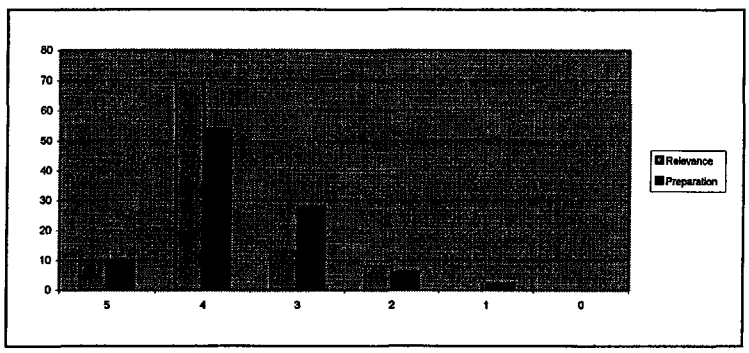


Science



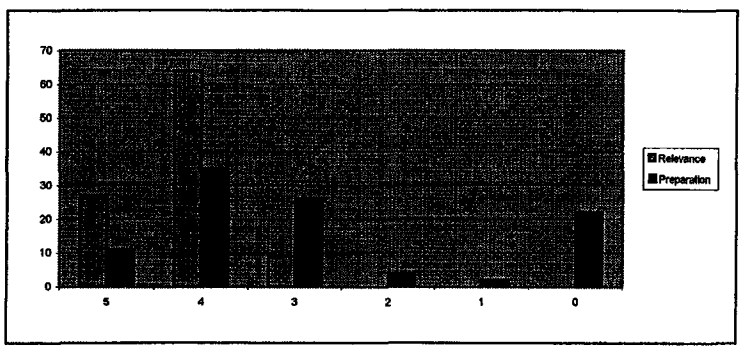
Psychology

	5	4	3	2	1	0
Relevance	10	69	13	8	0	0
Preparation	10	54	28	6	2	0



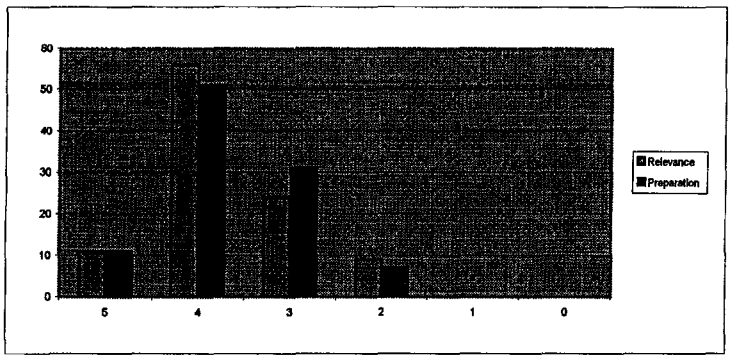
Photography

	5	4	3	2	1	0
Relevance	27	64	9	0	0	0
Preparation	11	35	26	4	2	22



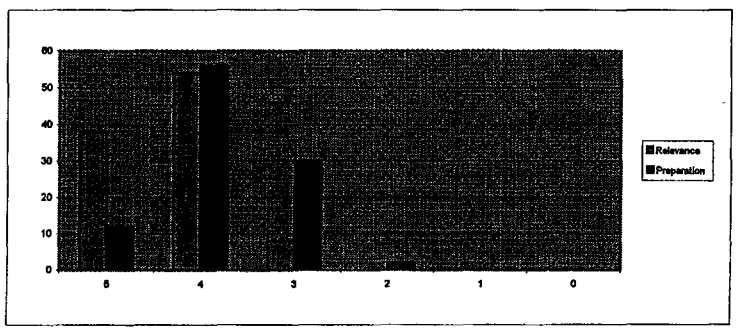
Web Offset Presswork

	5	4	3	2	1	0
Relevance	11	56	24	9	0	0
Preparation	11	51	31	7	0	0



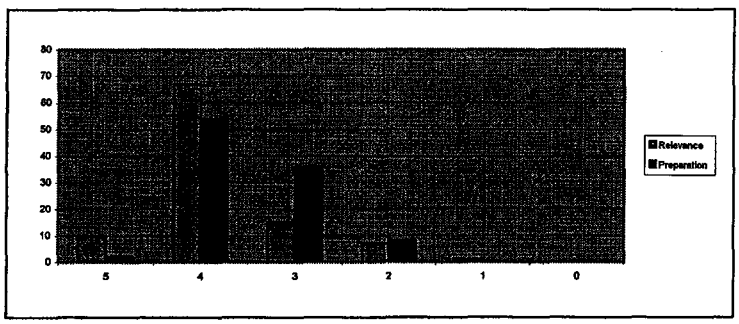
Estimating

	5	4	3	2	1	0
Relevance	38	54	8	0	0	0
Preparation	12	56	30	2	0	0



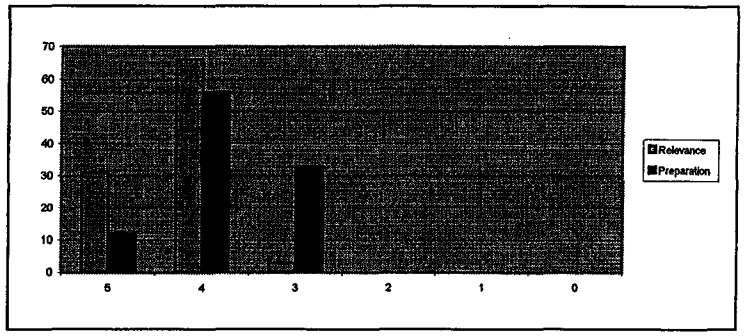
Paper & Ink Technology

	5	4	3	2	1	0
Relevance	10	67	15	7	1	0
Preparation	2	54	36	8	0	0



Printing Production Planning

	5	4	3	2	1	0
Relevance	31	66	3	0	0	0
Preparation	12	56	33	0	0	0



Printing Management

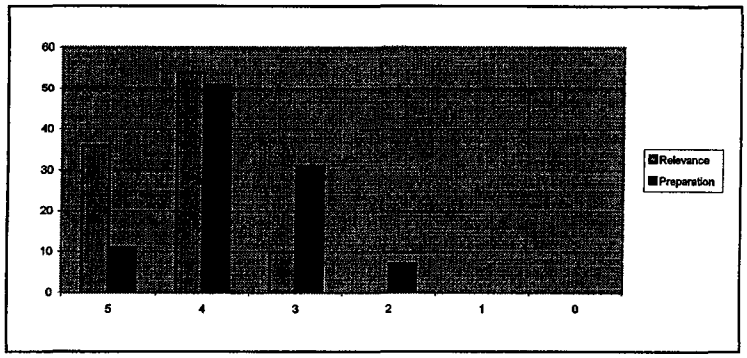
	5	4	3	2	1	0
Relevance	30	66	5	0	0	0
Preparation	13	61	27	0	0	0

Production Cost Analysis

	5	4	3	2	1	0
Relevance	38	54	8	0	0	0
Preparation	12	56	30	2	0	0

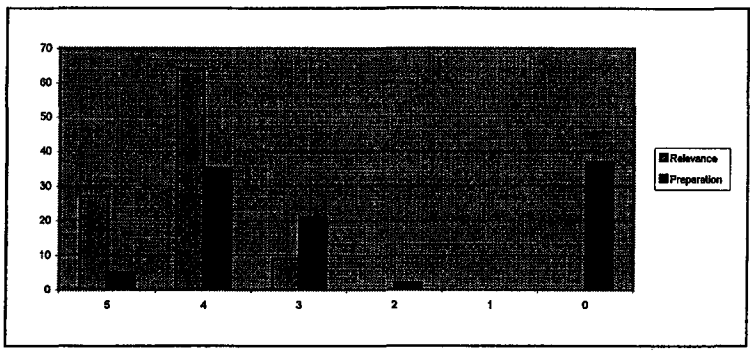
Quality Control Systems in Printing

	5	4	3	2	1	0
Relevance	36	54	10	0	0	0
Preparation	11	51	31	7	0	0



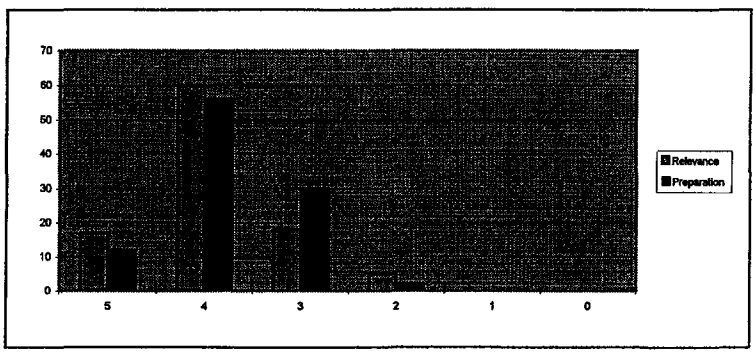
Printing Management Internship

	5	4	3	2	1	0
Relevance	27	64	9	0	0	0
Preparation	5	35	21	2	0	37



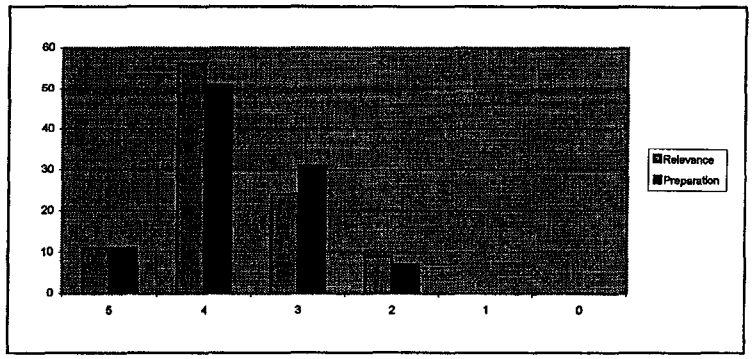
Printing Marketing and Purchasing

	5	4	3	2	1	0
Relevance	17	60	18	5	0	0
Preparation	12	56	30	2	0	0



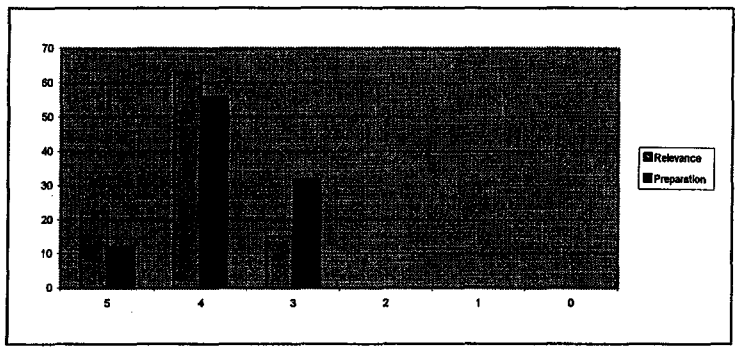
Printing Plant Layout, Organization, OSHA

	5	4	3	2	1	0
Relevance	11	56	24	9	0	0
Preparation	11	51	31	7	0	0



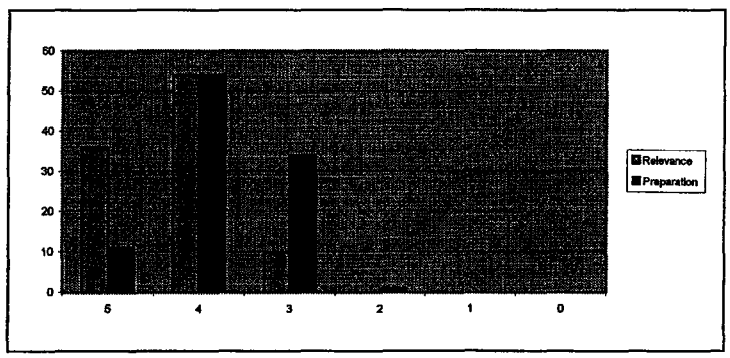
Accounting

	5	4	3	2	1	0
Relevance	22	63	15	0	0	0
Preparation	12	56	32	0	0	0



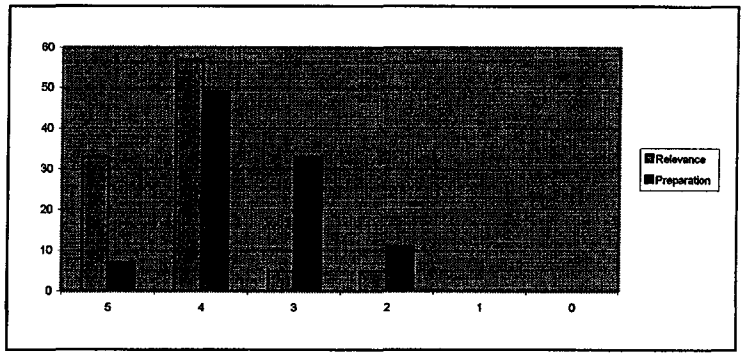
Communications

	5	4	3	2	1	0
Relevance	36	54	10	0	0	0
Preparation	11	54	34	1	0	0



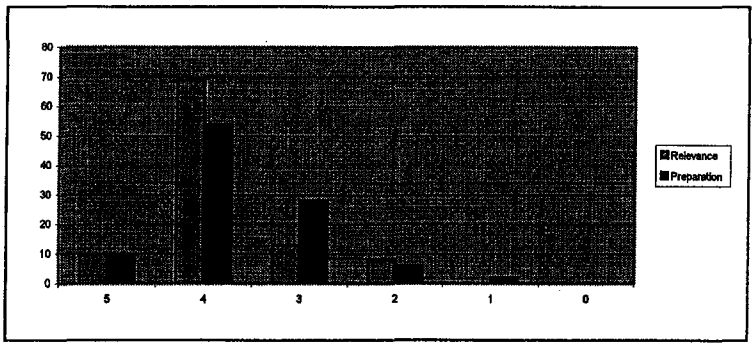
Management

	5	4	3	2	1	0
Relevance	33	57	5	5	0	0
Preparation	7	49	33	11	0	0



Economics

	5	4	3	2	1	0
Relevance	10	69	13	8	0	0
Preparation	10	54	28	6	2	0



Employer Follow-up Survey

Minor Desktop Publishing

AAS Printing and Digital Graphic Imaging Technology

BS Printing Management

BS New Media

INDEX

Scope and Overview

The Printing and Imaging Technology Management Department maintains a list of 675 potential employers of our graduates and interns. Each year a resume book is mailed to these potential employers for their review. This same list of employers was used for the employer follow-up survey as virtually all of these companies have hired or considered hiring a Ferris State University graduate. 137 employers or 20% responded to the survey. This rate of return was considered acceptable.

The survey instrument was constructed to identify the level of awareness our program has in the industry. The companies polled are primarily located in Michigan, Illinois, Indiana, and Ohio area. Additionally, we wanted to get a sense of the level of preparedness our graduates have and what contributed to their preparedness. And lastly, we wanted to verify our curriculum was on the right track.

This survey was very important to our department as our mission is to graduate the best possible workforce for our industry.

Summary

Based on the data collected from those who hire our graduates, it has been concluded that the programs within the Printing and Imaging Technology Management Department are meeting their needs. In most cases it has been indicated that we are teaching the skills and issues they deem as important. All data will be used in the department's continuous curriculum review process.

FERRIS STATE UNIVERSITY

November 15, 2001

Dear Ferris Printing Graduate Employer,

The Ferris State University's Academic Program Review Committee is reviewing all the programs within the Printing and Imaging Technology Management Department. As an employer of one or more of the programs within the Printing and Imaging Technology Management Department we need your input. The result of the academic program review process can range from increasing the resources and support available to the programs to placing the program on probation. Needless to say the information you provide is very valuable to the Printing and Imaging Technology Management Department.

Please take a couple of minutes to fill out the enclosed survey and return it in the self-addressed stamped envelope. We need to have all surveys returned before December 15, 2001.

As an employer, you are highly regarded and respected in the printing industry and at Ferris State University. The continued relationship between Ferris State University, the Printing and Imaging Technology Management Department, and your company is important. We want to do our best.

Thank you in advance for your continued support.

Sincerely

Ramon Robinson
Associate Professor
Class of 78'

PRINTING AND IMAGING TECHNOLOGY MANAGEMENT DEPARTMENT
915 Campus Drive, Big Rapids, MI 49307-2291
Phone 231 591-2845 Fax 231 591-2082

Ferris State University

Printing and Imaging Technology Management Department

Employer Follow-Up Survey

As part of our continuous improvement initiative, we invite you to fill out this survey so that we can use your comments to improve our program.

1. Are you aware Ferris State University's current Printing program? Please circle those in which you have knowledge.
    a. Minor – Desktop Publishing
    b. AAS – Printing and Digital Graphic Imaging Technology
    c. BS – Printing Management
    d. BS – New Media Printing and Publishing

2. Has your company hired Ferris State University graduates in the last five years? If no skip to question 8
    a. Yes
    b. No

3. Has your company hired Ferris State University printing interns? If not skip question 7.
    a. Yes
    b. No

4. Of those Ferris State University graduates hired for full time positions, how well were they prepared to fill the position
    a. Very Well
    b. Prepared
    c. Fulfilled the need
    d. Not Fully Prepared
    e. Poorly Trained

5. Please indicate the areas of knowledge or skills in which you feel the graduates **were lacking**.
    a. Basic print manufacturing process knowledge
    b. New digital workflow and prepress processes
    c. Print operations management (planning, scheduling, estimating)
    d. Communications (reading, writing, and speaking)
    e. Quantitative problem solving skills (Sciences and Math)

6. Please indicate the areas of knowledge or skills in which you feel the graduates were **best prepared**.
    a. Basic print manufacturing process knowledge
    b. New digital workflow and prepress processes
    c. Print operations management (planning, scheduling, estimating)
    d. Communications (reading, writing, and speaking)

e. Quantitative problem solving skills (Sciences and Math)

7. Of those Ferris State University interns hired, how well were they prepared to fill the position
   a. Very Well
   b. Prepared
   c. Fulfilled the need
   d. Not Fully Prepared
   e. Poorly Trained

In Question 8, 9, & 10, we would like to know what areas of knowledge/skills you feel are appropriate for each degree we offer. Please keep in mind that all knowledge areas cannot be covered in any one-degree and that some areas maybe duplicated in more then one degree.

8. What knowledge/skills does your company **expect** a graduate with an **associate degree in printing technology** to have? Check those expected.

__ General knowledge of printing
__ Working knowledge of electronic composition
__ Knowledge of electronic image assembly
__ Operation of computer plate equipment
__ Operation of single color presses
__ Web press operation
__ Understanding of ink properties
__ Cutter operation and set-up
__ Die cutting operations
__ Automated book binding operations
__ Understanding of estimating
__ Preventive maintenance & record keeping
__ Working knowledge of Job Planning
__ Knowledge of employee relations
__ Cost analyze processors
__ Accounting process
__ Computer color adjustments
__ Animation software
__ Multi platform computer commutations
__ Spreadsheet software
__ Basic math skills
__ Written commutation skills
__ Understanding of hiring process
__ Basic Computer programming
__ Knowledge of laws that affect businesses
__ Plant work flow
__ E-Marketing
__ Knowledge of design
__ Knowledge of manual image assembly
__ Operation of film output equipment
__ Operation of computer to press equipment
__ Operation of multicolor presses
__ Knowledge of computer aided presses
__ Understanding of paper properties
__ Folder operation and set-up
__ Knowledge of foil stamping operations
__ Hand & small equipment bindery
__ Operation of estimating software
__ OSHA & environmental standards
__ Understanding of Customer Service
__ Understanding of scheduling processes
__ Department/plant budgeting
__ Production time record keeping
__ Web page design
__ Data Base management
__ Word-processing
__ Data base software
__ Higher level math skills
__ Verbal commutation skills
__ Understanding Graphic arts terminology
__ Computer languages
__ Marketing of printing products
__ Purchasing of printing supplies & equip.
__ Internet commutations

9. What knowledge/skills does your company **expect** a graduate with a **B.S. degree in printing management** to have? Check those expected.

__ General knowledge of printing
__ Working knowledge of electronic composition
__ Knowledge of electronic image assembly
__ Operation of computer plate equipment
__ Operation of signal color presses
__ Web press operation
__ Understanding of ink's properties
__ Cutter operation and set-up
__ Die cutting operations
__ Automated book binding operations
__ Understanding of estimating
__ Preventive maintains & record keeping
__ Working knowledge of Job Planning
__ Knowledge of employee relations
__ Cost analyze processors
__ Accounting process
__ Computer color adjustments
__ Animation software
__ Multi platform computer commutations
__ Spreadsheet software
__ Basic math skills
__ Written commutation skills
__ Understanding of hiring process
__ Basic Computer programming
__ Knowledge of laws that affect businesses
__ Plant work flow
__ E-Marketing
__ Knowledge of design
__ Knowledge of manual image assembly
__ Operation of film output equipment
__ Operation of computer to press equipment
__ Operation of multi color presses
__ Knowledge of computer aided press
__ Understanding of paper's properties
__ Folders operation and set-up
__ Knowledge of foil stamping operations
__ Hand & small equipment bindery
__ Operation of estimating software
__ OSHA & environmental standards
__ Understanding of Customer Service
__ Understanding of scheduling processes
__ Department/plant budgeting
__ Production time record keeping
__ Web page design
__ Data Base management
__ Word-processing
__ Data base software
__ Higher level math skills
__ Verbal commutation skills
__ Understanding graphic arts terminology
__ Computer languages
__ Marketing of printing products
__ Purchasing of printing supplies & equip.
__ Internet commutations

10. What knowledge/skills does your company **expect** a graduate with a **B.S. degree in New Media printing and publishing** to have? Check those expected.

__ General knowledge of printing
__ Working knowledge of electronic composition
__ Knowledge of electronic image assembly
__ Operation of computer plate equipment
__ Operation of signal color presses
__ Web press operation
__ Understanding of ink's properties
__ Cutter operation and set-up
__ Die cutting operations
__ Automated book binding operations
__ Understanding of estimating
__ Knowledge of design
__ Knowledge of manual image assembly
__ Operation of film output equipment
__ Operation of computer to press equipment
__ Operation of multi color presses
__ Knowledge of computer aided press
__ Understanding of paper's properties
__ Folders operation and set-up
__ Knowledge of foil stamping operations
__ Hand & small equipment bindery
__ Operation of estimating software

__ Preventive maintains & record keeping
__ Working knowledge of Job Planning
__ Knowledge of employee relations
__ Cost analyze processors
__ Accounting process
__ Computer color adjustments
__ Animation software
__ Multi platform computer commutations
__ Spreadsheet software
__ Basic math skills
__ Written commutation skills
__ Understanding of hiring process
__ Basic Computer programming
__ Knowledge of laws that affect businesses
__ Plant work flow
__ E-Marketing
__ OSHA & environmental standards
__ Understanding of Customer Service
__ Understanding of scheduling processes
__ Department/plant budgeting
__ Production time record keeping
__ Web page design
__ Data Base management
__ Word-processing
__ Data base software
__ Higher level math skills
__ Verbal commutation skills
__ Understanding Graphic arts terminology
__ Computer languages
__ Marketing of printing products
__ Purchasing of printing supplies & equip.
__ Internet commutations

Ferris State University

Printing and Imaging Technology Management Department

Employer Follow-Up Survey - **Results**

1. Are you aware Ferris State University's current Printing program? Please circle those in which you have knowledge.
   a. (5) – 3% Minor – Desktop Publishing
   b. (122) – 89% AAS – Printing and Digital Graphic Imaging Technology
   c. (135) - 98% BS – Printing Management
   d. (30) - 22% BS – New Media Printing and Publishing

2. Has your company hired Ferris State University graduates in the last five years?
   a. (39) – 28% Yes
   b. (98) – 72% No

3. Has your company used Ferris State University Printing Management interns?
   a. (58) – 42% Yes
   b. (79) - 58% No

4. Of those Ferris State University graduates hired for full time positions, how well were they prepared to fill the position
   a. (39) – 29% Very Well
   b. (74) – 54% Prepared
   c. (21) - 15% Fulfilled the need
   d. (2) - 2% Not Fully Prepared
   e. (0) - 0 % Poorly Trained

5. Please indicate the areas of knowledge or skills in which you feel the graduates **were lacking.**
   a. (0) - 0% Basic print manufacturing process knowledge
   b. (17) – 12% New digital workflow and prepress processes
   c. (5) - 4% Print operations management (planning, scheduling, estimating)
   d. (24) – 17% Communications (reading, writing, and speaking)
   e. (9) - 6% Quantitative problem solving skills (Sciences and Math)

6. Please indicate the areas of knowledge or skills in which you feel the graduates were **best prepared.**
   a. (123) – 90% Basic print manufacturing process knowledge
   b. (39) - 28% New digital workflow and prepress processes
   c. (115) – 84% Print operations management (planning, scheduling, estimating)
   d. (2) - 1% Communications (reading, writing, and speaking)
   e. (19) - 4% Quantitative problem solving skills (Sciences and Math)

7. Of those Ferris State University interns hired, how well were they prepared to fill the position
   a. (13) – 22% Very Well
   b. (31) - 54% Prepared
   c. (10) - 17% Fulfilled the need
   d. (4) - 7% Not Fully Prepared
   e. (0) - 0% Poorly Trained

In Question 8, 9, & 10, we would like to know what areas of knowledge/skills you feel are appropriate for each degree we offer. Please keep in mind that all knowledge areas cannot be covered in any one degree and that some areas maybe duplicated in more then one degree.

8. What knowledge/skills does your company **expect** a graduate with an **Associate Degree in Printing Technology** to have? Check those expected.

137 – 100% General knowledge of printing
117 – 85% Knowledge of design
125 – 91% Knowledge of electronic composition
98 – 71% Knowledge of manual
129 – 94% Knowledge of electronic image assembly
122 – 89% Operation of film output equipment
94 – 68% Operation of computer-to-plate equipment
35 – 26% Computer-to-press equipment
104 – 76% Operation of single color presses
68 – 50% Operation of multicolor presses
67 – 49% Web press operation
65 – 47% Knowledge of computer aided presses
53 – 38% Understanding of ink properties
87 – 67% Understanding of paper properties
34 – 25% Cutter operation and set-up
112 – 82% Folder operation and set-up
15 – 11% Die cutting operations
18 – 14% Knowledge of foil stamping operations
36 – 27% Automated book binding operations
97 – 49% Hand & small equipment bindery
7 – 5% Understanding of estimating
16 – 12% Operation of estimating software
25 - 18% Preventive maintenance & record keeping
68 – 50% OSHA & environmental standards
21 – 15% Working knowledge of job planning
72 – 53% Understanding of customer service
36 – 27% Knowledge of employee relations
69 – 50% Understanding of scheduling processes
12 – 9% Cost analyze processors
25 – 18% Department/plant budgeting
13 – 9% Accounting process
46 – 34% Production time record keeping
68 – 50% Computer color adjustments
39 – 28% Web page design
7 – 5% Animation software
19 – 15% Database management
53 – 38% Multi platform computer commutations
68 – 49% Word-processing
28 – 20% Spreadsheet software
87 - 67% Database software
87 – 64% Basic math skills
68 - 50% Higher level math skills
120 – 87% Written commutation skills
112 – 82% Verbal commutation skills
22 – 16% Understanding of hiring process
137 – 100% Understanding graphic arts terminology
0 – 0% Basic computer programming
26 – 19% Computer languages
12 – 9% Knowledge of laws that affect businesses
89 – 65% Marketing of printing products
5 – 4% Plant work flow
8 – 6% Purchasing of printing supplies and equipment
19 – 15% E-Marketing
89 – 65% Internet commutations

9. What knowledge/skills does your company **expect** a graduate with a **B.S. degree in Printing Management** to have? Check those expected.

135 – 99% General knowledge of printing
121 – 88% Knowledge of design
79- 58% Knowledge of electronic composition
89 – 65% Knowledge of manual image assembly
85 – 62% Knowledge of electronic image assembly
75 – 55% Operation of film output equipment
69 – 51% Operation computer-to-plate equipment
47 35% Operation of computer-to-press equipment
26 – 19% Operation of single color presses
15 – 11% Operation of multi color presses
31 – 23% Web press operation
14 – 10% Knowledge of computer-aided press

45 – 33% Understanding of ink's properties
23 – 17% Cutter operation and set-up
12 – 9% Die cutting operations
14 - 10% Automated book binding operations
124 – 90% Understanding of estimating
89 – 65% Preventive maintenance
136 – 99% Working knowledge of job planning
121 – 88% Knowledge of employee relations
126 – 92% Cost analyze processors
124 – 90% Accounting process
98 – 72% Computer color adjustments
23 – 17% Animation software
36 – 27% Multi-platform computer commutations
69 – 51% Spreadsheet software
98 – 72% Basic math skills
115 – 84% Written commutation skills
79 – 58% Understanding of hiring process
12 – 9% Basic computer programming
75 - 55% Knowledge of laws that affect businesses
98 – 72% Plant work flow
56 – 41% E-Marketing

26 – 19% Understanding of paper's properties
16 – 12% Folders operation and set-up
17 - 13% Knowledge of foil stamping operations
14 – 10% Hand & small equipment bindery
105 – 77% Operation of estimating software
114 - 83% OSHA & environmental standards
135 - 99% Understanding of customer service
125 – 91% Understanding of scheduling processes
121 – 88% Department/plant budgeting
107 – 78% Production time recordkeeping
59 – 43% Web page design
118 – 86% Database management
101 – 74% Word-processing
124 – 90% Database software
112 – 82% Higher level math skills
119 – 87% Verbal commutation skills
131 – 96% Understanding graphic arts terminology
19 – 14% Computer languages
128 – 93% Marketing of printing products
124 – 91% Purchasing of supplies and equipment
135 – 98% Internet commutations

10. What knowledge/skills does your company **expect** a graduate with a **B.S. degree in New Media Printing and Publishing** to have? Check those expected.

124 – 90% General knowledge of printing
114 – 83 Working knowledge of electronic composition
135 - 99% Knowledge of electronic image assembly
136 – 99% Operation computer-to-plate equipment
12 – 9% Operation of singal color presses
12 – 9% Web press operation
17 - 13% Understanding of ink's properties
5 – 4% Cutter operation and set-up
3 – 2% Die cutting operations
5 – 4% Automated book binding operations
69 – 51% Understanding of estimating
23 – 17% Preventive maintains & record keeping
98 – 72% Working knowledge of Job Planning
107 – 78% Knowledge of employee relations
119 – 87% Cost analyze processors
107 – 78% Accounting process
135 – 98% Computer color adjustments
98 – 72% Animation software
135 – 98% Multi-platform computer commutations
135 – 98% Spreadsheet software

98 – 72% Knowledge of design
98 – 50% Manual image assembly
124 – 90% Op. of film output equipment
98 – 72% Operation computer-to-press equip
12 – 9% Operation of multi-color presses
131 – 96% Knowledge computer-aided press
5 – 4% Understanding of paper's properties
5 – 4% Folders operation and set-up
3 – 2% Knowledge of foil stamping operations
3 – 2% Hand & small equipment bindery
126 – 92% Operation of estimating software
23 – 17% OSHA & environmental standards
135 - 99% Understanding of customer Service
118 – 86% Understanding scheduling process
121 – 88% Department/plant budgeting
121 – 88% Production time recordkeeping
114 - 83% Web page design
135 - 99% Database management
126 – 92% Word-processing
136 – 99% Database software

119 – 87% Basic math skills
135 – 98% Written commutation skills
126 – 92% Understanding of hiring process
135 - 99% Basic computer programming
118 – 86% Knowledge of laws that affect businesses
98 – 72% Plant work flow
135 - 99% E-Marketing

121 – 88% Higher level math skills
135 - 99% Verbal commutation skills
135 - 99% Understand graphic arts terms
135 - 99% Computer languages
98 – 72 Marketing of printing products
69 – 51% Purchasing of supplies and equip.
136 – 99% Internet commutations

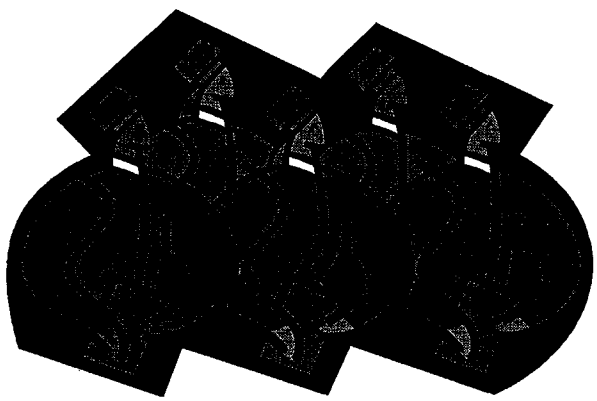
Student Program Evaluation

Minor Desktop Publishing

AAS Printing and Digital Graphic Imaging Technology

BS Printing Management

BS New Media



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Scope and Overview

The AAS Printing and Digital Graphic Imaging Technology Program is eligible for Perkins Vocational Education Funding. Fall of 2001 the Program was required by state law to administer a PROE review of the program. In light of this Administrative Program Review Process it was decided to use the same instrument as required by law but to give it to all students within the Printing and Imaging Technology Management Department. A total of 52 students completed the survey.

Summary

The students currently enrolled in any of the Printing and Imaging Technology Management Department programs are pleased with the curriculum and facilities.

College _____

Title of Your Program THIS IS QUESTION #44

STUDENT PERCEPTIONS OF OCCUPATIONAL EDUCATION PROGRAMS

Check statement that best describes your objective for attending the college:

- Prepare to get a job ..... A
- Improve job skills for present occupation ..... B
- Prepare for transfer to another college C
- Personal interest ..... D
- Other (Describe) ..... E

_____

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

		Keypunch Instructions	Poor 1	Below Expectations 2	Acceptable 3	Good 4	Excellent 5	Don't Know	COMMENTS
Please rate each item below:									
1. Courses in your occupational program are:									
•Available and conveniently located.	1								
•Based on realistic prerequisites.	2								
•Available at moderate cost.	3								
2. Written objectives for courses in your occupational program:									
•Are available to students.	4								
•Describe what you will learn in the course.	5								
•Are used by the instructor to keep you aware of your progress.	6								
3. Teaching methods, procedures and course content:									
•Meet your occupational needs, interests and objectives.	7								
•Provide supervised practice for developing job skills.	8								
4. Related courses (such as English, Mathematics, Science) are:									
•Pertinent to occupational instruction.	9								
•Current and meaningful to you.	10								
5. Work experience (or clinical experience) in your occupational program is:									
•Readily available at convenient locations.	11								
•Readily available to both day and evening students.	12								
•Coordinated with classroom instruction.	13								
•Coordinated with employer supervision.	14								
6. Career planning information:									
•Meets your needs and interests.	15								
•Helps you plan your program.	16								
•Helps you make career decisions and choices.	17								

College _____

Title of Your Program THIS IS QUESTION #44

STUDENT PERCEPTIONS OF OCCUPATIONAL EDUCATION PROGRAMS

Check statement that best describes your objective for attending the college:

- Prepare to get a job ..... A
- Improve job skills for present occupation ..... B
- Prepare for transfer to another college C
- Personal interest ..... D
- Other (Describe) ..... E

INSTRUCTIONS: Rate each item using the following guide:
EXCELLENT means nearly ideal, top 5 to 10%
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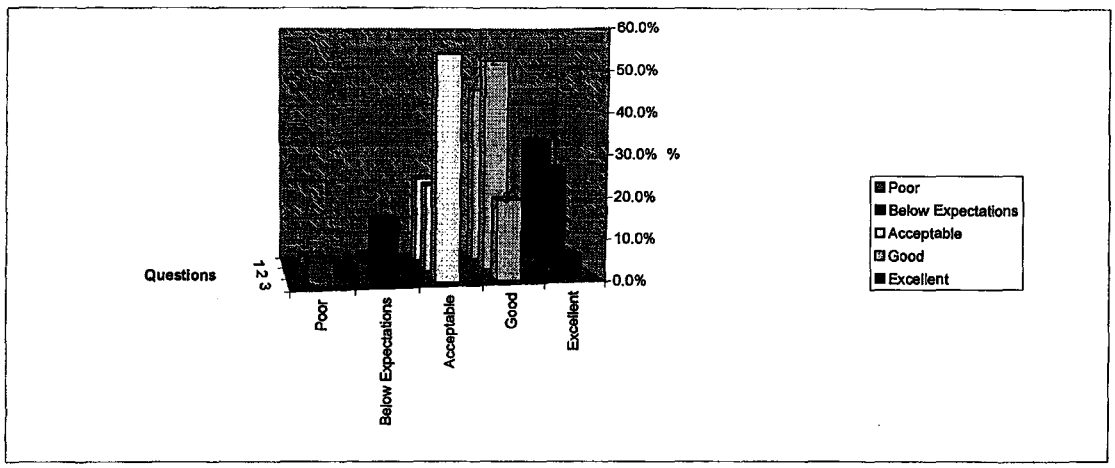
A Comment column has been provided if you wish to explain your rating

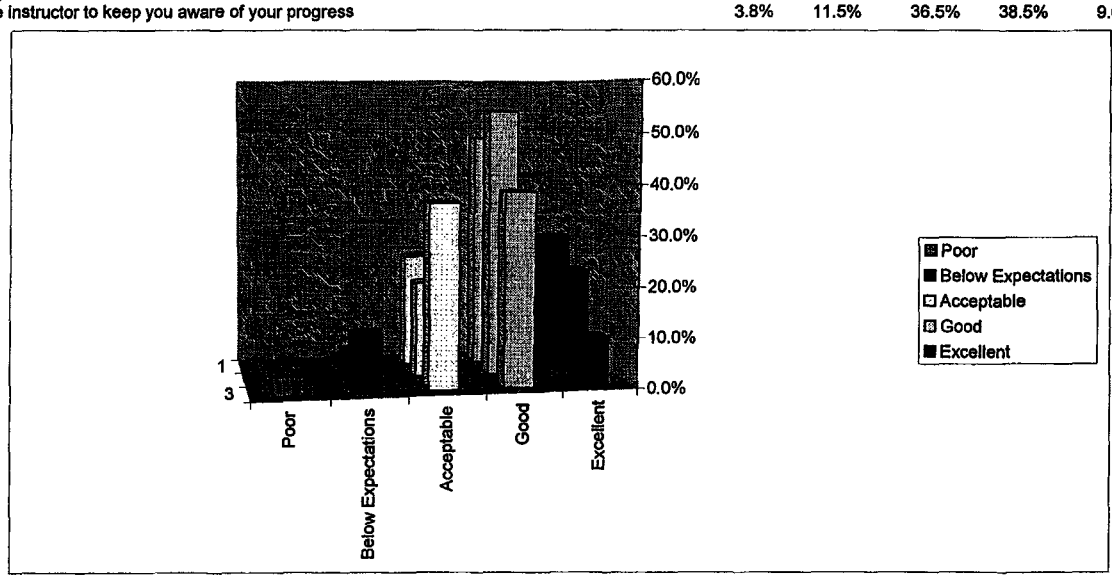
		Keypunch Instructions	Poor 1	Below Expectations 2	Acceptable 3	Good 4	Excellent 5	Don't Know	COMMENTS
Please rate each item below:									
1. Courses in your occupational program are:									
•Available and conveniently located.	1								
•Based on realistic prerequisites.	2								
•Available at moderate cost.	3								
2. Written objectives for courses in your occupational program:									
•Are available to students.	4								
•Describe what you will learn in the course.	5								
•Are used by the instructor to keep you aware of your progress.	6								
3. Teaching methods, procedures and course content:									
•Meet your occupational needs, interests and objectives.	7								
•Provide supervised practice for developing job skills.	8								
4. Related courses (such as English, Mathematics, Science) are:									
•Pertinent to occupational instruction.	9								
•Current and meaningful to you.	10								
5. Work experience (or clinical experience) in your occupational program is:									
•Readily available at convenient locations.	11								
•Readily available to both day and evening students.	12								
•Coordinated with classroom instruction.	13								
•Coordinated with employer supervision.	14								
6. Career planning information:									
•Meets your needs and interests.	15								
•Helps you plan your program.	16								
•Helps you make career decisions and choices.	17								

All PDGI, PMGT, NMPP students together

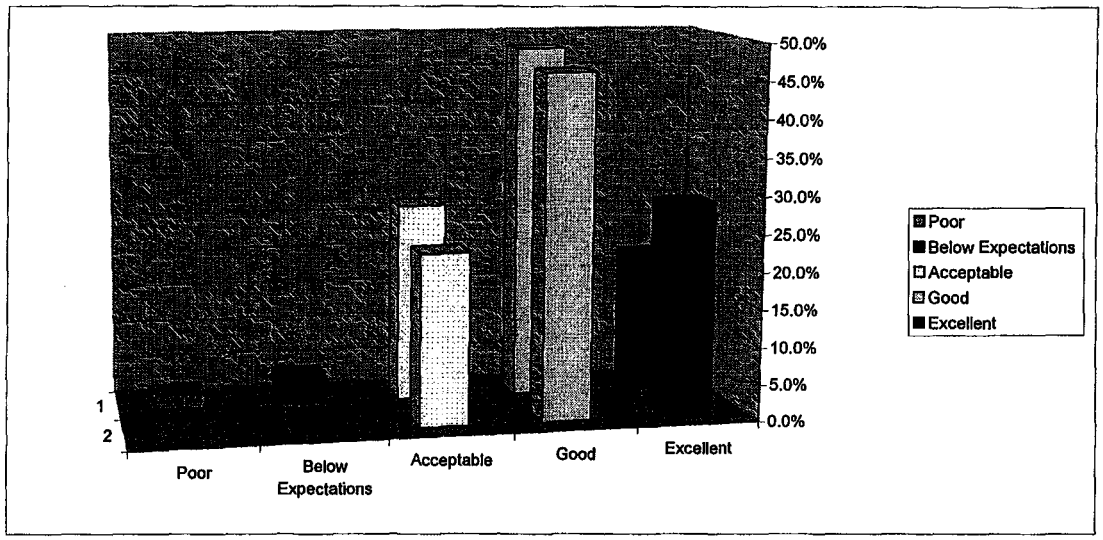
Courses in your Occupational area are: Question	Poor	Below Expe	Acceptable	Good	Excellent
1 Available and conveniently located	1.9%	1.9%	21.2%	44.2%	30.8%
2 Based on realistic prerequisits.	1.9%	0.0%	21.2%	51.9%	25.0%
3 Avaiable at moderate cost	5.8%	15.4%	53.8%	19.2%	5.8%



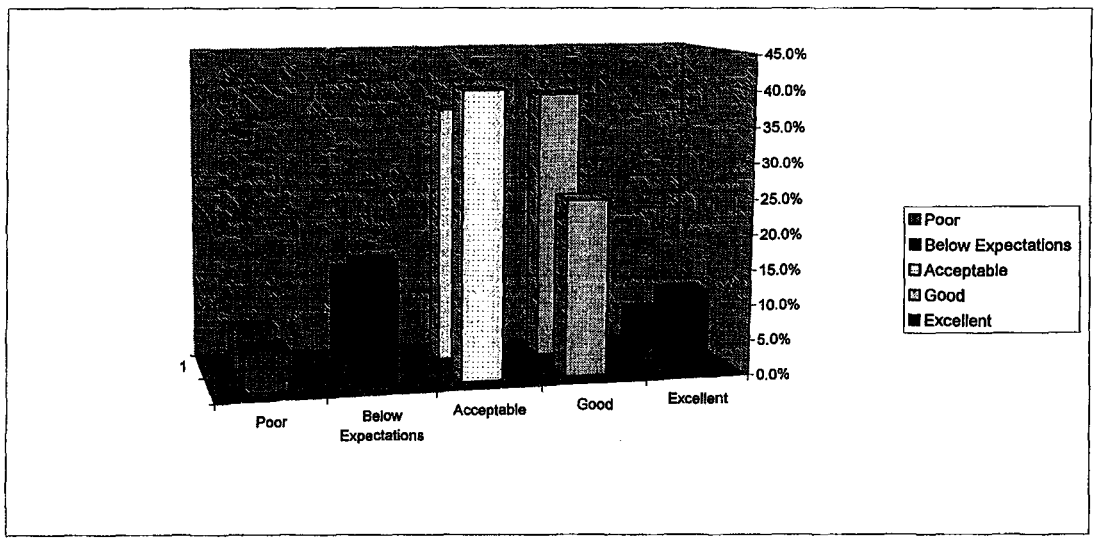
Written objectives for courses in your occupational area	Poor	Below Expe	Acceptable	Good	Excellent
4 Are available to students	0.0%	1.9%	23.1%	48.1%	26.9%
5 Describe what you will learn in the course	0.0%	5.8%	19.2%	53.8%	21.2%
6 Are used by the instructor to keep you aware of your progress	3.8%	11.5%	36.5%	38.5%	9.6%



Teaching Methods, procedures and course content:	Poor	Below Expe	Acceptable	Good	Excellent
7 Meet your occupational needs, interests and objectives	1.9%	3.8%	26.9%	48.1%	19.2%
8 Provide supervised practice for developing job skills	0.0%	1.9%	23.1%	46.2%	28.8%

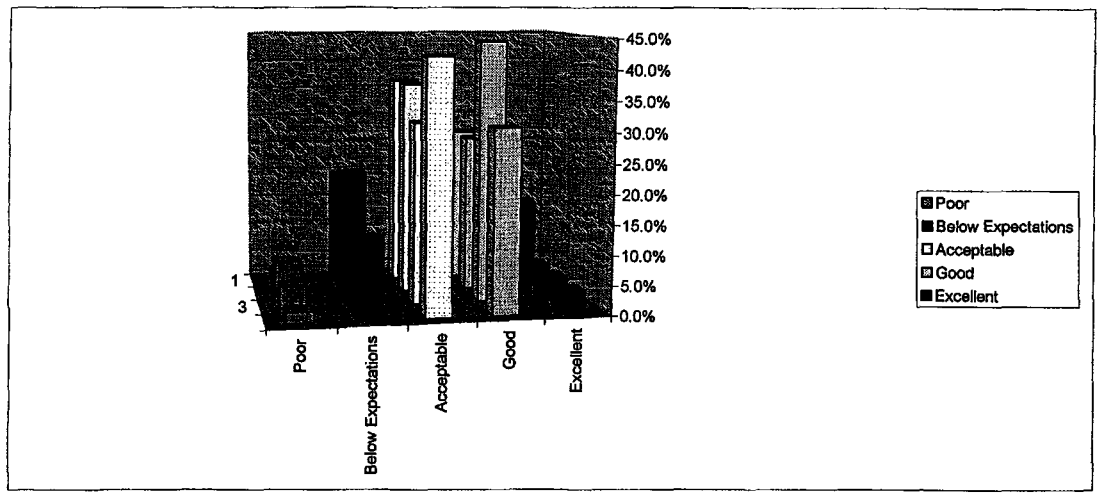


Related courses (such as English, Mathematics, Science) are:	Poor	Below Expe	Acceptable	Good	Excellent
9 Pertinant to occupational instruction	5.8%	13.5%	36.5%	38.5%	5.8%
10 Current and meaningful to you	5.8%	17.3%	40.4%	25.0%	11.5%

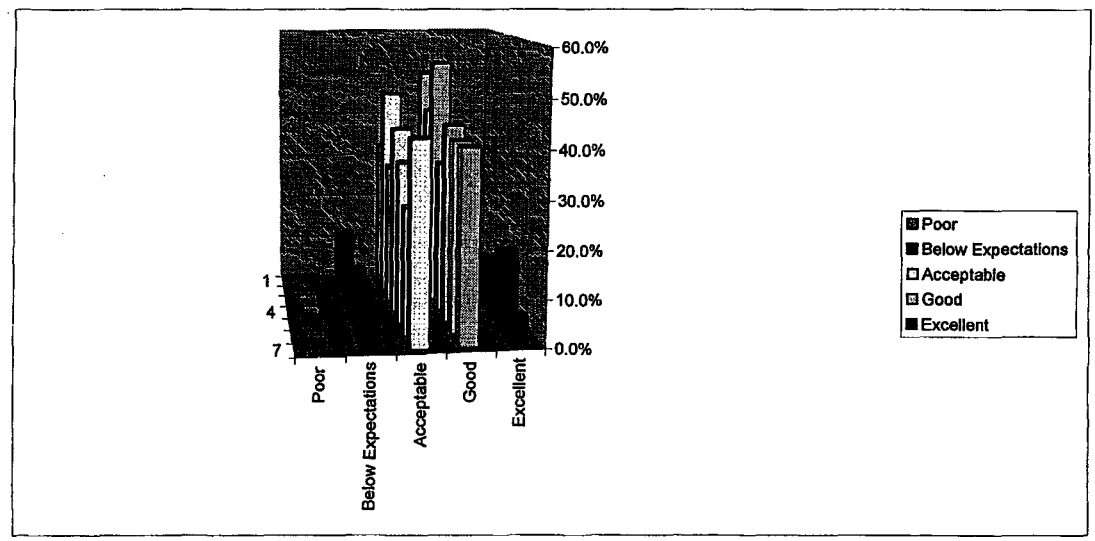


Work experience (or clinical experience) in your occupational program is:

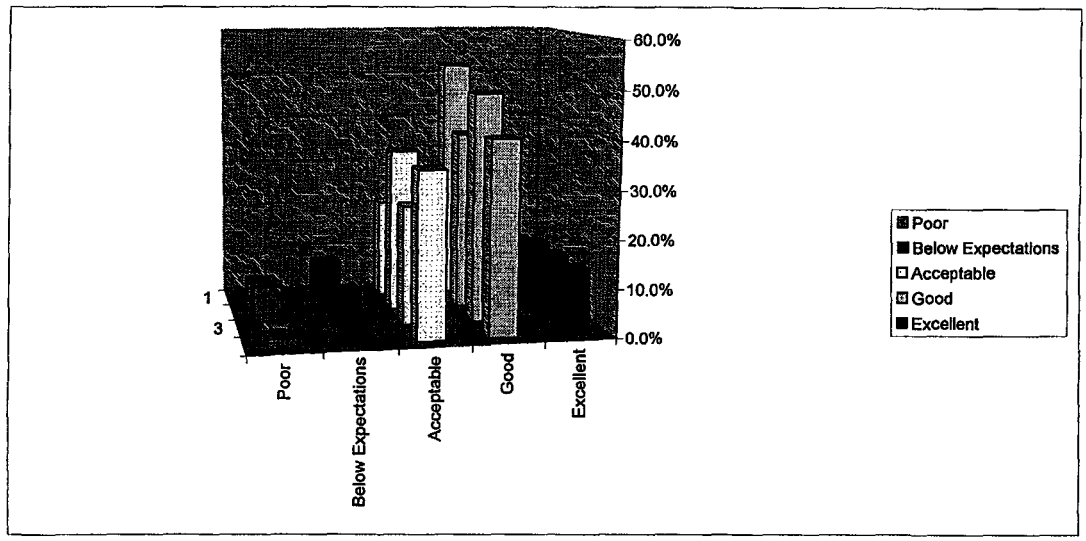
	Poor	Below Expe	Acceptable	Good	Excellent
11 Readily available at convenient locations	1.9%	19.6%	36.5%	26.9%	13.5%
12 Readily available to both day and evening students	5.8%	21.2%	36.5%	26.9%	3.8%
13 Coordinated with classroom instruction	3.8%	11.5%	30.8%	44.2%	3.8%
14 Coordinated with employer supervision	1.9%	13.5%	42.3%	30.8%	3.8%



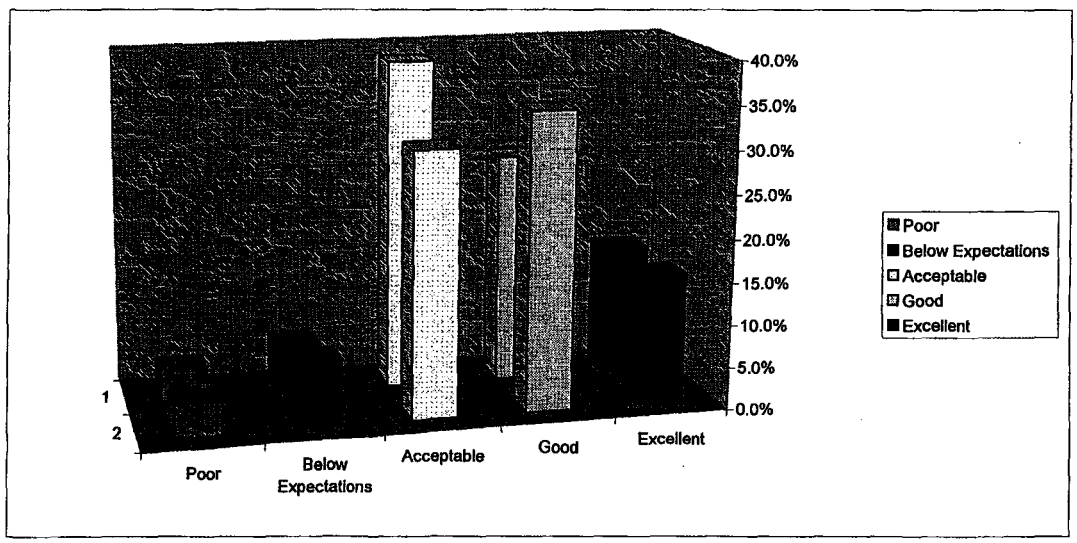
Career planning information	Poor	Below Expe	Acceptable	Good	Excellent
15 Meets your needs and interests	0.0%	11.5%	32.7%	50.0%	5.8%
16 Helps you plan your program	0.0%	3.8%	46.2%	42.3%	7.7%
17 Helps you make career decisions and choices	1.9%	3.8%	30.8%	53.8%	9.6%
18 Helps you understand your rights and responsibilities as an employee	1.9%	9.6%	40.4%	32.7%	11.5%
19 Helps you evaluate job opportunities in relation to salary, benefits, and conditions of employment	0.0%	9.6%	34.6%	42.3%	7.7%
20 Is provided by knowledgeble interested staff	1.9%	9.6%	26.9%	40.4%	17.3%
21 Explains nontraditional occupational opportunities for both sexes	0.0%	5.8%	42.3%	40.4%	5.8%



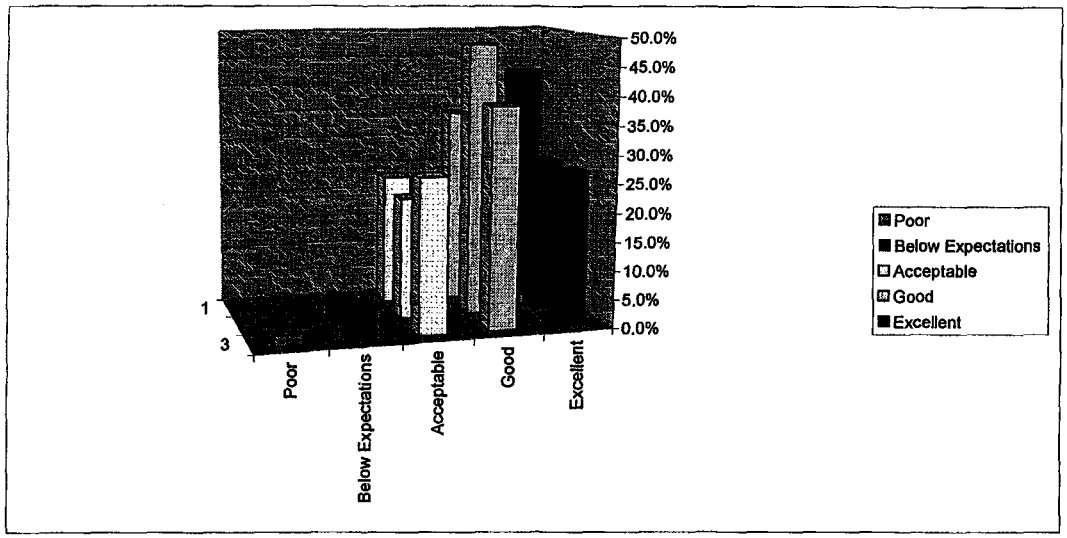
	Job success information on former students in your occupational program:	Poor	Below Expe	Acceptable	Good	Excellent
22	Is provided to help you make career decisions	3.8%	7.7%	21.2%	51.9%	11.5%
23	Identifies how many job opportunities there are in your occupation	5.8%	3.8%	34.6%	38.1%	13.5%
24	Identifies where these job oportunites are located	1.9%	7.7%	25.0%	48.1%	13.5%
25	Tells about job advancement opportunities	1.9%	5.8%	34.6%	40.4%	13.5%



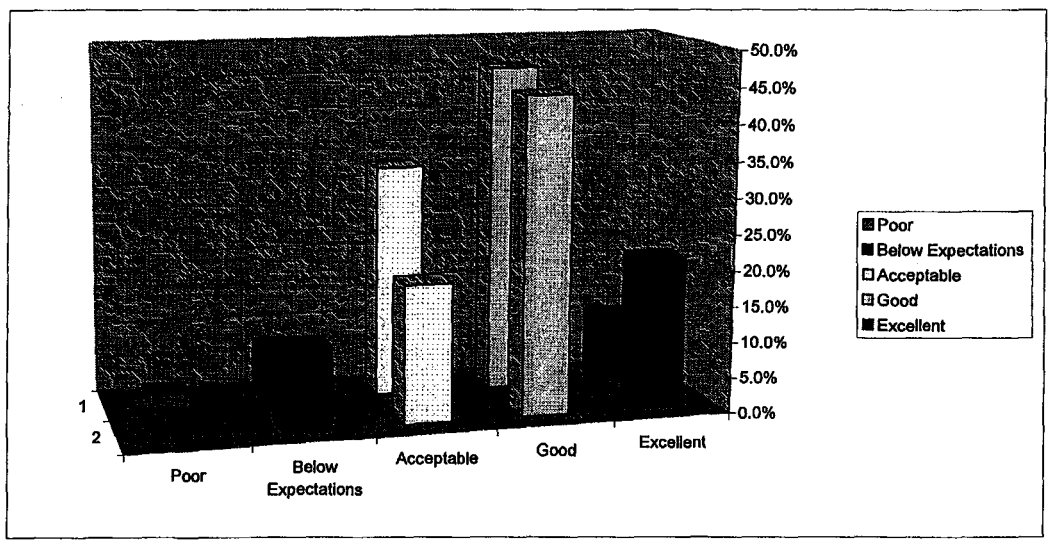
	Placement services are available to:	Poor	Below Expe	Acceptable	Good	Excellent
26	Help you find employment opportunities	3.8%	5.8%	38.5%	26.9%	15.4%
27	Prepare you to appply for a job	3.8%	7.7%	30.8%	34.6%	15.4%



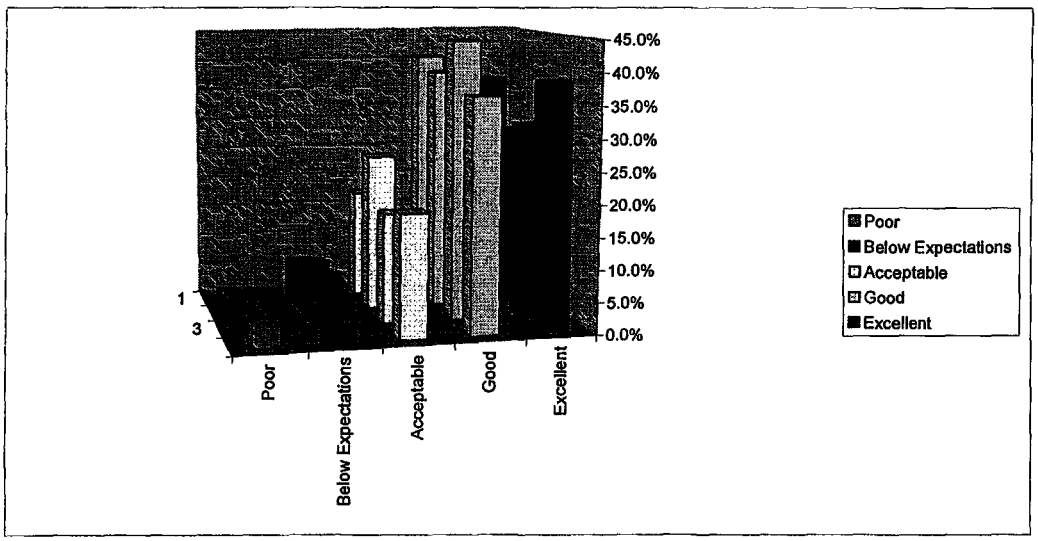
Occupational instructors:	Poor	Below Expe	Acceptable	Good	Excellent
28 Know the subject matter and occupational requirements	0.0%	0.0%	23.1%	34.6%	42.3%
29 Are available to provide help when you needed it	0.0%	3.8%	21.2%	48.1%	26.9%
30 Provide instruction so it is interesting and understandable	1.9%	5.8%	26.9%	38.5%	26.9%



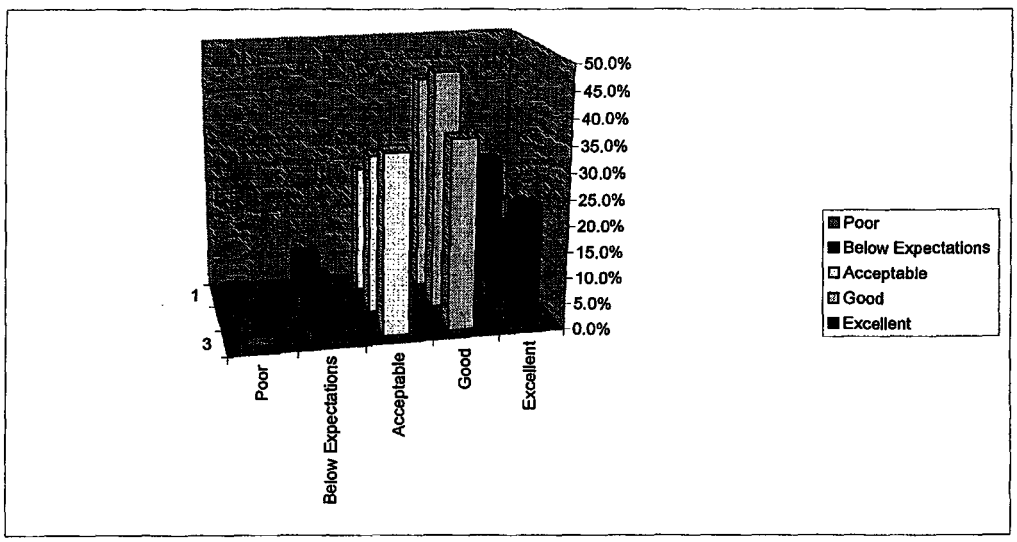
Instructional support services (such as tutoring, lab asistance) are:	Poor	Below Expe	Acceptable	Good	Excellent
31 Provided by knowledgeble, interested staff	1.9%	7.7%	32.7%	46.2%	9.6%
32 Available to meet your needs and interests	0.0%	11.5%	19.2%	44.2%	21.2%



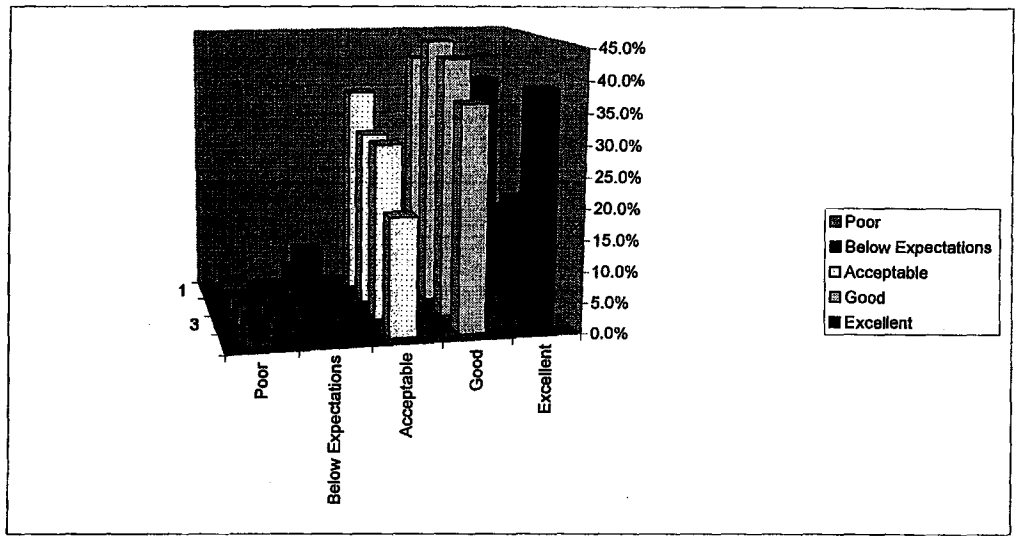
	Instructional laboratory and lecture facilities	Poor	Below Expe	Acceptable	Good	Excellent
33	Provide adequate lighting, ventilation, heating, power and other utilities	0.0%	5.8%	17.3%	40.4%	36.5%
34	Include enough work stations for the number of students enrolled	0.0%	7.7%	25.0%	38.5%	28.8%
35	Are safe, functional, and well maintained	0.0%	7.7%	17.3%	44.2%	30.8%
36	Are available on an equal basis for all students	3.8%	1.9%	19.2%	36.5%	38.5%



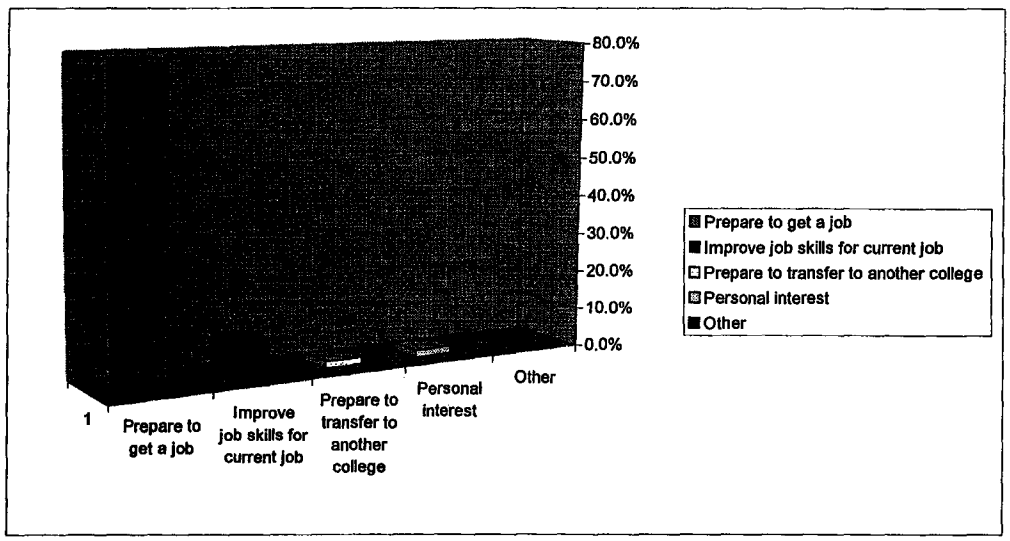
	Instructional equipment is:	Poor	Below Expe	Acceptable	Good	Excellent
37	Current and representative of industry	0.0%	7.7%	25.0%	42.3%	25.0%
38	In sufficient quantity to avoid long delays in use	0.0%	7.7%	30.8%	46.2%	15.4%
39	Safe and in good condition	1.9%	3.8%	34.6%	36.5%	23.1%



Instructional materials (e.g. textbooks, reference books, supplies) are:	Poor	Below Expe	Acceptable	Good	Excellent
40 Available and conveniently located for use as needed	1.9%	3.8%	34.6%	40.4%	36.5%
41 Current and meaningful to the subject	1.9%	9.6%	28.8%	44.2%	15.4%
42 Not biased toward traditional sex roles	3.8%	3.8%	28.8%	42.3%	19.2%
43 Available at reasonal costs	3.8%	1.9%	19.2%	36.5%	38.5%



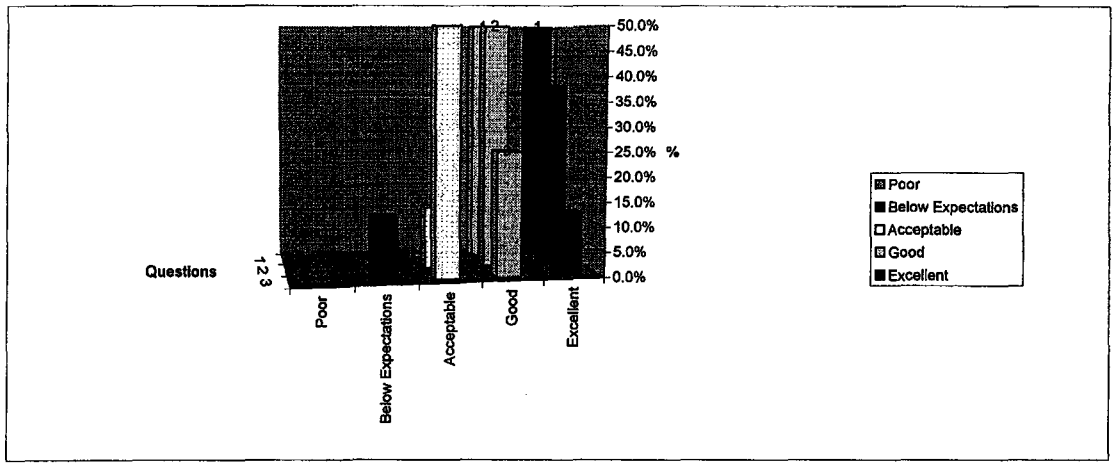
44 What best describes your objective for attending college	Prepare to	Improve job	Prepare to tr	Personal in	Other
	78.8%	9.6%	1.9%	1.9%	1.9%



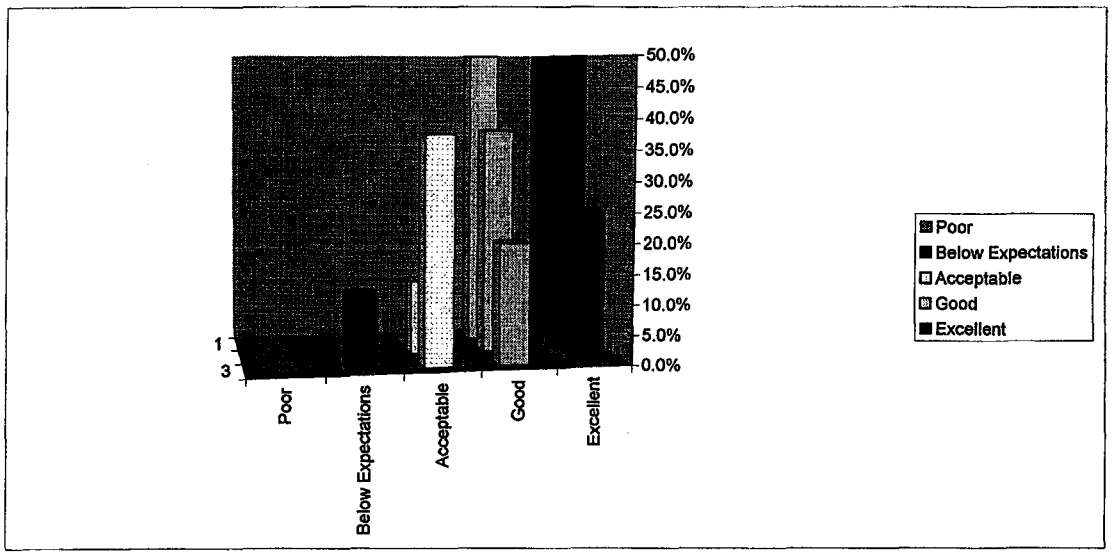
NMPP students

Courses in your Occupational area are:

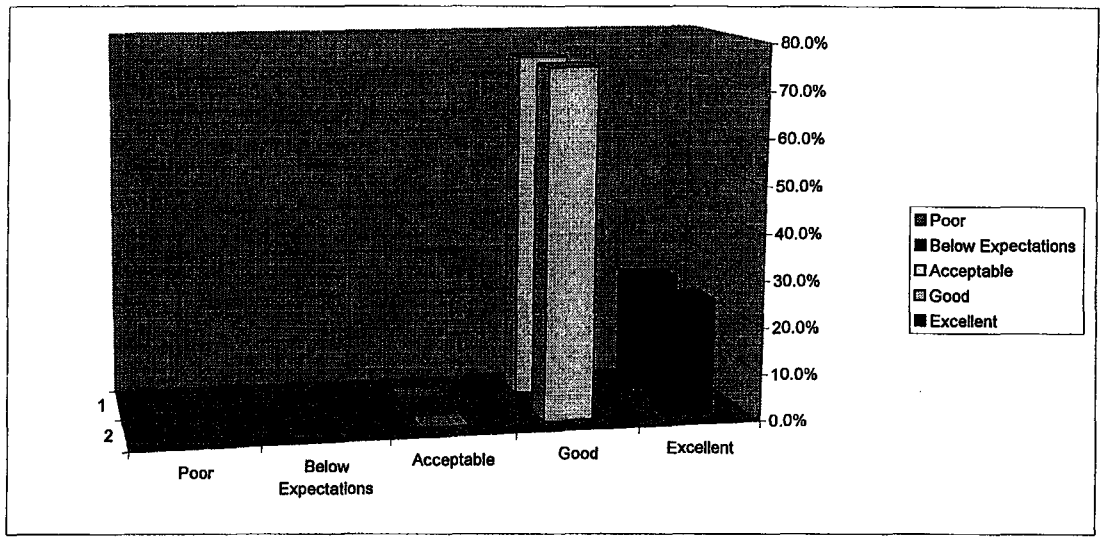
Question	Poor	Below Expe	Acceptable	Good	Excellent
1 Available and conveniently located	0.0%	0.0%	0.0%	50.0%	50.0%
2 Based on realistic prerequisites.	0.0%	0.0%	12.5%	50.0%	37.5%
3 Avaiable at moderate cost	0.0%	12.5%	50.0%	25.0%	12.5%



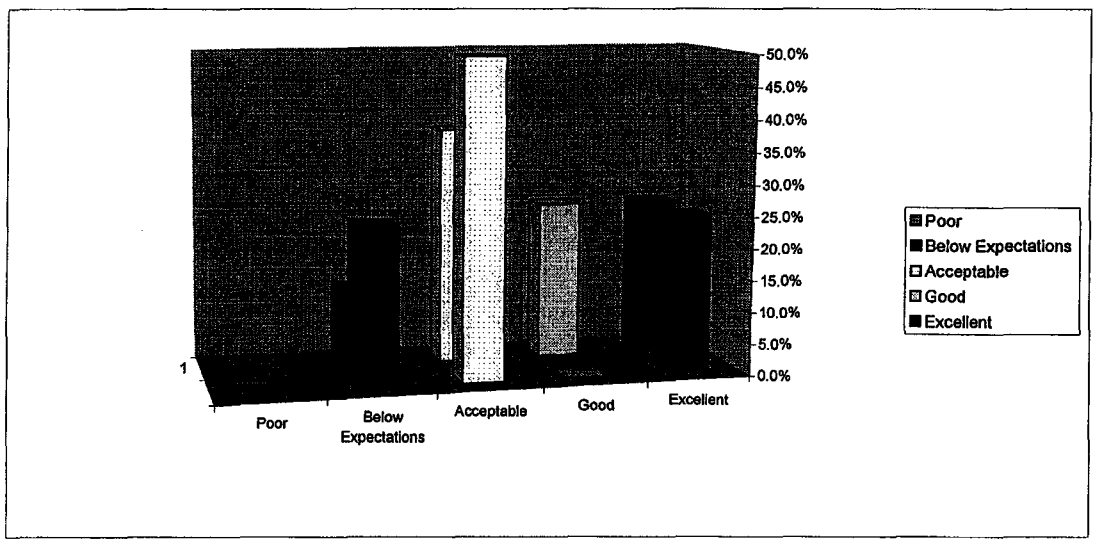
Written objectives for courses in your occupational area	Poor	Below Expe	Acceptable	Good	Excellent
4 Are available to students	0.0%	0.0%	0.0%	50.0%	50.0%
5 Describe what you will learn in the course	0.0%	0.0%	12.5%	37.5%	50.0%
6 Are used by the instructor to keep you aware of your progress	0.0%	12.5%	37.5%	20.0%	25.0%



Teaching methods, procedures and course content:	Poor	Below Expe	Acceptable	Good	Excellent
7 Meet your occupational needs, interests and objectives	0.0%	0.0%	0.0%	75.0%	25.0%
8 Provide supervised practice for developing job skills	0.0%	0.0%	0.0%	75.0%	25.0%

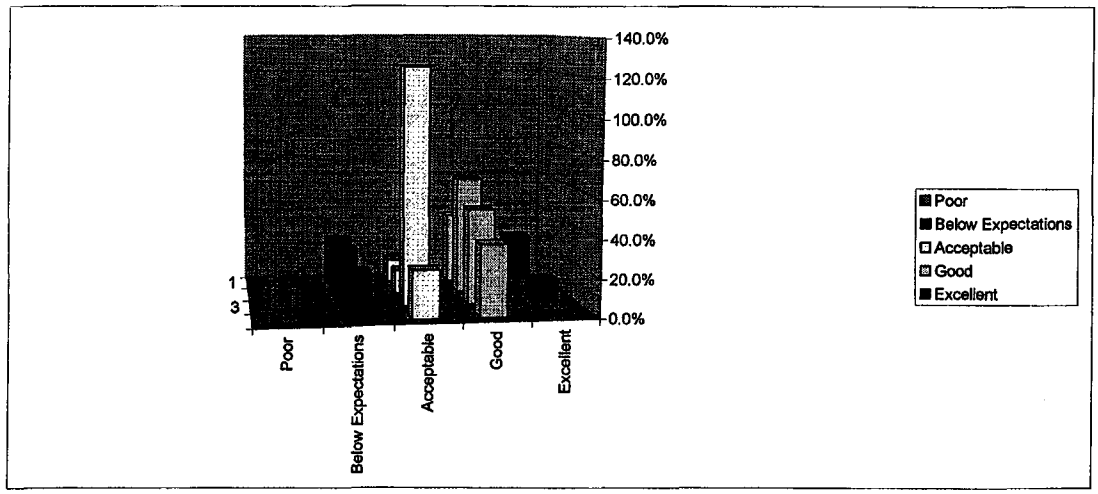


Related courses (such as English, Mathematics, Science) are:	Poor	Below Expe	Acceptable	Good	Excellent
9 Pertinant to occupational instruction	0.0%	12.5%	37.5%	25.0%	25.0%
10 Current and meaningful to you	0.0%	25.0%	50.0%	0.0%	25.0%

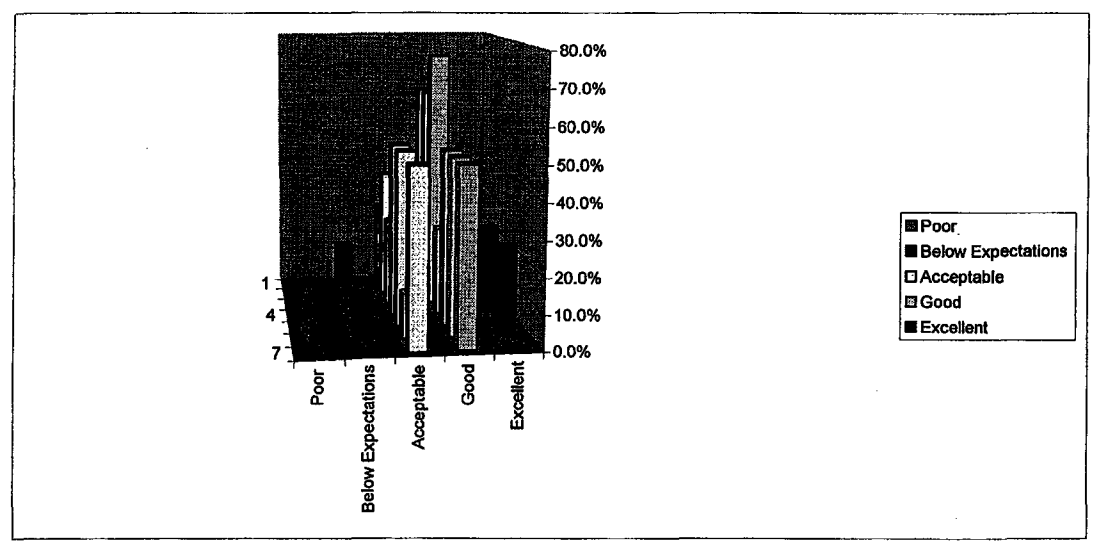


Work experience (or clinical experience) in your occupational program is:

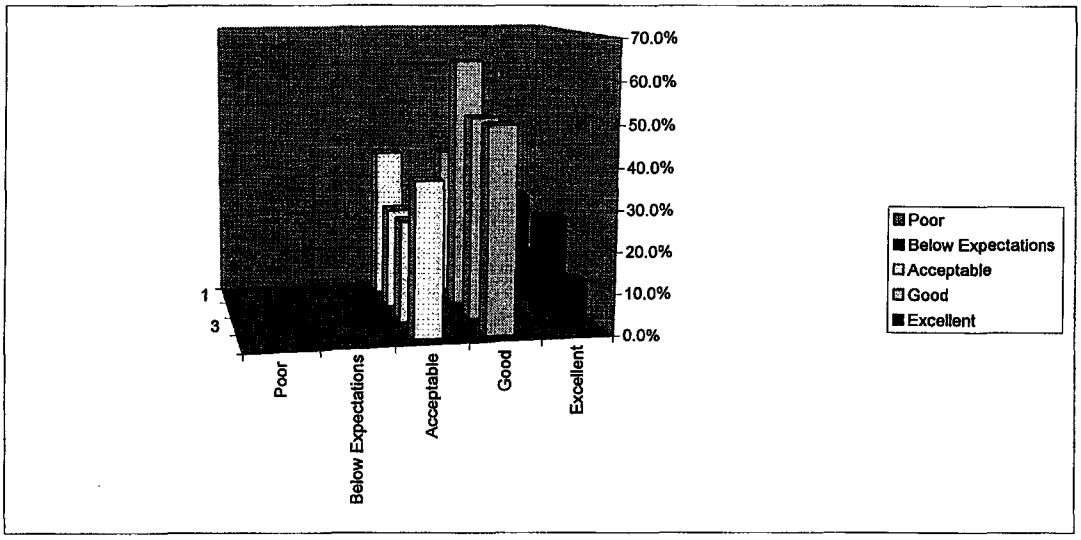
	Poor	Below Expe	Acceptable	Good	Excellent
11 Readily available at convenient locations	0.0%	25.0%	12.5%	37.5%	25.0%
12 Readily available to both day and evening students	0.0%	25.0%	12.5%	62.5%	0.0%
13 Coordinated with classroom instruction	12.5%	12.5%	125.0%	50.0%	12.5%
14 Coordinated with employer supervision	0.0%	25.0%	25.0%	37.5%	0.0%



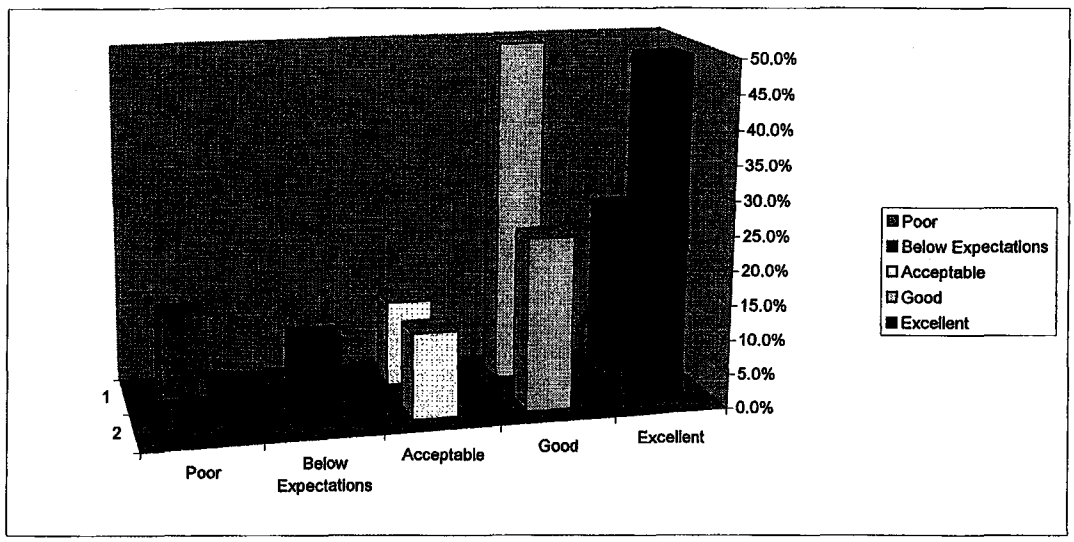
Career planning information	Poor	Below Expe	Acceptable	Good	Excellent
15 Meets your needs and interests	0.0%	12.5%	25.0%	62.5%	0.0%
16 Helps you plan your program	0.0%	0.0%	37.5%	62.5%	0.0%
17 Helps you make career decisions and choices	0.0%	0.0%	25.0%	75.0%	0.0%
18 Helps you understand your rights and responsibilities as an employee	0.0%	0.0%	50.0%	25.0%	25.0%
19 Helps you evaluate job opportunities in relation to salary, benefits, and conditions of employment	0.0%	0.0%	50.0%	50.0%	0.0%
20 Is provided by knowledgeble interested staff	0.0%	12.5%	12.5%	50.0%	25.0%
21 Explains nontraditional occupational opportunities for both sexes	0.0%	0.0%	50.0%	50.0%	0.0%



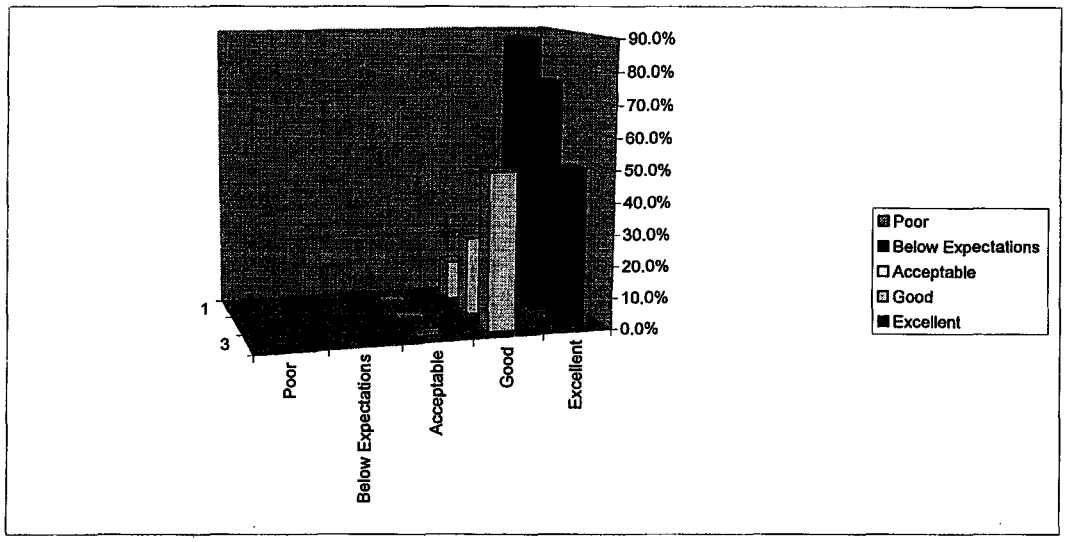
Job success information on former students in your occupational program:	Poor	Below Expe	Acceptable	Good	Excellent
22 Is provided to help you make career decisions	0.0%	0.0%	37.5%	37.5%	25.0%
23 Identifies how many job opportunities there are in your occupation	0.0%	0.0%	25.0%	62.5%	12.5%
24 Identifies where these job oportunites are located	0.0%	0.0%	25.0%	50.0%	25.0%
25 Tells about job advancement opportunities	0.0%	0.0%	37.5%	50.0%	12.5%



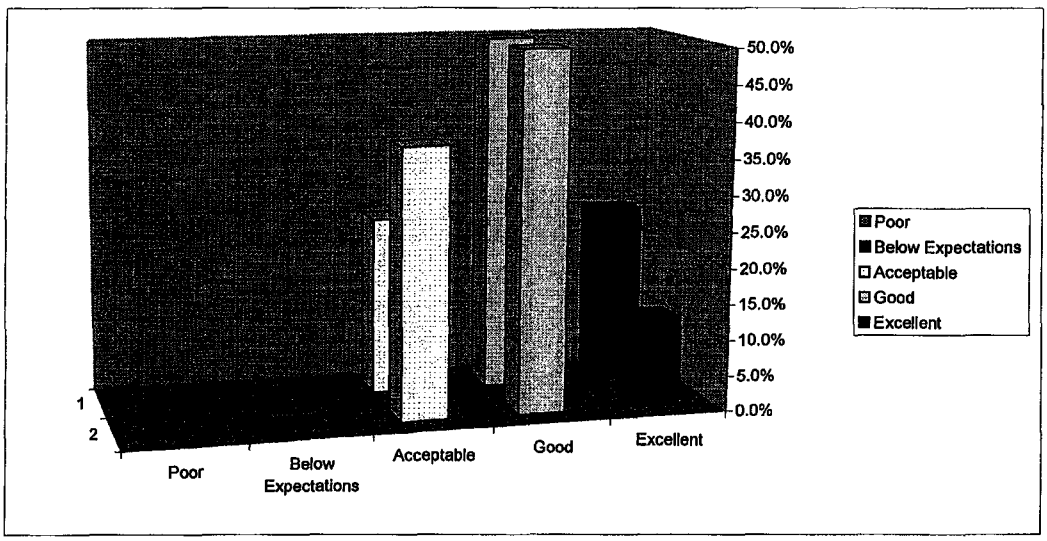
Placement services are available to:	Poor	Below Expe	Acceptable	Good	Excellent
26 Help you find employment opportunities	12.5%	0.0%	12.5%	50.0%	25.0%
27 Prepare you to appply for a job	0.0%	12.5%	12.5%	25.0%	50.0%



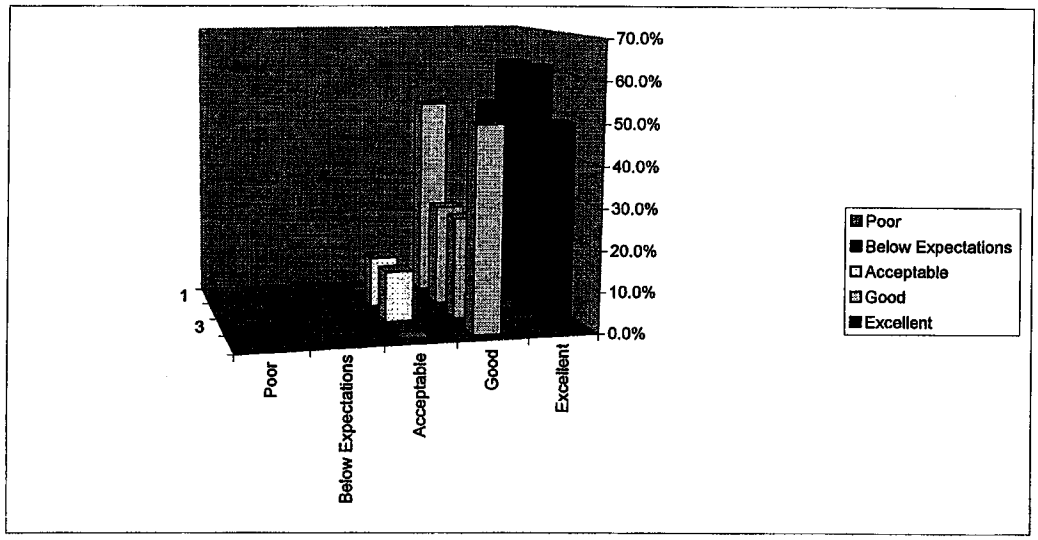
	Occupational instructors:	Poor	Below Expe	Acceptable	Good	Excellent
28	Know the subject matter and occupational requirements	0.0%	0.0%	0.0%	12.5%	87.5%
29	Are available to provide help when you needed it	0.0%	0.0%	0.0%	25.0%	75.0%
30	Provide instruction so it is interesting and understandable	0.0%	0.0%	0.0%	50.0%	50.0%



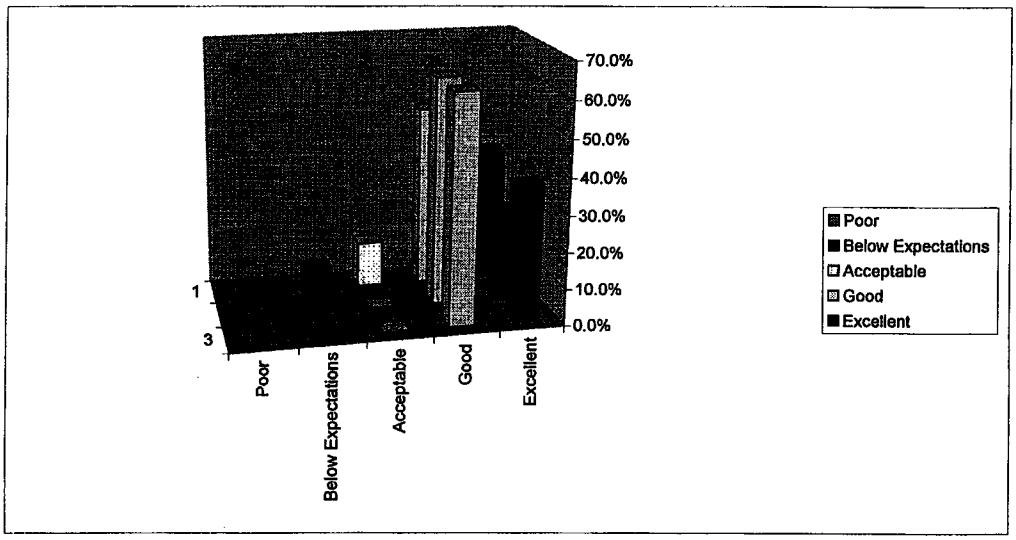
	Instructional support services (such as tutoring, lab asistance) are:	Poor	Below Expe	Acceptable	Good	Excellent
31	Provided by knowledgeable, interested staff	0.0%	0.0%	25.0%	50.0%	25.0%
32	Available to meet your needs and interests	0.0%	0.0%	37.5%	50.0%	12.5%



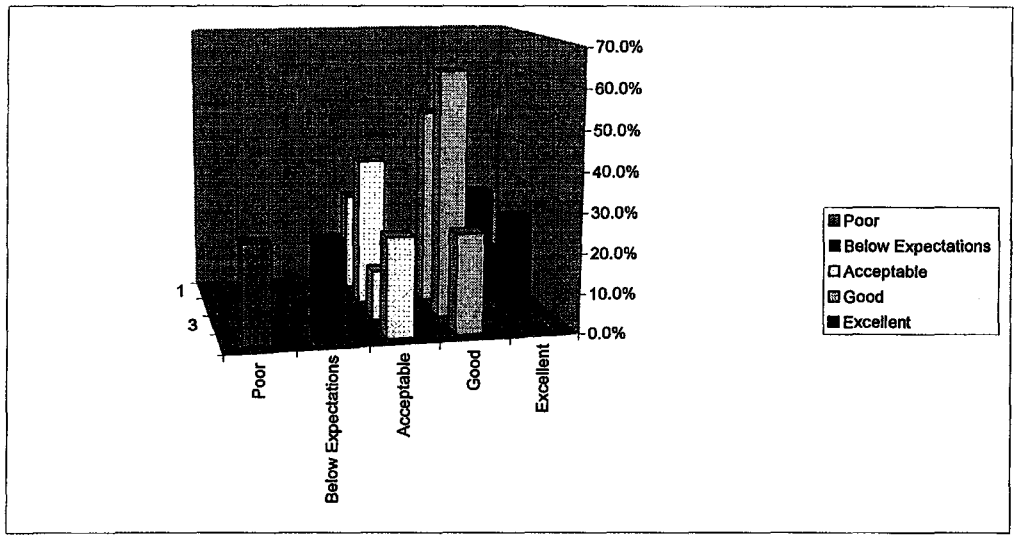
	Instructional laboratory and lecture facilities	Poor	Below Expe	Acceptable	Good	Excellent
33	Provide adequate lighting, ventilation, heating, power and other utilities	0.0%	0.0%	0.0%	50.0%	50.0%
34	Include enough work stations for the number of students enrolled	0.0%	0.0%	12.5%	25.0%	62.5%
35	Are safe, functional, and well maintained	0.0%	0.0%	12.5%	25.0%	62.5%
36	Are available on an equal basis for all students	0.0%	0.0%	0.0%	50.0%	50.0%



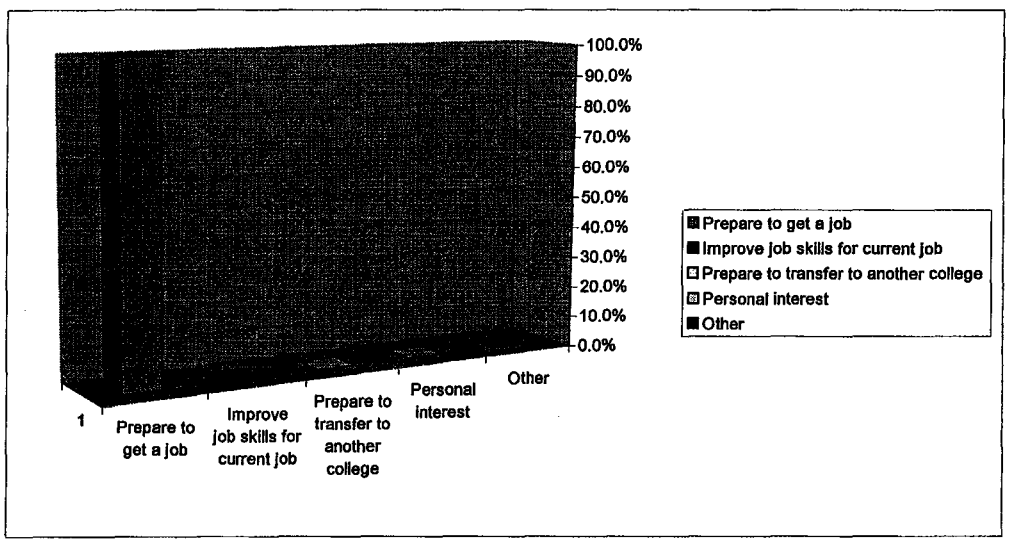
	Instructional equipment is:	Poor	Below Expe	Acceptable	Good	Excellent
37	Current and representative of industry	0.0%	0.0%	12.5%	50.0%	37.5%
38	In sufficient quantitiy to avoid long delays in use	0.0%	12.5%	0.0%	62.5%	25.0%
39	Safe and in good condition	0.0%	0.0%	0.0%	62.5%	37.5%



Instructional materials (e.g. textbooks, reference books, supplies) are:	Poor	Below Expe	Acceptable	Good	Excellent
40 Available and conveniently located for use as needed	0.0%	0.0%	25.0%	5.0%	25.0%
41 Current and meaningful to the subject	0.0%	0.0%	37.5%	50.0%	12.5%
42 Not biased toward traditional sex roles	0.0%	0.0%	12.5%	62.5%	25.0%
43 Available at reasonal costs	25.0%	25.0%	25.0%	25.0%	0.0%



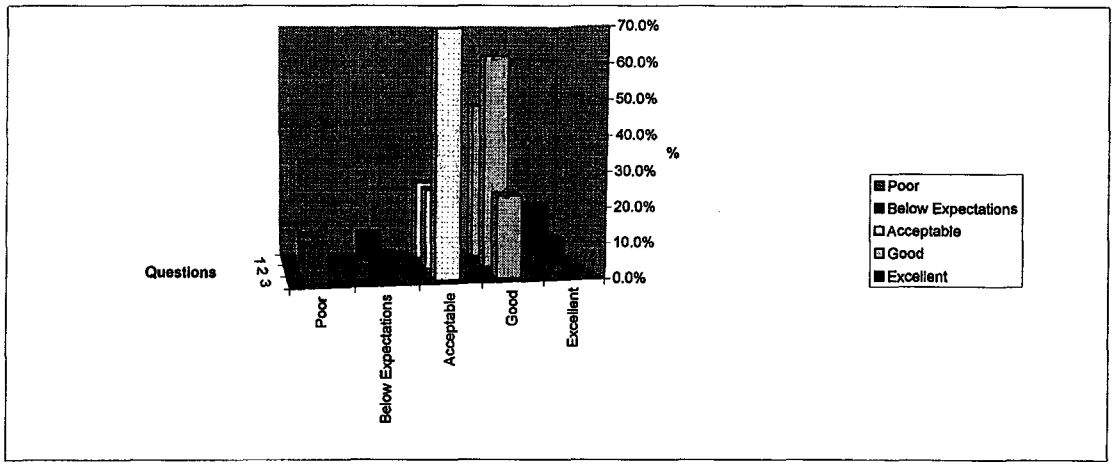
44 What best describes your objective for attendng college	Prepare to	Improve job	Prepare to tr	Personal In	Other
	100.0%	0.0%	0.0%	0.0%	0.0%



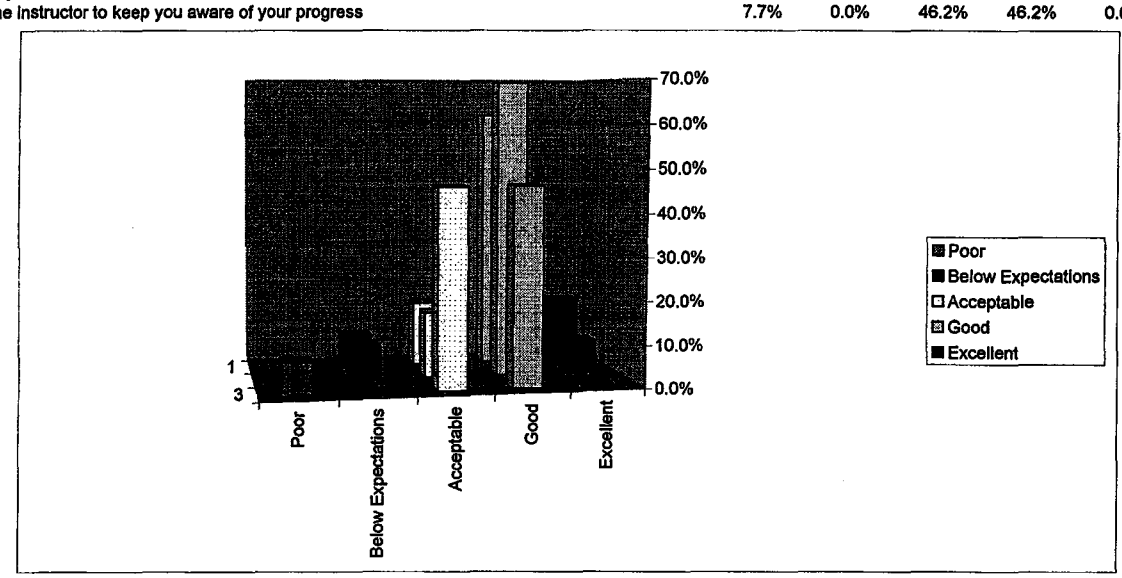
PMGT students

Courses in your Occupational area are:

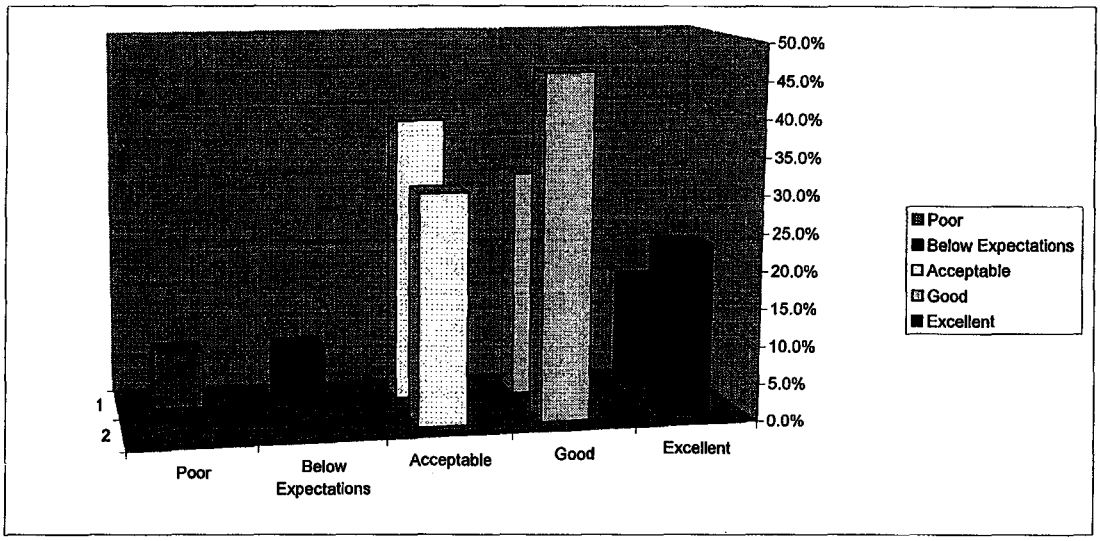
Question	Poor	Below Expe	Acceptable	Good	Excellent
1 Available and conveniently located	7.7%	7.7%	23.1%	46.2%	15.4%
2 Based on realistic prerequisites.	7.7%	0.0%	23.1%	61.5%	7.7%
3 Available at moderate cost	0.0%	7.7%	69.2%	23.1%	0.0%



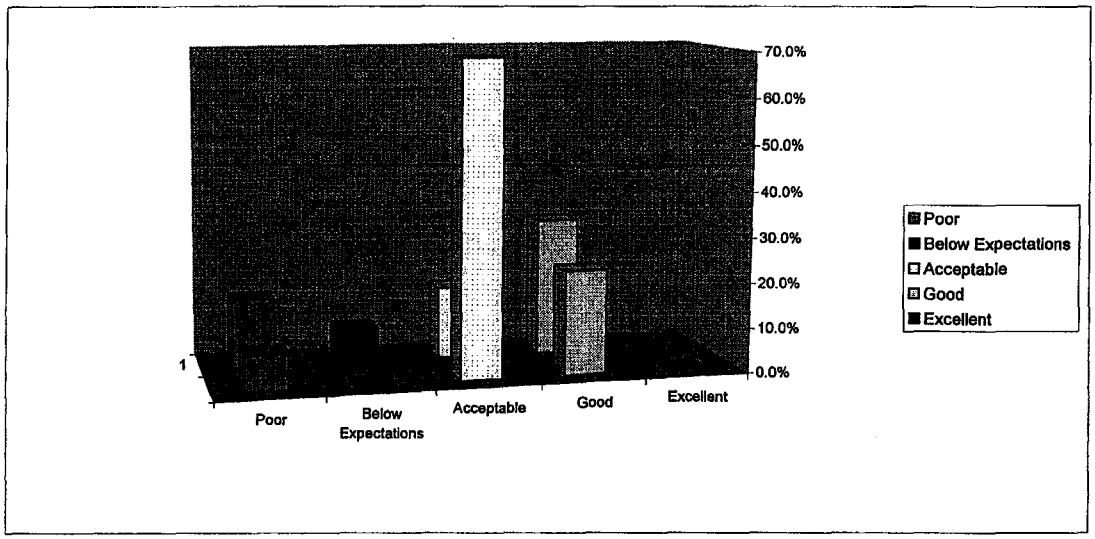
Written objectives for courses in your occupational area	Poor	Below Expe	Acceptable	Good	Excellent
4 Are available to students	0.0%	7.7%	15.4%	61.5%	15.4%
5 Describe what you will learn in the course	0.0%	7.7%	15.4%	69.2%	7.7%
6 Are used by the instructor to keep you aware of your progress	7.7%	0.0%	46.2%	46.2%	0.0%



Teaching Methods, procedures and course content:	Poor	Below Expe	Acceptable	Good	Excellent
7 Meet your occupational needs, interests and objectives	7.7%	7.7%	38.5%	30.8%	15.4%
8 Provide supervised practice for developing job skills	0.0%	0.0%	30.8%	46.2%	23.1%

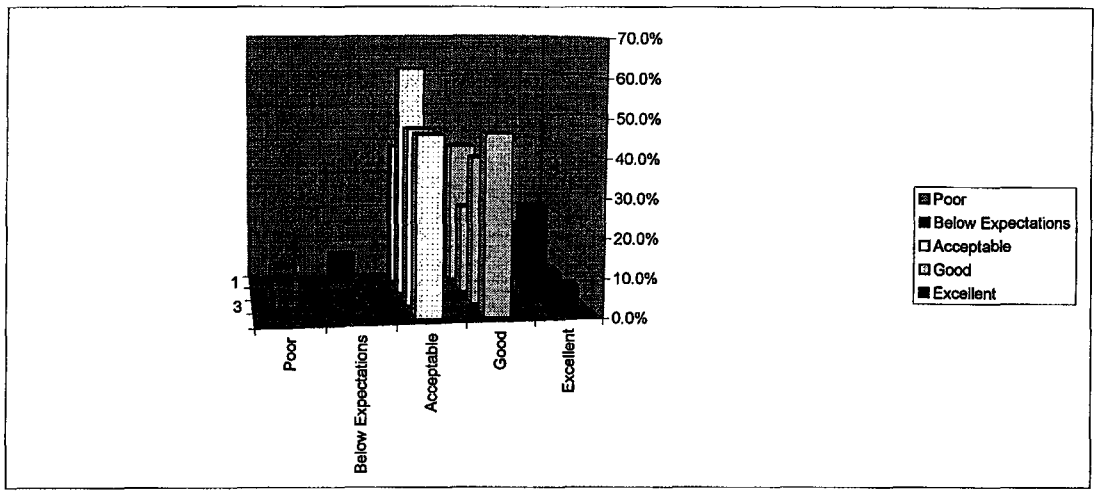


Related courses (such as English, Mathematics, Science) are:	Poor	Below Expe	Acceptable	Good	Excellent
9 Pertinant to occupational instruction	15.4%	7.7%	16.2%	30.8%	0.0%
10 Current and meaningful to you	7.7%	0.0%	69.2%	23.1%	0.0%

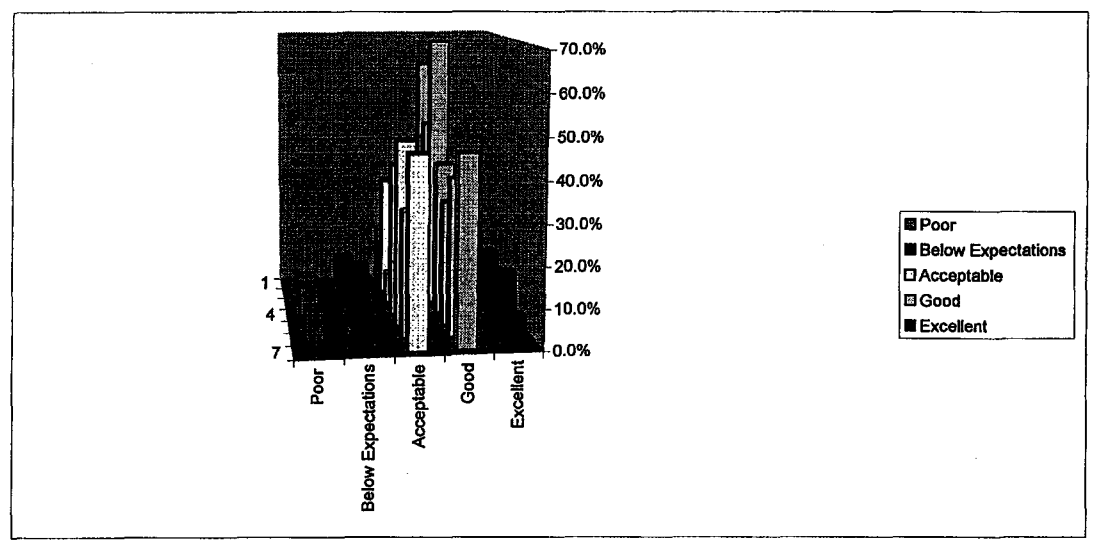


Work experience (or clinical experience) in your occupational program is:

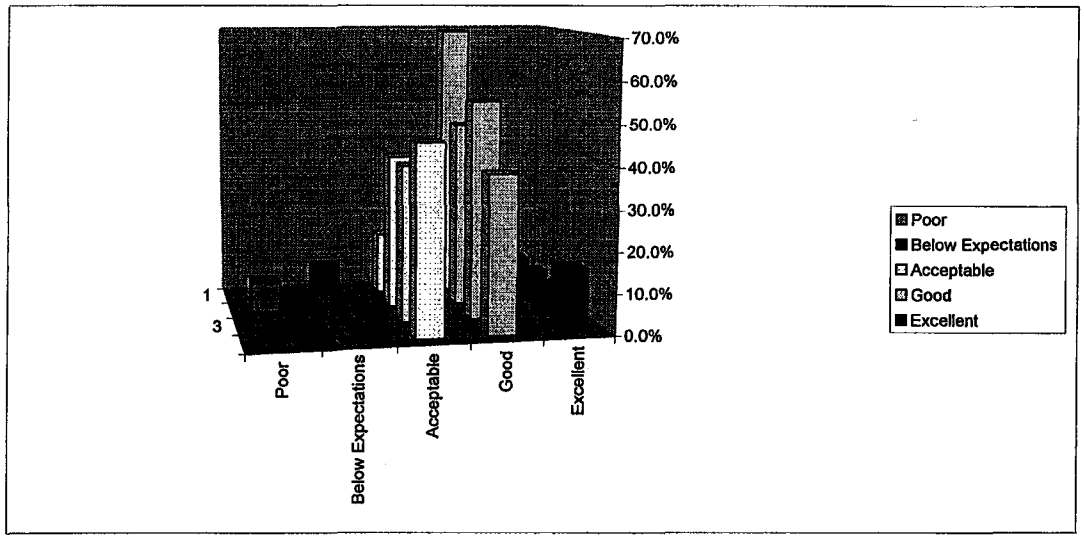
	Poor	Below Expe	Acceptable	Good	Excellent
11 Readily available at convenient locations	0.0%	7.7%	38.5%	38.5%	15.4%
12 Readily available to both day and evening students	7.7%	0.0%	61.5%	23.1%	23.1%
13 Coordinated with classroom instruction	7.7%	0.0%	46.2%	38.5%	7.7%
14 Coordinated with employer supervision	0.0%	0.0%	46.2%	46.2%	7.7%



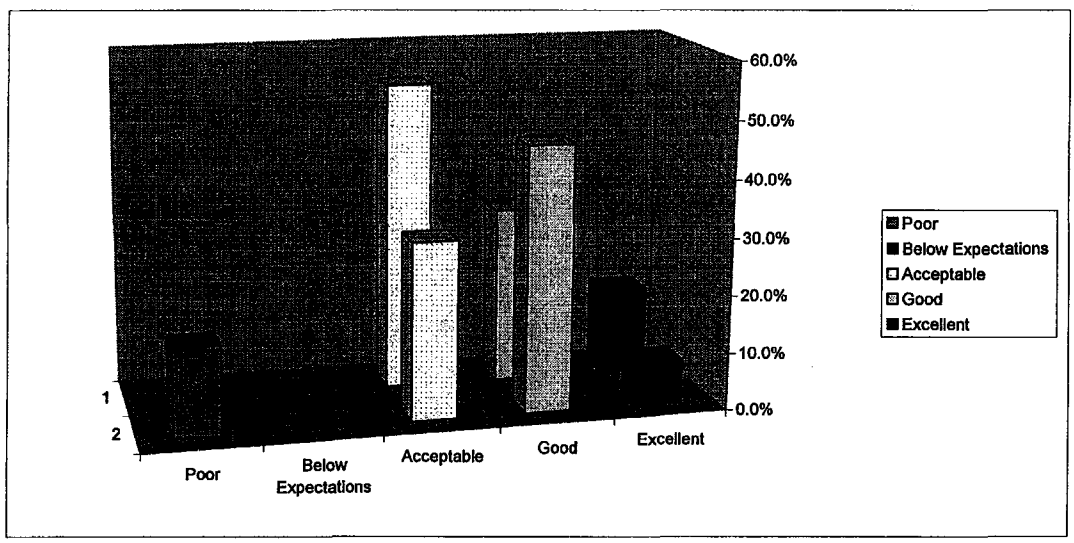
Career planning information	Poor	Below Expe	Acceptable	Good	Excellent
15 Meets your needs and interests	0.0%	7.7%	15.4%	61.5%	15.4%
16 Helps you plan your program	0.0%	7.7%	30.8%	46.2%	15.4%
17 Helps you make career decisions and choices	7.7%	7.7%	7.7%	69.2%	7.7%
18 Helps you understand your rights and responsibilities as an employee	7.7%	0.0%	38.5%	38.5%	15.4%
19 Helps you evaluate job opportunities in relation to salary, benefits, and conditions of employment	0.0%	15.4%	46.2%	30.8%	7.7%
20 Is provided by knowledgeble interested staff	7.7%	7.7%	30.8%	38.5%	15.4%
21 Explains nontraditional occupational opportunities for both sexes	0.0%	0.0%	46.2%	46.2%	7.7%



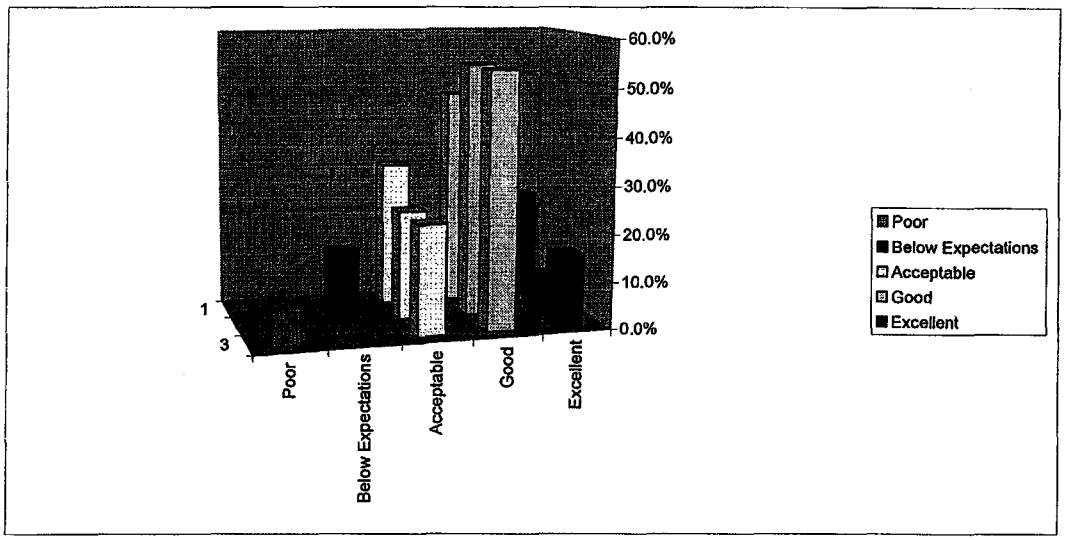
Job success information on former students in your occupational program:	Poor	Below Expe	Acceptable	Good	Excellent
22 Is provided to help you make career decisions	0.0%	7.7%	15.4%	69.2%	7.7%
23 Identifies how many job opportunities there are in your occupation	7.7%	0.0%	38.5%	46.2%	7.7%
24 Identifies where these job opportunites are located	0.0%	0.0%	38.5%	53.8%	7.7%
25 Tells about job advancement opportunities	0.0%	0.0%	46.2%	38.5%	15.4%



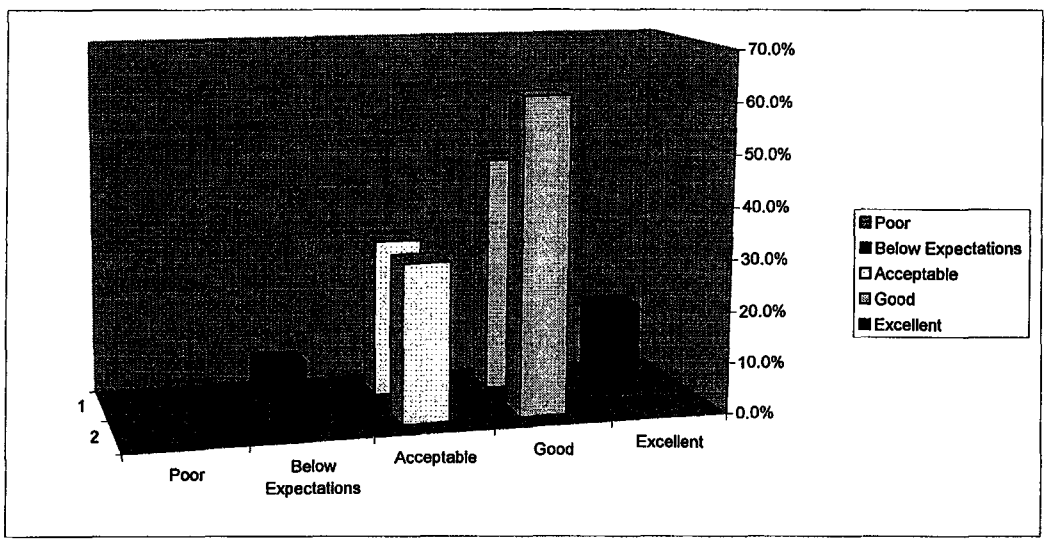
Placement services are available to:	Poor	Below Expe	Acceptable	Good	Excellent
26 Help you find employment opportunities	0.0%	0.0%	53.8%	30.8%	15.4%
27 Prepare you to appply for a job	15.4%	0.0%	30.8%	46.2%	7.7%



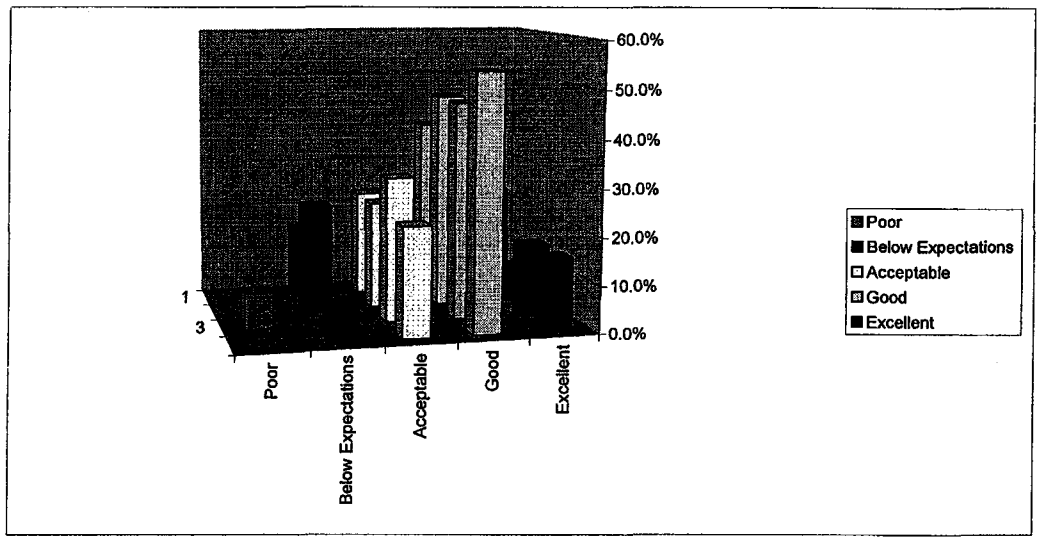
Occupational Instructors:	Poor	Below Expe	Acceptable	Good	Excellent
28 Know the subject matter and occupational requirements	0.0%	0.0%	30.8%	46.2%	23.1%
29 Are available to provide help when you needed it	0.0%	15.4%	23.1%	53.8%	7.7%
30 Provide instruction so it is interesting and understandable	7.7%	0.0%	23.1%	53.8%	15.4%



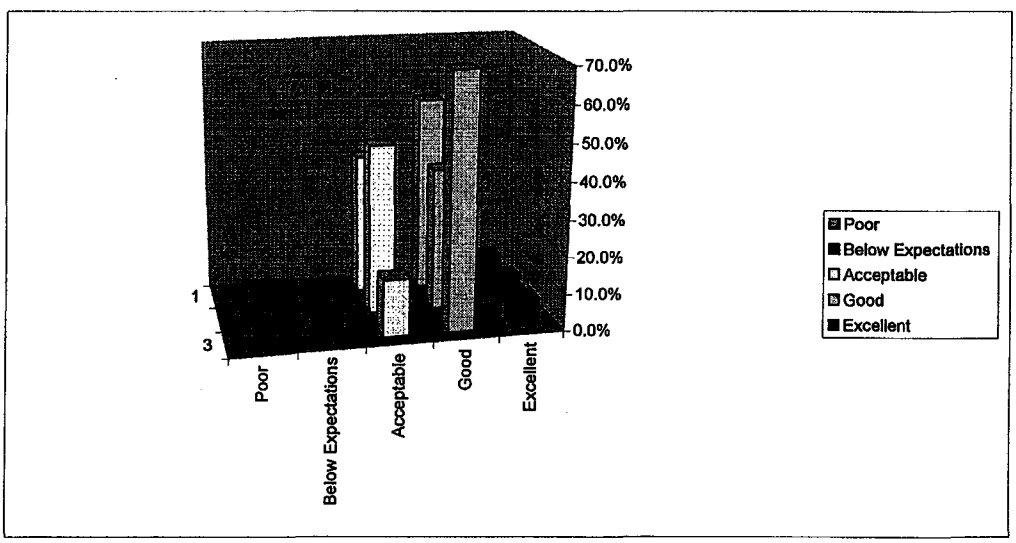
Instructional support services (such as tutoring, lab asistance) are:	Poor	Below Expe	Acceptable	Good	Excellent
31 Provided by knowledgeable, interested staff	0.0%	7.7%	30.8%	46.2%	15.4%
32 Available to meet your needs and interests	0.0%	7.7%	30.8%	61.5%	0.0%



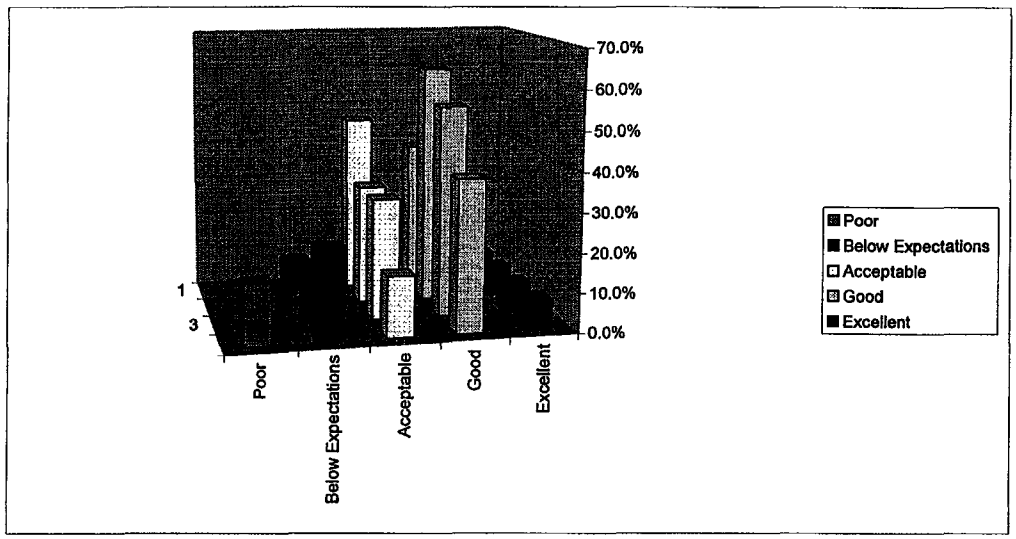
	Instructional laboratory and lecture facilities	Poor	Below Expe	Acceptable	Good	Excellent
33	Provide adequate lighting, ventilation, heating, power and other utilities	0.0%	15.4%	23.1%	38.5%	23.1%
34	Include enough work stations for the number of students enrolled	0.0%	23.1%	23.1%	46.2%	7.7%
35	Are safe, functional, and well maintained	7.7%	0.0%	30.8%	46.2%	15.4%
36	Are available on an equal basis for all students	0.0%	7.7%	23.1%	53.8%	15.4%



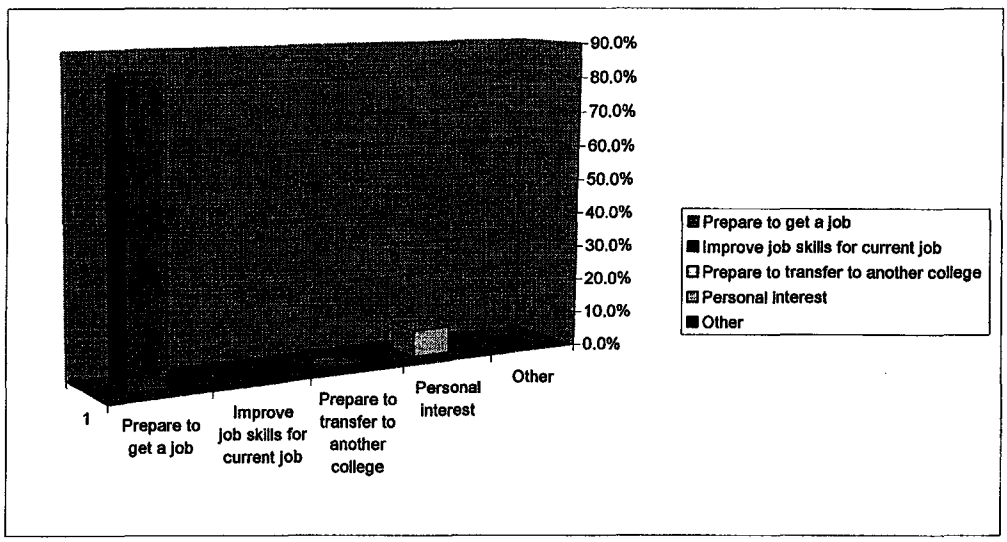
	Instructional equipment is:	Poor	Below Expe	Acceptable	Good	Excellent
37	Current and representative of industry	0.0%	0.0%	38.5%	53.8%	7.7%
38	In sufficient quantitly to avoid long delays in use	0.0%	7.7%	46.2%	38.5%	7.7%
39	Safe and in good condition	0.0%	7.7%	15.4%	69.2%	7.7%



Instructional materials (e.g. textbooks, reference books, supplies) are:	Poor	Below Expe	Acceptable	Good	Excellent
40 Available and conveniently located for use as needed	0.0%	7.7%	46.2%	38.5%	7.7%
41 Current and meaningful to the subject	0.0%	0.0%	30.8%	61.5%	7.7%
42 Not biased toward traditional sex roles	0.0%	7.7%	30.8%	53.8%	7.7%
43 Available at reasonal costs	15.4%	23.1%	15.4%	38.5%	7.7%



44 What best describes your objective for attendng college	Prepare to	Improve job	Prepare to tr	Personal in	Other
	84.6%	0.0%	0.0%	7.7%	0.0%



Faculty Perceptions

Minor – Desktop Publishing

AAS Printing and Digital Graphic Imaging Technology

BS Printing Management

BS New Media

INDEX

Scope and Overview

The AAS Printing and Digital Graphic Imaging Technology Program is eligible for Perkins Vocational Education Funding. Fall of 2001 the Program was required by state law to administer a PROE review of the program. In light of this Administrative Program Review Process it was decided to use the same instrument as required by law to measure the faculty perceptions from within the Printing and Imaging Technology Management Department. A total of nine faculty completed the survey.

Summary

The faculty perceptions can be summarized in two ways. The first set of data is the statistical analysis of the survey results and the second is the print out of all comments written by the faculty during the survey. The statistical data suggests that the faculty feel the programs are solid with the exception use of clerical and technical support staff. While the department shares a secretary with the Surveying Department, shares a mechanical technician with the Manufacturing Department and has computer support from our computer consortium there is apparently some services not being provided.

The faculty also feel the allocation of budget and capital outlay is not what it could be. Most if not all the current equipment has been installed through the efforts of the faculty gaining donations and or consignments. The computer lab is getting old (four years) and the institution refuses to publish a long term replacement plan. The faculty are very concerned that we will not be able to teach current software and skills as a result of having out of date computers.

The unedited comments of the faculty are as follows:

Faculty Perceptions of Occupational Education Programs

1. **What are the chief occupational education strengths of your program?**
   - Smaller classes
   - Hands on labs
   - Highly professional teachers
   - Real world teaching methods
   - Active advisory committee
   - Connections to employers
   - Faculty with depth in the foundational technologies
   - Connections to potential intern sites for job opportunities
   - Connections to industry suppliers
   - Constantly evolving and ever-changing curriculum

- Equipment that is a representative of industry
- Solid curriculum with well designed courses.
- In depth course content
- A Diverse and Numerous Instructional Staff
- Good program coordinator
- Faculty who are from industry not PHD

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

- Updating electronic lab equipment
- Replacing old warn out machines (small folder)
- A Systematic support (i.e. funding) for professional development
- A built in (budget) source of funding for systematic replacement and updating of equipment, hardware, and software.
- Better commutation and alignment of goals with computer support personnel with instructional goals
- Students need to work in the industry, while attending classes
- Move program to Grand Rapids campus
- Classrooms need to be remodeled to be able to use new technology
- Increase lab time for some courses
- Increase required credits
- Increase capital budgets for keeping current in a very capital intensive occupational area
- Computer lab equipment must be replaced every four years
- More money for professional development
- With in 5 years with will have many retirements, there is a worry that the University will not replace them.
- Industry problems, career awareness, youth needs to know about industry and shortage of work force.
- The department has grown and improved tremendously over the years, not being able to hire an excellent tenured track faculty if someone leaves will cause many steps backwards.

COLLEGE_____

FACULTY PERCEPTIONS OF OCCUPATIONAL EDUCATION PROGRAMS

INSTRUCTIONS TO RESPONDENTS

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

- Goals and Objectives
- Processes
- Resources

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

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

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

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

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

PROGRAM TITLE_____ USOE CODE #__ __ . __ __ __ __ __ __

PERSONS PARTICIPATING IN CONSENSUS EVALUATION OR INDIVIDUAL COMPLETING THIS FORM:

Name_____ Title _____

_____ _____

_____ _____

_____ _____

_____ _____

Thanks for your cooperation!

FACULTY PERCEPTIONS OF OCCUPATIONAL EDUCATION PROGRAMS

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

FACULTY PERCEPTIONS OF OCCUPATIONAL EDUCATION PROGRAMS

		Keypunch Instructions	Poor 1	Below Expectations 2	Acceptable 3	Good 4	Excellent 5	Don't Know	COMMENTS (Please note explanatory remarks or needs for improvement)
PROCESSES (Continued)									
20. Adequacy of Career Planning and Guidance *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.	20								
21. 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.	21								
22. 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.	22								
23. 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.	23								
24. Promotion of this Occupational 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.	24								
RESOURCES									
25. 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.	25								

FACULTY PERCEPTIONS OF OCCUPATIONAL EDUCATION PROGRAMS

Keypunch Instructions	Poor	Below Expectations	Acceptable	Good	Excellent	Don't Know	COMMENTS (Please note explanatory remarks or needs for improvement)
	1	2	3	4	5		

RESOURCES (Continued)

33. Maintenance and Safety of Instructional Equipment — 33

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.

34. Adequacy of Instructional Facilities — 34

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, disfunctional, or overcrowded.

35. Scheduling of Instructional Facilities — 35

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.

36. Adequacy and Availability of Instructional Materials and Supplies — 36

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.

37. Adequacy and Availability of Learning Resources — 37

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.

38. Use of Advisory Committees — 38

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.

39. Provisions in Current Operating Budget — 39

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.

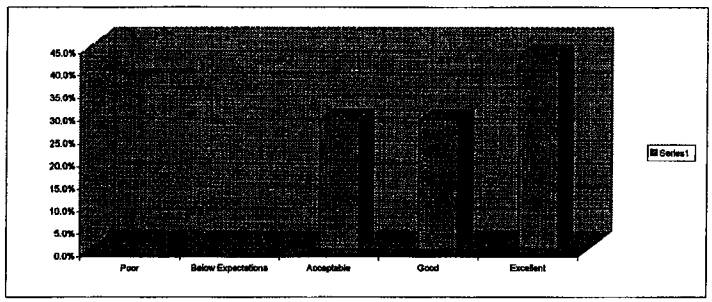
40. Provisions in Capital Outlay Budget for Equipment — 40

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

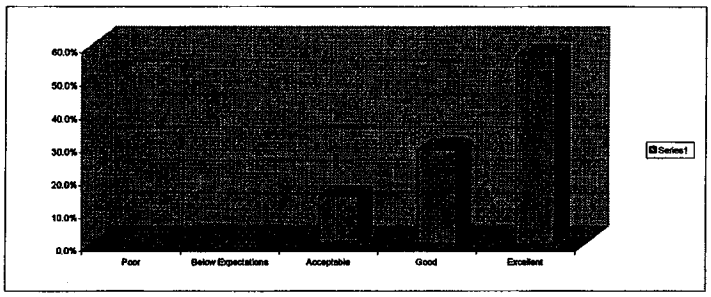
1 Participation in development of College Occupational Education Program Plans

Poor	Below Expe	Acceptable	Good	Excellent
0.0%	0.0%	28.6%	28.6%	42.9%



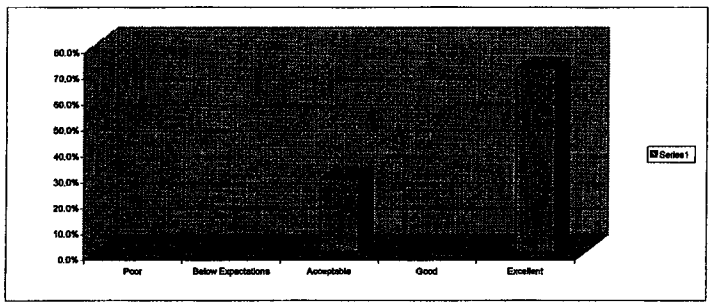
2 Program Goals

Poor	Below Expe	Acceptable	Good	Excellent
0.0%	0.0%	14.3%	28.6%	57.1%



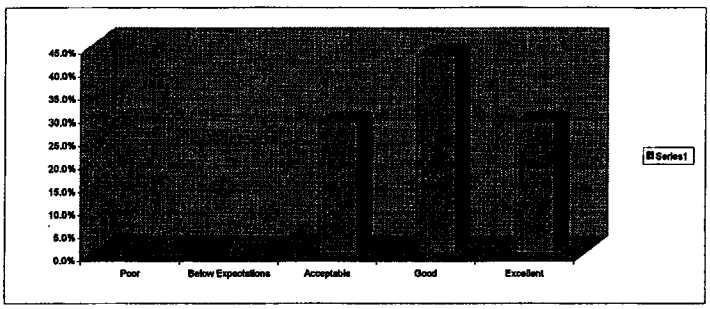
3 Course Objectives

Poor	Below Expe	Acceptable	Good	Excellent
0.0%	0.0%	28.6%	0.0%	71.4%



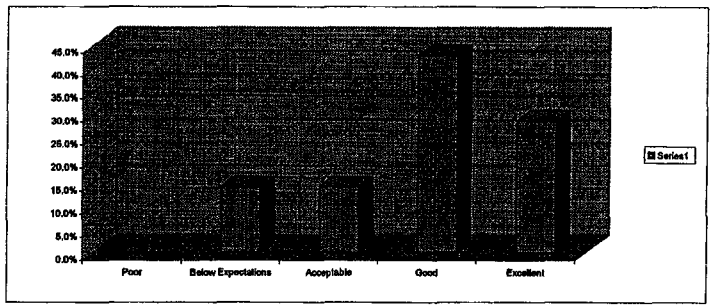
4 Competency based performance objectives

Poor	Below Expe	Acceptable	Good	Excellent
0.0%	0.0%	28.6%	42.9%	28.6%



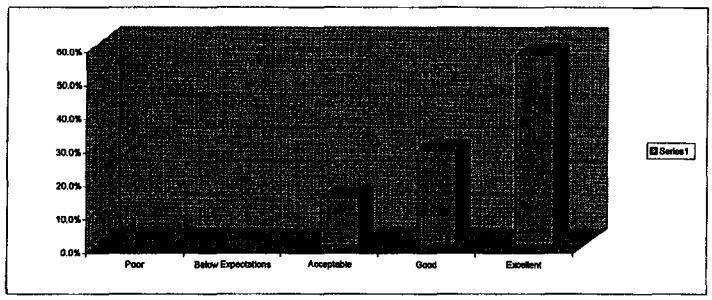
5 Use of competency based performance objectives

Poor	Below Expe	Acceptable	Good	Excellent
0.0%	14.3%	14.3%	42.9%	28.6%



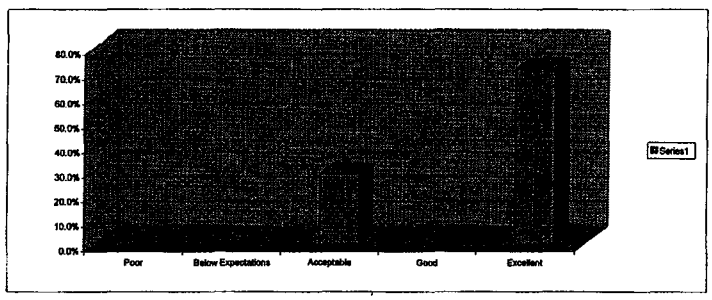
6 Use of information on labor market needs

Poor	Below Expe	Acceptable	Good	Excellent
0.0%	0.0%	14.3%	28.6%	57.1%



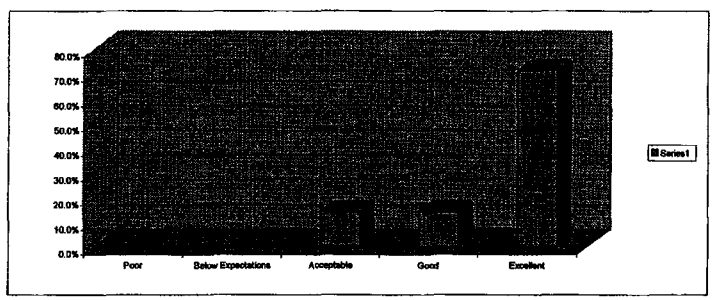
7 Use of information on job performance requirements

Poor	Below Expe	Acceptable	Good	Excellent
0.0%	0.0%	28.6%	0.0%	71.4%



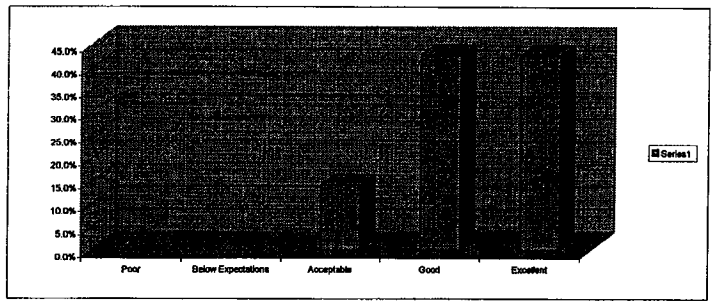
8 Use of professional / industry standards

Poor	Below Expe	Acceptable	Good	Excellent
0.0%	0.0%	14.3%	14.3%	71.4%



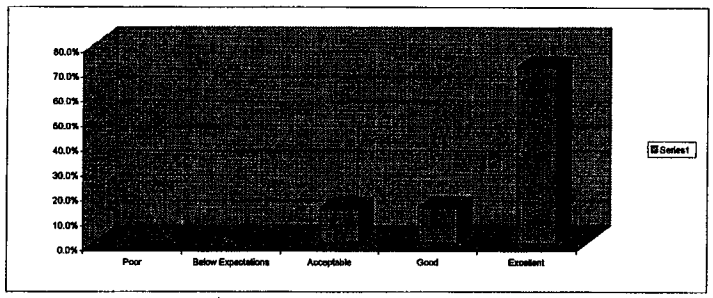
9 Use of student folow-up information

Poor	Below Expe	Acceptable	Good	Excellent
0.0%	0.0%	14.3%	42.9%	42.9%



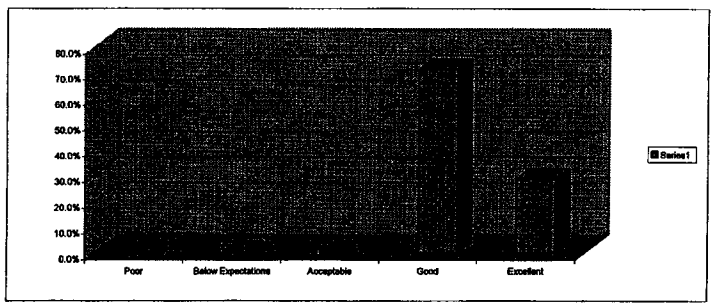
10 Adaptation on instruction

Poor	Below Expe	Acceptable	Good	Excellent
0.0%	0.0%	14.3%	14.3%	71.4%



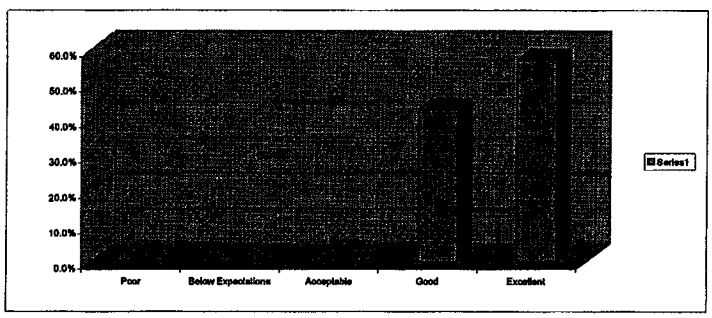
11 Relevance of support courses

Poor	Below Expe	Acceptable	Good	Excellent
0.0%	0.0%	0.0%	71.4%	28.6%



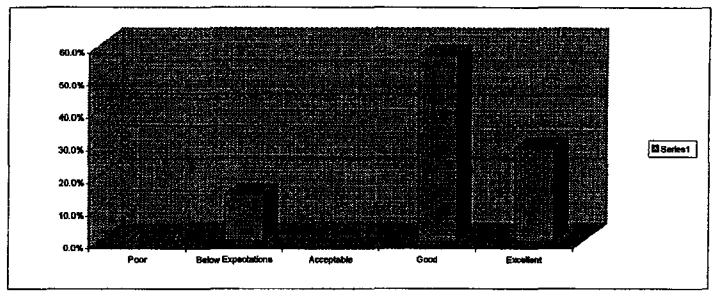
12 Coordination with other community agencies and educational programs

Poor	Below Expe	Acceptable	Good	Excellent
0.0%	0.0%	0.0%	42.9%	57.1%



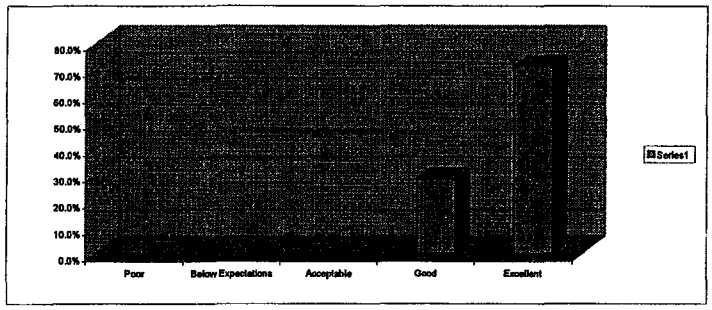
13 Provision for work experience, cooperative education or clinical experience

Poor	Below Expe	Acceptable	Good	Excellent
0.0%	14.3%	0.0%	57.1%	28.6%



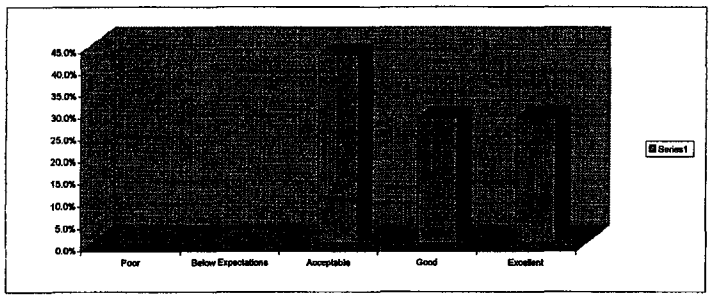
14 Program availability and accessibility

Poor	Below Expe	Acceptable	Good	Excellent
0.0%	0.0%	0.0%	28.6%	71.4%



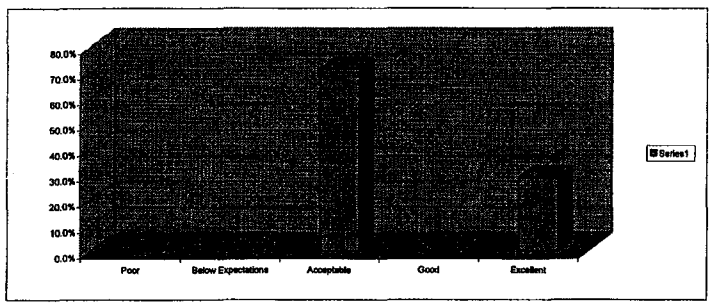
15 Provision for disadvantaged

Poor	Below Expe	Acceptable	Good	Excellent
0.0%	0.0%	42.9%	28.6%	28.6%



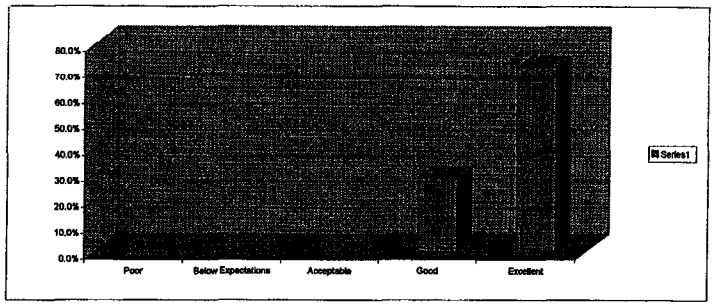
16 Provision for the handicapped

Poor	Below Expe	Acceptable	Good	Excellent
0.0%	0.0%	71.4%	0.0%	28.6%



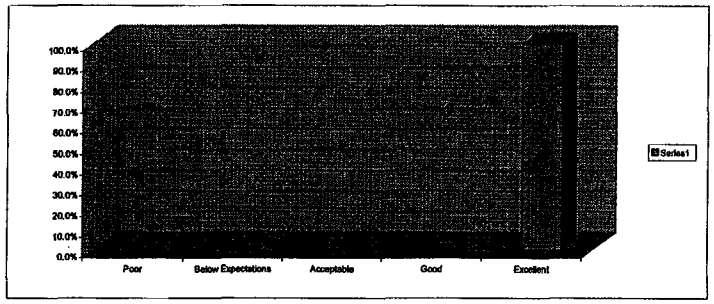
17 Efforts to achieve sex equity

Poor	Below Expe	Acceptable	Good	Excellent
0.0%	0.0%	0.0%	28.6%	71.4%



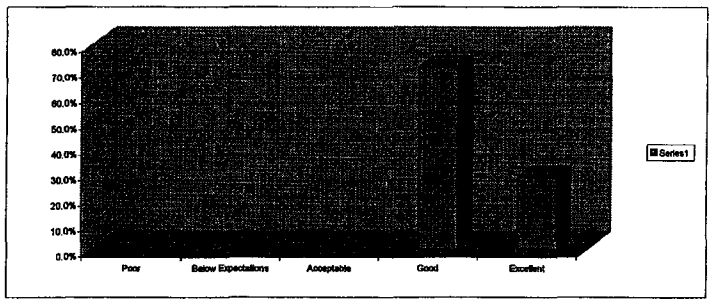
18 Provision for program advisement

Poor	Below Expe	Acceptable	Good	Excellent
0.0%	0.0%	0.0%	0.0%	100.0%



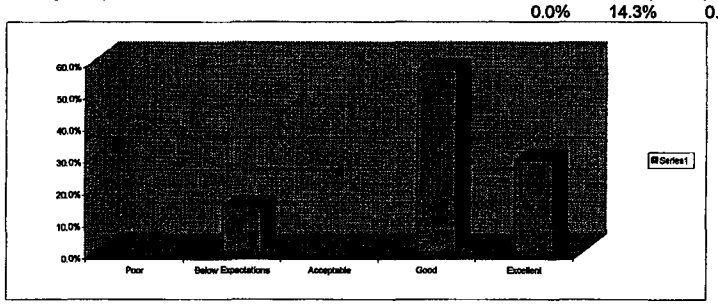
19 Provision for career planning guidance

Poor	Below Expe	Acceptable	Good	Excellent
0.0%	0.0%	0.0%	71.4%	28.6%



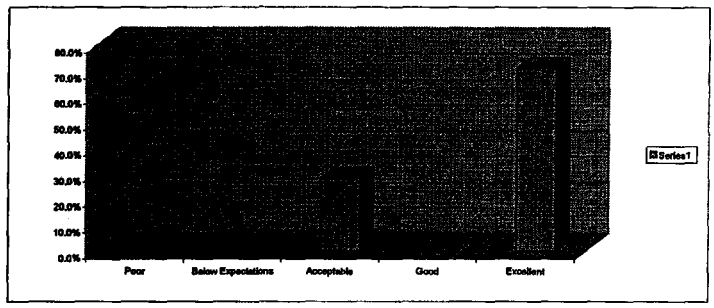
20 Adequacy of career planning and guidance

Poor	Below Expe	Acceptable	Good	Excellent
0.0%	14.3%	0.0%	57.1%	28.6%



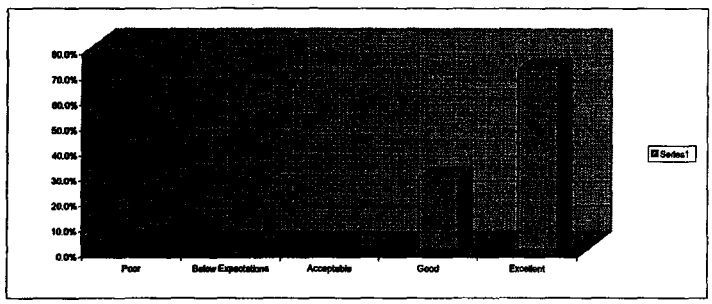
21 Provision for employability information

Poor	Below Expe	Acceptable	Good	Excellent
0.0%	0.0%	28.6%	0.0%	71.4%



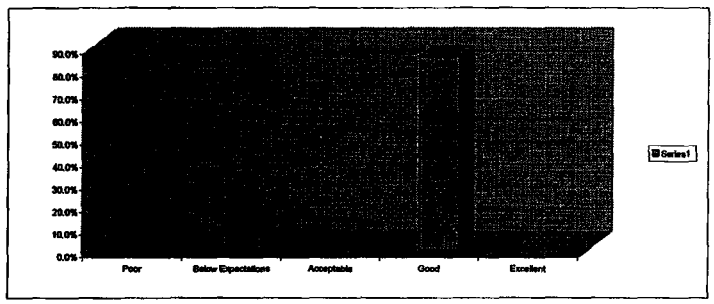
22 Placement effectiveness for students in this program

Poor	Below Expe	Acceptable	Good	Excellent
0.0%	0.0%	0.0%	28.6%	71.4%



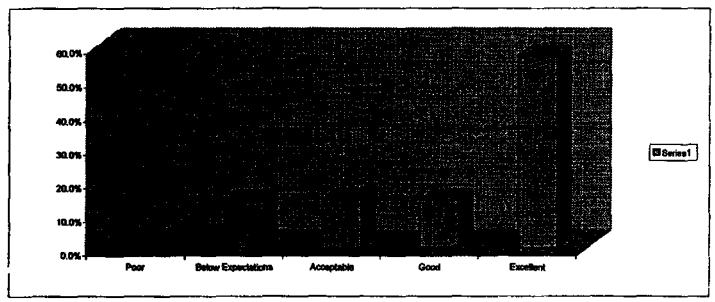
23 Student follow-up system

Poor	Below Expe	Acceptable	Good	Excellent
0.0%	14.3%	0.0%	85.7%	0.0%



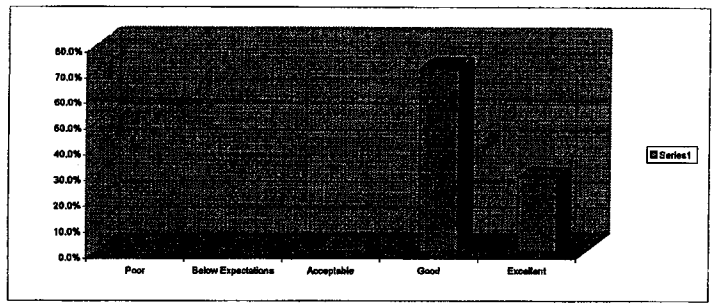
24 Promotion of this occupational program

Poor	Below Expe	Acceptable	Good	Excellent
0.0%	14.3%	14.3%	14.3%	57.1%



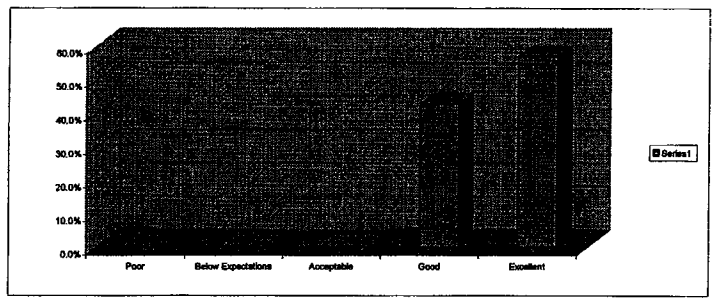
25 Provision for leadership and coordination

Poor	Below Expe	Acceptable	Good	Excellent
0.0%	0.0%	0.0%	71.4%	28.6%



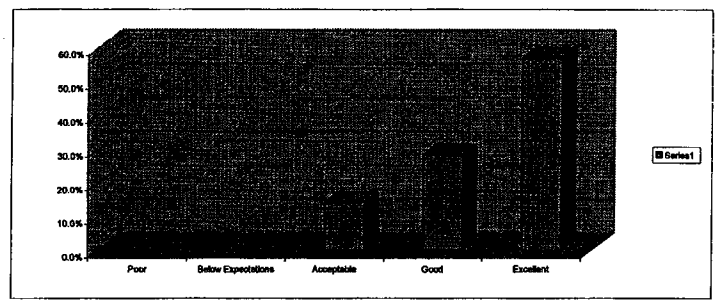
26 Qualifications of administrators and/or supervisors

Poor	Below Expe	Acceptable	Good	Excellent
0.0%	0.0%	0.0%	42.9%	57.1%



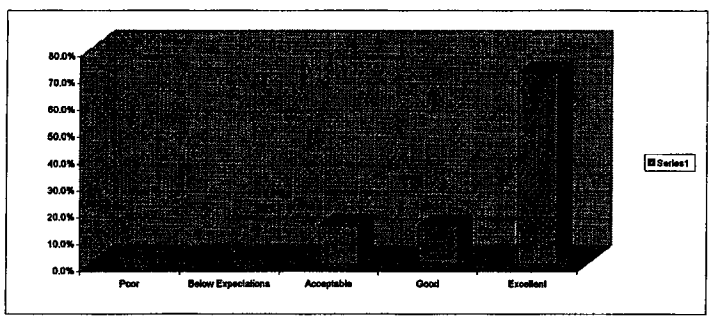
27 Instructional staffing

Poor	Below Expe	Acceptable	Good	Excellent
0.0%	0.0%	14.3%	28.6%	57.1%



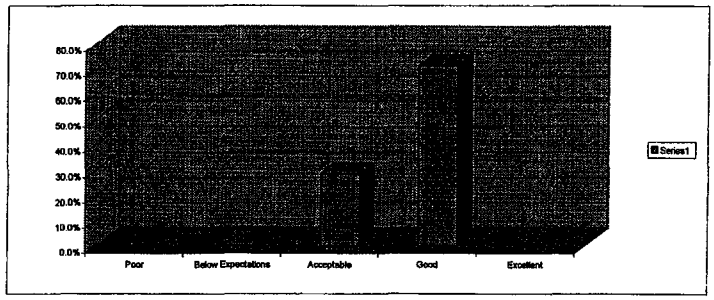
28 Qualifications of instructional staff

Poor	Below Expe	Acceptable	Good	Excellent
0.0%	0.0%	14.3%	14.3%	71.4%



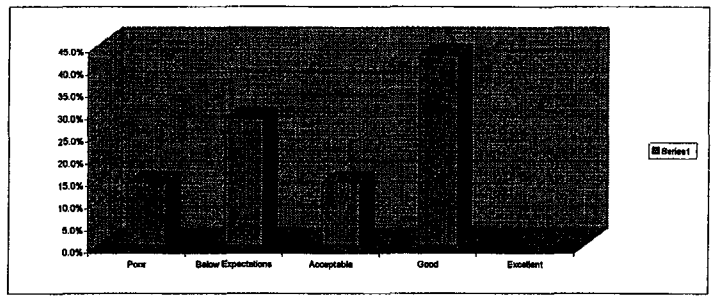
29 Professional development opportunities

Poor	Below Expe	Acceptable	Good	Excellent
0.0%	0.0%	28.6%	71.4%	0.0%



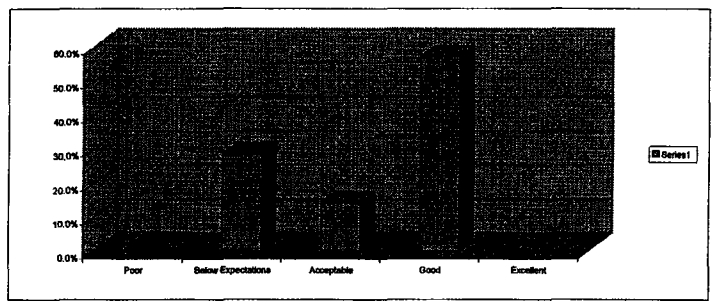
30 Use of instructional support staff

Poor	Below Expe	Acceptable	Good	Excellent
14.3%	28.6%	14.3%	42.9%	0.0%



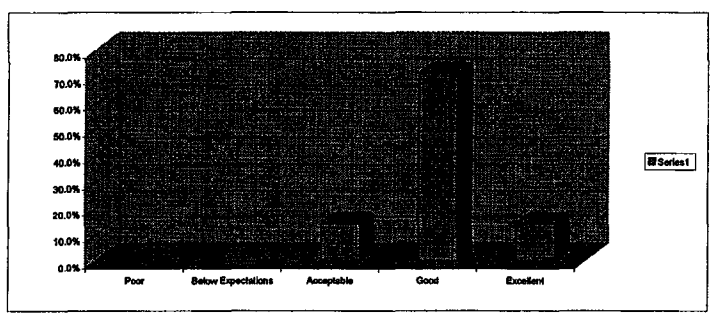
31 Use of clerical support staff

Poor	Below Expe	Acceptable	Good	Excellent
0.0%	28.6%	14.3%	57.1%	0.0%



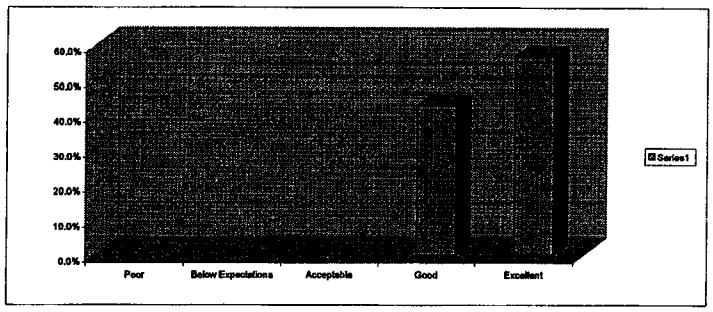
32 Adequacy and availability of instructional equipment

Poor	Below Expe	Acceptable	Good	Excellent
0.0%	0.0%	14.3%	71.4%	14.3%



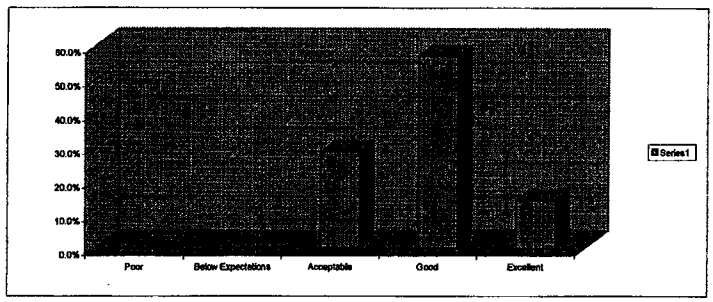
33 Maintenance and safety of instructional equipment

Poor	Below Expe	Acceptable	Good	Excellent
0.0%	0.0%	0.0%	42.9%	57.1%



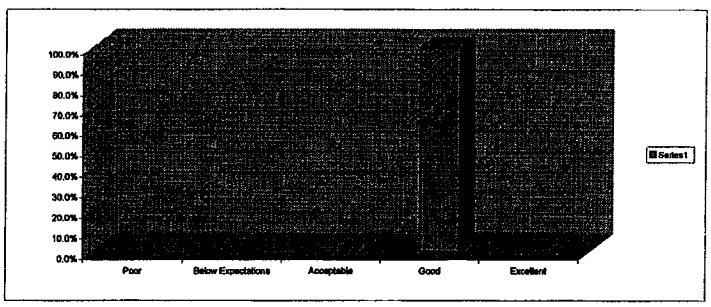
34 Adequacy of instructional facilities

Poor	Below Expe	Acceptable	Good	Excellent
0.0%	0.0%	28.6%	57.1%	14.3%



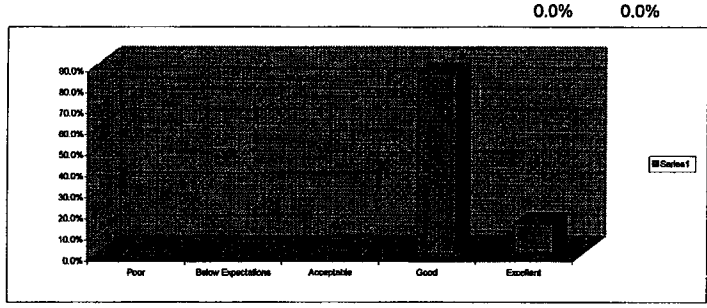
35 Scheduling of instructional facilities

Poor	Below Expe	Acceptable	Good	Excellent
0.0%	0.0%	0.0%	100.0%	0.0%



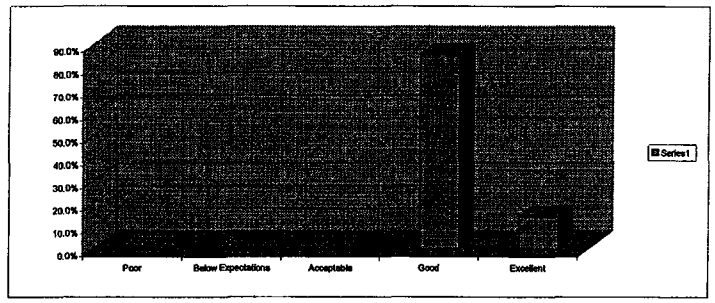
36 Adequacy and availability of instructional materials and supplies

Poor	Below Expe	Acceptable	Good	Excellent
0.0%	0.0%	0.0%	85.7%	14.3%



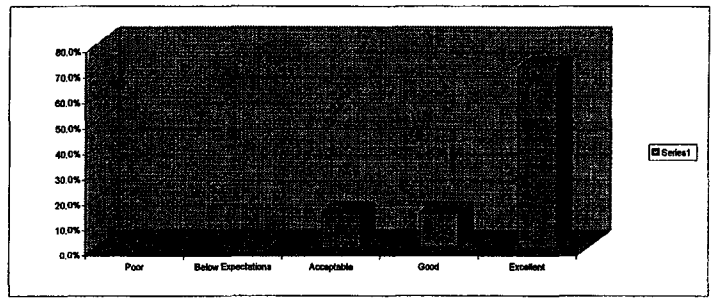
37 Adequacy and availability of learning resources

Poor	Below Expe	Acceptable	Good	Excellent
0.0%	0.0%	0.0%	85.7%	14.3%



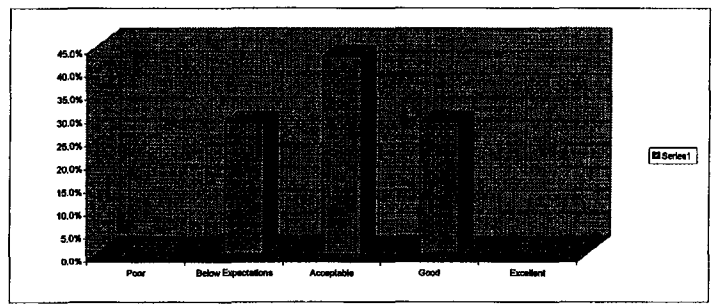
38 Use of advisory committees

Poor	Below Expe	Acceptable	Good	Excellent
0.0%	0.0%	14.3%	14.3%	71.4%



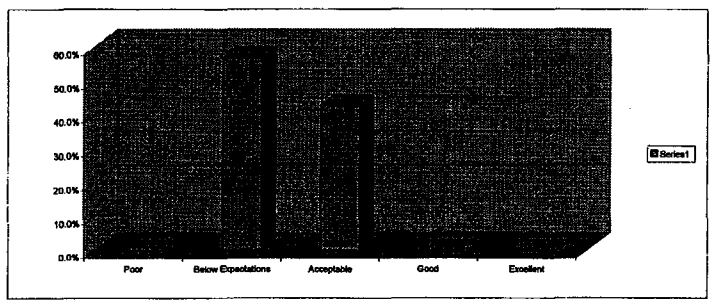
39 Provisions in current operating budget

Poor	Below Expe	Acceptable	Good	Excellent
0.0%	28.6%	42.9%	28.6%	0.0%



40 Provisions in capital outlay budget for equipment

Poor	Below Expe	Acceptable	Good	Excellent
0.0%	57.1%	42.9%	0.0%	0.0%



Advisory Committee Perceptions

Minor – Desktop Publishing

AAS Printing and Digital Graphic Imaging Technology

BS Printing Management

BS New Media

INDEX

Scope and Overview

The Printing and Imaging Technology Management Advisory Committee is a representative group of printing industry leaders who oversee the programs of the department. All committee members were mailed a seventeen-statement survey of their perceptions of the Printing and Imaging Technology Management Education Programs. The survey was conducted in January 2002. There were a total of eighteen surveys mailed and eight surveys were returned for analysis. This represents a 44% response rate. A duplicate of the survey appears on page 2&3 of the report. There were five areas to the survey, Instructional Program Content and Quality; Instructional Equipment; Instructional Facilities; Placement; Follow-up Studies on Program Completers and Leavers. In addition there were three open-end questions. The survey statements were rated on a scale from one to five including a Don't Know response, as follows:

5 — Excellent	(E)
4 — Good	(G)
3 — Acceptable	(A)
2 — Below Expectations	(BE)
1 — Poor	(P)
Don't Know	(DK)

Of the fourteen statements which were to be rated, the average for thirteen of these was greater than 4.0 (Good), with a high of 4.71. The other statement had a rating of 3.25, Acceptable to Good. The statement which was rated the highest, 4.671, dealt with the maintenance of equipment in the labs. The statement concerning the program content being based on job skills and knowledge required for successful entry level employment was 4.63, a very good indication that graduating students are well prepared for the industry. On the low side was the statement about collecting information on job success and failure of former students, 3.25. This information is based on responses from people completing or leaving the programs. Past experience indicates very low response to graduate surveys for the programs.

Of the open-ended questions, the major strengths of the programs were the hands-on experiences for students, and the programs ability to change with new technological developments within the industry. The major needs for improvements is to keep up with the technology by securing more funding and development of the instructors.

College_____

Advisory Committee
(Specify field)_____

ADVISORY COMMITTEE PERCEPTIONS OF OCCUPATIONAL EDUCATION PROGRAMS

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.

	Keypunch Instructions	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.	1							
• Designed to provide students with practical job application experience.	2							
• Responsive to upgrading and retraining needs of employed persons.	3							
• Periodically reviewed and revised to keep current with changing job practices and technology.	4							
2. Instructional equipment is:								
• Well maintained.	5							
• Current and representative of that used on the job.	6							
3. Instructional facilities:								
• Provide adequate lighting, ventilation, heating, power, and other utilities.	7							
• Allocate sufficient space to support quality instruction.	8							
• Meet essential health and safety standards.	9							
4. Placement:								
• Services are available to students completing the program.	10							
• Job opportunities exist for students completing the program or leaving with marketable skills.	11							
5. Follow-up studies on program completers and leavers (Students with marketable skills):								
• Demonstrate that students are prepared for entry level employment.	12							
• Collect information on job success and failure of former students.	13							
• Provide information used to review and, where warranted, revise the program.	14							

ADVISORY COMMITTEE PERCEPTIONS OF OCCUPATIONAL EDUCATION PROGRAMS

College _____

Advisory Committee
(Specify field)_____

Please answer the following:

1. What are the major strengths of the college's occupational program in your field(s)?

2. What are the major needs for improvement in the college's occupational program in your field(s)?

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

RESPONSES TO SURVEY STATEMENTS

I. Instructional program content and quality are:

1. based on performance objectives that represent job skills and knowledge required for successful entry level employment.

E	G	A	BE	P	DK	Average
5	3					4.63

2. designed to provide students with practical job application experience.

E	G	A	BE	P	DK	Average
2	4	2				4.0

3. responsive to upgrading and retraining needs of employed persons.

E	G	A	BE	P	DK	Average
3	2	1			2	4.33

4. periodically reviewed and revised to keep current with changing job practices and technology.

E	G	A	BE	P	DK	Average
4	4					4.50

II. Instructional equipment is:

5. well maintained.

E	G	A	BE	P	DK	Average
5	2				1	4.71

6. current and representative of that used on the job.

E	G	A	BE	P	DK	Average
3	4	1				4.25

III. Instructional facilities:

7. provide adequate lighting, ventilation, heating, power, and other utilities.

E	G	A	BE	P	DK	Average
1	4	1			2	4.00

RESPONSES TO SURVEY STATEMENTS

III. Instructional facilities:

8. allocate sufficient space to support quality instruction.

E	G	A	BE	P	DK	Average
2	2	2			1	4.00

9. meet essential health and safety standards.

E	G	A	BE	P	DK	Average
4	2				2	4.67

IV. Placement:

10. services are available to students completing the program.

E	G	A	BE	P	DK	Average
4	1	2	1			4.0

11. job opportunities exist for students completing the program or leaving with marketable skills.

E	G	A	BE	P	DK	Average
6	1	1				4.63

V. Follow-up studies on program completers and leavers:

12. demonstrate that students are prepared for entry level employment.

E	G	A	BE	P	DK	Average
4	2	2				4.25

13. collect information on job success and failure of former students.

E	G	A	BE	P	DK	Average
	2	1	1		4	3.25

14. provide information used to review and, where warranted, revise the program.

E	G	A	BE	P	DK	Average
3	2	1			2	4.33

RESPONSES TO OPEN-ENDED QUESTIONS

1. What are the major strengths of the college's occupational program in your field?

- New digital technologies, direct digital imaging, variable data printing, and web printing
- Use of hands-on teaching
- Willingness to adapt and change
- Hands on training
- Hands-on is the key, internships
- Digital imaging
- Dedication of faculty with industrial experience

2. What are the major needs for improvement in the college's occupational program in your field?

- More experience, hands-on is always an asset
- Bring the current technology into the educational setting
- Significant funding increases are needed to stay current and prepare students marketable skills
- computer to plate technology
- stay current on new things
- More support from the university, more involvement from the Dean
- To stay technologically current with both equipment and instructors

3. Do you have additional comments or suggestions for the program or for utilization of the advisory committee?

- Advisory board is utilized effectively
- Ferris grads have a very good rapport between them

PRINTING and IMAGING TECHNOLOGY MANAGEMENT DEPARTMENT INDUSTRY ADVISORY COMMITTEE MEMBERS—2002

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Grandville, MI 49418

Daniel Kelley
President
ColorTech Graphics, Inc.
28700 Hayes Road
Roseville, MI 48066

Labor Market Analysis

Minor – Desktop Publishing

AAS Printing and Digital Graphic Imaging Technology

BS Printing Management

BS New Media

INDEX

PRINTING AND IMAGING TECHNOLOGY MANAGEMENT JOB/MARKET ANALYSIS:

OVERVIEW/SUMMARY:

According to the official Graphic Arts Technical Foundation website, "Printing is America's third largest manufacturing industry—employing over 1.2 million people in almost 46,000 establishments, and selling over $160 billion of products in 2001." That's more people than are employed in the auto industry.

The employment outlook since the recent recession, and particularly since 9/11/01, has been sluggish in all industries as one might expect. This is true for the printing and publishing industries. Fortunately the Printing and Publishing industries are enormous and rank in seven of the top ten economic indicators. Because all the latest reports responding to the recent recession and the 9/11 impact, no comprehensive economic labor analysis is available for this industry. The National Association of Printers and Lithographers (NAPL) will not have their *State of the Industry Report* of 2001-2002 available in the fall or winter of 2002. Therefore the most current data available is for 2000-1.

The Occupational Outlook Handbook (OOH) for 2000-1 states:

"Some new jobs for prepress technicians and workers are expected to emerge in commercial printing establishments. New equipment should reduce the time needed to complete a printing job, and allow commercial printers to make inroads into new markets that require fast turnaround. Because small establishments predominate, commercial printing should provide the best opportunities for inexperienced workers who want to gain a good background in all facets of printing.

"Among persons without experience, however, opportunities should be best for those with computer backgrounds who have completed postsecondary programs in printing technology."

The report goes on to say:

"Many employers prefer graduates of these programs because the comprehensive training they receive helps them learn the printing process and adapt more rapidly to new processes and techniques."

This preference for university trained people remains in 2002, although hiring has naturally slowed. For instance, in its *Printing Business Conditions Special Updates* April 2002 report the National Association of Printers and Lithographers has summarized the current year in the following terms:

"Key NAPL printing business indicators were steady in April. That's encouraging, because it means we are holding on to the gains we've made since 2002 opened. And it's expected, because as we've emphasized, this recovery is going to be in fits and starts until the economy and ad spending hit full stride late this year." (See appendix 2 for other 2002 monthly economic assessments)

Earnings/Salary Data

The Occupational Outlook Handbook for 2001 states that the median hourly earnings of prepress technicians and workers were $14.57 in 2000. The middle 50 percent earned between $10.70 and $19.12 an hour. The lowest 10 percent earned less than $8.20, and the highest 10 percent earned more than $23.57 an hour. Median hourly earnings in commercial printing, the industry employing the largest number of prepress technicians and workers, were $15.26 in 2000. These levels have not diminished to the present even though unemployment has increased and hiring has slowed down. See Appendix 1 for additional data on salary changes from 2000 to 2001.

Median hourly earnings of job printers were $13.61 in 2000. The middle 50 percent earned between $10.00 and $17.67 an hour. The lowest 10 percent earned less than $7.81, and the highest 10 percent earned more than $21.88 an hour. Median hourly earnings in commercial printing, the industry employing the largest number of job printers, were $14.68 in 2000.

Wage rates for prepress technicians and workers vary according to occupation, level of experience, training, location, and size of the firm, and whether they are union members. Note that twenty-four percent of the jobs

in the industry were in managerial and professional occupations, a higher proportion than in any other manufacturing industry.

According to the 2001 Edition of the Printing Industries of America Print Market Atlas Michigan printers provide over 42,000 jobs, and this does not include those related companies and services that require similar training and knowledge (such as print buyers and sales personnel for capital and supplies). Total printing establishments in Michigan exceed 1700, while total shipments exceeded $5.5 million for Michigan printers in 2001. These figures are affirmed by the Printing Industries of Michigan 2001 Michigan Wage and Benefit Survey.

The Experience of Ferris Graduates

The experience of graduates from the Printing and Imaging Technology Management Department, whether AAS or BS graduates, shows that all serious students can find quality employment. However there is no doubt that individual initiative and job search and interviewing preparation is an important component of success in the market since 9/11. The department has consistently received far more calls for potential hires than there have been students to fill those positions, and this has not changed in 2002. Besides entering the job market immediately, another option for Printing and Imaging Technology Management graduates is to attend graduate school in printing, management, computer science, or education. The average salary of the BS graduates was reported at $30,167 in the *FSU Fact Book 2001-2002* (page 111). This statistic is up significantly from $23,746 as reported in the previous Program Review report, a statistic that highlights the growing importance of a university and technical education as preparation for employment in this field, and as emphasized in the 2001 Occupational Outlook Handbook report:

"Among persons without experience, however, opportunities should be best for those with computer backgrounds who have completed postsecondary programs in printing technology. "Many employers prefer graduates of these programs because the comprehensive training they receive helps them learn the printing process and adapt more rapidly to new processes and techniques."

"Almost all jobs in the printing industry require at least a high school education. Additional training and cross training is becoming increasingly necessary as the industry continues to automate. It often is beneficial to receive training in mathematics, electronics, and computers."

Most of our two year AAS graduates continue in the BS programs. However some opt to study other programs related to computer systems and education, and a few simply enter the work force. The salary data for the latter is not available since the numbers are so few, but it is well known that salaries depend largely upon geographical location. The availability of jobs and the size of salaries are considerably more favorable in larger cities, and generally less in smaller towns. Although this is certainly not the rule, one graduate who was employed as a sales person for a printing equipment company reached six figures at the end of his second year out in 2001. Historically only a very small percentage of students (the exact percentage is not available) have apparently been unsuccessful at finding employment in a printing or graphics related field. In nearly every case that faculty have been made aware of this has been due to that student being unwilling (for any number of reasons) to move where the jobs were, and rather chose to reside in a small town with very limited or literally no job prospects in their chosen field.

It is further worth noting that the printing and publishing industry (and this is affirmed by the experience of our graduates) offers an incredibly wide range of jobs to prepared graduates. These include jobs that benefit from people skills, to those that require analytical and computing skills, to those that require the handling of heavy equipment—and everything in between. People often think of the local newspaper or print shop when they think of jobs for our graduates, and less often think of the multitude of print buyers working in large and medium sized corporations, or the multitude of sales positions for both printing companies and those companies that sell materials and equipment to printing and publishing firms. Nor do we typically think of the printing that goes on in the multitude of packaging configurations or the vast array of non-paper materials such as plastics that are printed on for a variety of purposes.

High-Tech and Creative Jobs

Although printing has a long tradition *Life* magazine named Johann Gutenberg's printing of the Bible in 1455 the millennium's most significant event. The modern graphic arts industry is on the cutting edge of innovation in digital imaging, data management, computer and telecommunications technology. Just some of the career opportunities in this industry are in:

- Graphic design and desktop publishing
- Traditional and digital Photography
- Electronic prepress and digital imaging
- Internet technologies
- Pressroom operations and management
- Binding and finishing
- Executive management
- Engineering and quality sciences
- Scheduling and estimating
- Sales and marketing for both printers and those who supply the printing and publishing industries with materials and equipment
- Customer service
- Production management and supervision
- Print buyers for larger corporations
- And many others (see appendix three for related data)

Conclusion

In summary, the salary levels and availability of job opportunities for AAS and BS graduates in Printing and Imaging programs is viable. It is only natural (because of greater competition for jobs in a tightening job market) that students will want to be more aggressive and take full advantage of job search and interviewing workshops offered by Ferris State University. It is also critical that the Printing and Imaging Technology Management programs continue to be refined and continually stay up to date with changing technologies. The faculty have already demonstrated their commitment to keeping abreast of technology, and professional development and curriculum upgrading has been and will continue to be a top priority for this department.

Table 2. Employment of wage and salary workers in printing and publishing by occupation, 2000 and projected change, 2000-10 (Employment in thousands)

Occupation	Employment, 2000, Number	Percent	%change 2000-2001
All occupations	1,547	100.0	-0.2
Management, business, and financial occupations	147	9.5	2.3
Marketing and sales managers	16	1.0	14.8
General and operations managers	35	2.3	-2.3
Business operations specialists	22	1.4	1.6

Sales and related occupations	152	9.8	3.5
Advertising sales agents	51	3.3	14.2
Sales representatives, wholesale and manufacturing, except technical and scientific products	43	2.8	-6.9
Telemarketers	21	1.3	5.4
Office and administrative support occupations	344	22.2	-3.8
Customer service representatives	52	3.3	1.0
Production, planning, and expediting clerks	14	0.9	-0.0
Shipping, receiving, and traffic clerks	22	1.5	-5.2
Data entry and information processing workers	13	0.9	-25.9
Desktop publishers	26	1.7	54.6

Office clerks, general	29	1.9	-1.0
Executive secretaries and administrative assistants	16	1.0	-5.0
Installation, maintenance, and repair occupations	20	1.3	-5.1
Production occupations	506	32.7	-3.7
First-line supervisors/managers of production and operating workers	39	2.5	-8.3
Bindery workers	81	5.2	2.5
Job printers	42	2.7	6.7
Prepress technicians and workers	85	5.5	-19.0
Printing machine operators	126	8.1	1.9
All other printing workers	19	1.2	-8.1

Cutting and slicing machine setters, operators, and tenders	14	0.9	-3.0
Helpers--Production workers	31	2.0	-6.1
Paper goods machine setters, operators, and tenders	11	0.7	-6.5
Transportation and material moving occupations	140	9.1	-5.1
Laborers and freight, stock, and material movers, hand	31	2.0	-7.4
Machine feeders and offbearers	26	1.7	-18.7
Packers and packagers, hand	29	1.9	4.2

NOTE: May not add to totals due to omission of occupations with small employment.

Printing Business Conditions Special Updates

July 2002
"Business continued to weaken in June for commercial printers, reducing both confidence and the NAPL Printing Business Index© to five-month lows. That doesn't mean we're going back into recession: As we'll see, the economy is gaining strength. But it does mean, as we expected, print's recovery is going to be painfully slow."

April 2002
Key NAPL printing business indicators were steady in April. That's encouraging, because it means we are holding on to the gains we've made since 2002 opened. And it's expected, because as we've emphasized, this recovery is going to be in fits and starts until the economy and ad spending hit full stride late this year

March 2002
The recession is over for print. But that doesn't mean we're going from bust to boom: Recovery will be muted until corporate profits and the advertising budgets they support strengthen late this year. And given the way our industry is changing, not everyone will share in the recovery even when it hits full speed.

January 2002
Print sales continue to decline. And reports that profitability is falling are still at record highs. The recession isn't getting deeper for commercial printers, but it isn't easing, either. Just 11.7% of printers we survey say they haven't been affected. Over 60.0% don't expect to recovery fully until the second half of 2002 at the earliest.

December 2001
There is no sign that business is turning up for commercial printers. And although optimism is growing that the worst is over and, barring a setback in our war on terrorism, it is a meaningful upturn that supports healthy sales growth and relieves the intense pressure on print profits still isn't likely until late 2002 or early 2003.

Appendix 3: distribution of types of printing establishments

(FROM OCCUPATIONAL OUTLOOK HANDBOOK FOR 2001)

Table 1. Distribution of establishments and wage and salary employment in printing and publishing, 2000

Industry segment	*Percent of establishments*	*Percent of employment*
Total	*100.0*	*100.0*
Printing	*59.3*	*48.5*
Commercial printing	*50.1*	*36.3*
Blankbooks and bookbinding	*2.5*	*3.8*
Book printing	*0.9*	*2.5*
Manifold business forms	*1.4*	*2.8*
Typesetting	*2.3*	*1.2*
Platemaking services	*2.0*	*1.9*
Publishing	*40.7*	*51.1*
Newspapers	*15.3*	*28.6*
Periodicals	*10.7*	*9.1*
Book publishing	*5.3*	*5.6*
Miscellaneous publishing	*9.0*	*6.2*
Greeting cards	*0.3*	*1.6*
Platemaking services	*2.0*	*1.9*

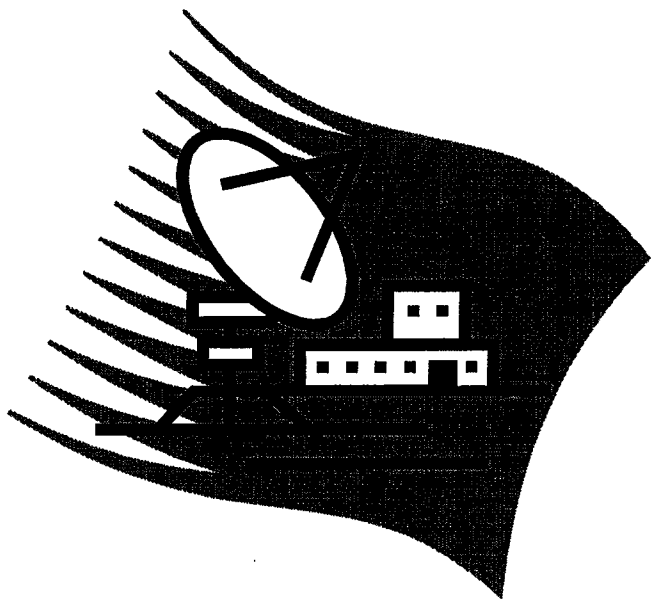
Facilities & Equipment Evaluation

Minor – Desktop Publishing

AAS Printing and Digital Graphic Imaging Technology

BS Printing Management

BS New Media



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Overview and Summary

The Printing and Imaging Technology Management Department (PDGI) programs utilize classrooms and laboratories in the Swan building. The program faculty offices are in Johnson Hall. The PDGI program office is shared with the Surveying Engineering program which is located in Swan 314. Both programs share one fulltime secretary.

Present existing space usage is listed below:

Room #	Usage
SWN 217	University Printing
SWN 218	Lecture Room with Multimedia Projection System
SWN 219	Image Assembly Lab
SWN 220	Macintosh Computer Lab with Multimedia Projection System
SWN 220B	Digital Output Room
SWN 220C	Server Room
SWN 222	Bindery and Finishing Lab
SWN 223	Reproduction Photography Lab/Lecture room
SWN 224	Sheetfed Press Lab
SWN 225	Web Press Lab
SWN 227	Printing Management Lab

Laboratory classrooms and the number of workstations for students:

Laboratory	Workstations
Image Assembly Lab	15
Macintosh Computer Lab	20
Bindery and Finishing Lab	10
Sheetfed Press Lab	5
Web Press Lab	3
Printing Management Lab	15

Laboratory classrooms for the AAS program in Printing and Imaging Technology consists of six (6) major lab areas. These include; the Image Assembly lab, Macintosh Computer lab, Bindery and Finishing lab, Reproduction Photography lab, Sheetfed Press lab, and Web Press lab. Lectures are held in Swan 218 and 223 that are shared with the Printing Management and New Media Printing and Publishing degrees.

Laboratory classrooms for the BS program in Printing Management consist of seven (7) major lab areas. These include; the Printing Management lab, Image Assembly lab, Macintosh Computer lab, Bindery and Finishing lab, Reproduction Photography lab, Sheetfed Press lab, and Web Press lab. Lectures are held in Swan 218 and 223 that are shared with the Printing and Imaging Technology and New Media Printing and Publishing degrees.

Laboratory classrooms for the BS program in New Media Printing and Publishing consists of three (3) major lab areas. These include; the Macintosh Computer lab, Image Assembly lab, and Sheetfed Press lab. Lectures are held in Swan 218 and 223 that are shared with the Printing and Imaging Technology and Printing Management degrees.

The major concerns regarding the facilities of the Printing and Imaging Technology Management Program could be resolved with major capital outlay funding for our existing space. Our industry has drastically changed in the past five years which has eliminated the need for darkroom areas that consume much of our laboratory space. These darkrooms have walls that need to be removed to provide space for new technology and more functional lecture areas. Also, due to the rapid transition in our industry, it has created a need for change from a trade work area to a professional technical work environment.

The equipment in our laboratories, except our computers, could be considered adequate. Faculty secured donations acquires most of the equipment. However, new computers are never donated to any of the programs at Ferris State University. Our students utilize our computer lab eleven hours a day during the semester. The computers in that lab are five years old and in digital intensive industries such as ours that is an eternity. We teach 70% of our courses in that lab, therefore, replacing the computers in that lab immensely strengthens our whole program.

Our Printing and Imaging Technology Management program is nationally recognized and we are leaders in our industry. In the past three years our program has maintained a positive enrollment trend, however it needs to have the facilities and equipment to maintain its attractiveness to students. We believe that capital outlay funding would create a learning environment that is expected from a national leader in education. As a faculty group, we also feel that we can continue soliciting and acquiring donations, however, our students should not have to work with five year old computer technology in a digitally intensive industry.

Consumable Supplies Donated to the Department

Due to a ten year decline in institutional financial support, the Department Chair has solicited the support of many suppliers for donations of consumable supplies and capital equipment. Listed below are those suppliers supporting our program.

Press roller recovering	Akorn Roller Inc	$5,000 Annually
Press blankets	Day International	1,000 Annually
Press ink	Flint Ink	2,000 Annually
Press chemistry	Rycoline Inc.	2,000 Annually
Paper	Plainwell Paper	35,000 Annually
Proofing Material	Imation	3,000 Annually

Equipment Purchased - Special Initiative Money 1998

As a result of the last APR and the UAP process the Printing and Imaging Technology Management Department was awarded $161,000 one time funding to eliminate one computer laboratory and update the one existing lab. Those funds were spent as follow:

22 G-3 Macintosh Computers	Purchased	UAP funding
G-3 Macintosh File Server	Purchased	UAP funding
Infrastructure upgrade to fiber & 100/T	Purchased	UAP funding
All applicable software for PTEC	Purchased	UAP funding
CTX Video Projection System	Purchased	UAP funding
Ultimate Video Projection System	Purchased	UAP funding
Epson Stylus Pro 5000 printer proofer	Purchased	UAP funding
6 Lino Hell saphir scanners	Purchased	UAP funding
Sony Digital Video Camera	Purchased	UAP funding

Equipment Funded by Donation

Ferris State University does not fund any capital instructional equipment as a budget line item. Once again special requests must be made and support granted to receive any type of equipment or software funding. The following equipment is equipment necessary to maintain the quality of the program. All of this equipment was solicited from industry by the department chair and was installed within the last four years.

Color copier /output device	$50,000	Xerox
Chief 17 press	5,000	Grandville Printing
Stahl folder	20,000	Dekker Book Binding
Silicon Graphic Color Editing System	10,000	North American Color
SHOTS printing press simulator	15,000	Printing Industries of MI
Xitron RIP	25,000	RAMpage
Imation Rainbow Digital Proofing System	5,000	Foremost Graphics
Hagen Shopfloor Management System	125,000	Hagen Systems Inc
Parsec estimating system	20,000	Parsec
X-Scan densitimeter & color mgmt syst.	10,000	X-Rite Corp
Presto saddle binder	375,000	Muller Martini Corp
Film processor	5,000	Fuji USA
Plate processor	5,000	Fuji USA
Large format plotter	5,000	Xitron
Plate exposure frame	2,000	Grandville Printing
Plate exposure frame	2,000	Stekete VanHuis
PREPS Software	125,000	ScenicSoft Corp
Avantra 30" Image setter	30,000	Johnston Litho
Lino 330 Image setter	5,000	Commercial Printing

Over the past several years we have built a strong and unique relationship with Heidelberg USA, the worlds largest supplier of equipment and technology to the printing industry. Through this relationship we have been able to install several very expensive pieces of equipment for little or no capital cost. Heidelberg has chosen Ferris State University as one of three universities it supports with equipment. We were selected due to our academic curriculum and the support we receive from industry. Heidelberg as a policy will not support any institution that does not match their contribution with both industry solicited funds and institutional funds. Equipment installed is listed below.

- Heidelberg MOVP-H four color press
  - Initial market value - $875,000 – Current market value - $425,000
  - Cost to FSU – 1996 - $75,000 cash raised from industry. Five year lease, first three years $10,000 a year (cash raised from industry) second two years $0. Negotiated the purchase of this equipment in 2001 for $150,000, $75,000 provided by FSU Perkins money, $30,000 raised from industry, three yearly payment of $15,000 to be raised from industry.
- Heidelberg Printmaster 46-DI four color press (State of the art technology) and a Heidelberg Printmaster 46-2 color press
  - Initial market value $475,000 – Current market value - $275,00
  - Cost to FSU – 2001 - $0 cash down. Three year lease of $10,000 annually. Funds provided from revenue generated by University Printing.
- All installation, freight, training are provided at no cost by Heidelberg. This is estimated to be approximately $30,000 on all the above named equipment

Curriculum Evaluation

Minor – Desktop Publishing

AAS Printing and Digital Graphic Imaging Technology

BS Printing Management

BS New Media

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Minor – Desktop Publishing

As we entered the new millennium, we entered a new era of communications methods and responsibilities. The increased use of personal computers, digital cameras and the internet has caused a major shift in how we compose record and transmit information. Gone are the days of having a clerical staff employee type a letter, create a newsletter, a web page or put together a power point presentation. Virtually all employees at all levels are now expected to perform these functions themselves.

The faculty and staff of the Printing and Imaging Technology Management Department realize the demands being placed upon all people in all professions to have the skills necessary to differentiate themselves in the job market. When the institution approved several new BA degrees with academic majors and minors, the faculty saw an opportunity to offer a valuable curriculum. By joining with the Languages and Literature Department a Minor in Desktop Publishing was created.

The minor consists of PTEC 132 Digital Scanning and Tone Reproduction, PTEC153 Electronic Pagination Systems 1, PTEC 253 Electronic Pagination Systems 2, NMPP 330 Digital Multimedia Production, NMPP 410 World Wide Web Publishing, ENGL 311 Advanced Technical Writing, and ENGL Professional Technical Writing.

All of the courses required for this minor are existing courses with available seating capacity. This minor was just approved so no enrollment data exists at this time.

AAS – Printing and Digital Graphic Imaging Technology

The Printing and Digital Graphic Imaging Technology program (PDGI) was started in 1954 to train skilled craftsmen using a very strong emphasis on the theoretic basics and application of principles. The program then known as General Printing, later experienced numerous stages of change, all of which were brought on by changes in technology. Today the craft is gone and technological processes dominate the industry. As the PGDI program grew so did its reputation, both geographically and in credibility. Today AAS PDGI alumni can be found around the world in all areas of our industry from technicians to middle and upper managers.

The current curriculum was just cleaned up Fall 2001. The curriculum consists of an industry overview course, PTEC101 Intro to Graphic Communications. This course is designed for the student who has little or no experience with our industry which is currently about 10% of our enrolling freshmen. Students who have received a "B" or better in one or more years from an approved high school or career center program can receive advanced placement credit for this course.

The entire print media production process is broken into separate courses. The process begins with the compiling, editing and arranging of images in PTEC153 Electronic Pagination Systems 1. PTEC 132 Digital Scanning and Tone Reproduction serves as a foundation for further image editing courses. PTEC 143 Photographic Imaging and Assembly gives the students a very important foundation in traditional image assembly so that terminology and methodology is fully understood when covered in more advanced courses. Press operation is next with PTEC 161 Sheetfed Press Operation and is followed by the final step of the process PTEC 123 Binding and Finishing. These courses are all covered in the first year of instruction along with a complement of general education courses.

The second year of instruction develops the students' skills and knowledge with higher level instruction. A reduction on lab hours was given in one of the curriculum clean ups to begin to force students to take responsibility for their own time. PTEC 232 Digital Color Imaging is a course where students are instructed in the very important area of color reproduction and color editing to digital images. PTEC 243 Digital and Color Image Assembly is the advanced image assembly course where all instruction is done in the computer lab. PTEC 253 Electronic Pagination Systems 2 is a higher level or course than the prerequisite. Students are given a choice between PTEC 261 Sheetfed Offset Presswork 2 and PTEC 267 Web Offset Presswork. Based on career tracks, the student is advised as to which course they should take.

Lecture course on the theoretic subjects are required as follows: PTEC 251 an Introduction to Print Estimating, PTEC 273 Paper and Ink Technology, and PTEC 281 Preventive Maintenance Systems.

Since the program's last review, courses have been added and deleted as industry changes have dictated. The associate degree program remains healthy, supported well from industry and vital to the success of our BS degree offerings.

BS Printing Management

The Printing Management degree program (PMGT) was started in 1973. While the name has remained the same for nearly 30 years the curriculum has evolved as the needs of the industry have changed. The curriculum was developed to teach the skilled technically savvy graduate of the AAS degree business and operations skills specific to the printing industry. The curriculum was designed to follow the university's 2+2 format. Approximately 80% of those completing our AAS degree will continue on into this BS degree offering. About 10% of the BS degree students transfer in from other programs or institutions.

Unlike the two larger industries, automotive and plastics, manufactured print products are all custom and completely different from one to the next. This diversity creates an infinite number of variables and requires managers of companies to be well versed in communication skills, job planning, scheduling, and cost estimating. Since most printing is sold to other industrial users and not directly to the consumer, there are unique characteristics involved with the marketing of print media services.

The curriculum has reflected necessity to service our industry's needs for a work force that understands both the technical and business operations of the process. Currently PMGT 361 Printing Production Planning and PMGT 362 Printing Management provide that bridge of "technical" and "managerial" skills. These two classes include the laboratory experience of operating "University Printing", an actual working printing operation that provides print services to the university community. Students spend their entire junior year in these courses learning how to plan, schedule, estimate costs, and communicate with customers. This portion of our program is viewed as "very unique" by the Accreditation Council for Collegiate Graphic Communications and is believed to be the only program in the US that offers this real life situation.

Lecture courses in Print Production Estimating (PMGT351) and Production Cost Analysis (PMGT 383) are also offered to junior-level students and taught by PDGI faculty. Senior-level students are given instruction in Printing Marketing and Purchasing (PMGT 432) and Printing Plant Layout, Organization, OSHA in PMGT 499. These course are taken after the required PMGT 393 Printing Management Internship which provides for good classroom discussion of internship experiences. PMGT 499 also serves as our capstone course. A major final project is part of the course requiring students to display skills learned throughout their four years at Ferris State University.

Along with a complement of general education courses, a number of College of Business courses are included in the curriculum. These include ACCT 201 Principles of Accounting, MGMT 301 Applied Management, BLAW 301 Legal Environment of Business, MGMT 371 Production/Operations Management, and ECON 221 Principles of Economics.

The BS degree in Printing Management is strong and viewed by our peer institution in the United States as one of the best. Fall of 2001 we were given a five year accreditation, the first ever university program to be accredited by the Accreditation Council for Collegiate Graphic Communications. This accrediting agency was started over ten years ago by our industry's largest research and support foundation, the Graphic Arts Technical Foundation (GATF). The site visitation and accreditation review was conducted by a panel of printing company owners and executives and university educators.

BS New Media Printing and Publishing

Through a tremendous amount of discussion with our advisory board and industrial partners in the early to mid 90's, it was determined that our industry was changing and changing fast. While no one could agree on exactly what it was becoming, they could agree on two things. First, the traditional means of printing would still be used for quite some time. Second, there was a desperate need to bring young people into our industry that understood and thrived on the "New Media". As a result, the BS New Media Printing and Publishing was created, approved by the senate and launched Fall 2000.

The overall objective of the New Media Printing and Publishing program was to provide students an additional set of skills and knowledge that would always be attractive to the new and evolving segment of our industry. The challenge of this objective is to offer a curriculum that is closely aligned with the rapidly changing demands of our industry. It was decided in the very beginning of the design of this program that the current PDGI staff could not begin to teach the breadth of subjects needed so a partnership was developed with the College of Business. It was also decided at that time the curriculum would most likely be changed almost yearly if needed as not to become stale. Since it was started in 2000, we have had one clean up.

The curriculum is a continuation of our AAS Printing and Digital Graphic Imaging Technology program which gives the student the solid foundation of traditional print manufacturing methods needed. Students may also transfer in with AAS degrees in Visual Communications, or Computer Information Systems. Students who transfer in with degrees other than printing related must undergo a course audit by the Department Chair. At that time an appropriate listing of PTEC courses will be developed for the transfer student to complete.

As stated earlier, one of the goals was to build a program with minimal new courses. The curriculum includes existing Printing Management courses to give background of the business operations. New courses were developed in the area of Digital Multimedia Production (NMPP 330), Quality Control Systems in Printing (NMPP 375), Digital Printing Systems (NMPP 410), World Wide Web Publishing (NMPP 420), Internet Server Administration (NMPP 450), and Digital Prepress Project (NMPP 499) our capstone.

Students are required to take a full compliment of Information Systems (ISYS) courses from the College of Business. These courses include ISYS 204, Visual Basic Programming, ISYS 216 Intro to JAVA Programming, ISYS 200 Database Design and Implementation, ISYS 310 Networking Administration, and one of the following electives, ISYS 305 Software Systems, ISYS 316 Advanced JAVA, ISYS 325 Networking Essentials.

Students completing this BS degree program graduate with a set of skills not offered at too many institutions. In fact, Ferris State University was the first such program in the USA. Since we started it, Rochester Institute of Technology and California Polytechnic University have developed similar programs and other are rumored to be developing curriculum.

Two by-products of this new degree program have been discovered by the students. First, with the completion of two additional ISYS courses students can graduate with a Minor in Computer Information Systems. Second, an additional two semesters of study will allow them to complete a BS degree in Printing Management as well. There are currently 26 students enrolled in the New Media program, eight of which are working towards a dual degree.

Our first graduating class was May 2002. We are pleased to report that all five graduates are employed in their field of study. At this time the program appears to be sound with a high demand for graduates. The curriculum will change and evolve with our industry.

Ferris State University – College of Technology
Printing and Imaging Technology Management Department

Desktop Publishing – Minor

Student Name_____ Student Number_____

Student Major_____

Required Courses – 22 Credits

COURSE	NUM	COURSE TITLE	CREDITS	GRADE
PTEC	132	Digital Scanning and Tone Reproduction	3	
PTEC	153	Electronic Pagination Systems 1	4	
PTEC	253	Electronic Pagination Systems 2 (PTEC 153)	3	
NMPP	330	Digital Multimedia Production	3	
NMPP	410	World Wide Web Publishing (NMPP 330)	3	
ENGL	311	Advanced Technical Writing	3	
ENGL	411	Professional Technical Writing (ENGL 311)	3	
		TOTAL	22	
		Prerequisites shown in brackets ( )		

University Policy on Academic Minors:

1. An academic minor shall consist of at least 18 semester credits in an area apart from the major concentration of the student's baccalaureate degree programs. An average GPA of 2.0 or higher must be achieved for the courses within the minor.
2. A minimum of 50 percent of the credits in the minor must be at the 300 or above level.
3. It is recommended that students desiring a minor seek timely advisement from the appropriate department.
4. At least one-half of the credits must be Ferris State University credits.
5. An academic minor may only be granted in conjunction with, or subsequent to, the granting of a baccalaureate or higher degree.
6. A student may complete any approved academic minor as a component of a baccalaureate degree.
7. A maximum of 1/3 of the credits in a minor may overlap with the student's major.
8. Students may apply 6 credit hours of overlap between minors.

Student: _____ Date: _____

PDGI Advisor: _____ Date: _____

PDGI Department Chair: _____ Date: _____

FERRIS STATE UNIVERSITY
COLLEGE OF TECHNOLOGY

PRINTING AND DIGITAL GRAPHIC IMAGING TECHNOLOGY
ASSOCIATE IN APPLIED SCIENCE DEGREE
Curriculum Guide Sheet
FALL SEMESTER

NAME OF STUDENT _____ STUDENT I.D. _____

Total semester hours required for graduation: 62

NOTE: Meeting requirements for graduation indicated on this sheet is the responsibility of the student. The student is also responsible for meeting all FSU General Education requirements as outlined in the university catalog. Your advisor is available to assist you.

FRESHMAN YEAR			CREDIT	COMMENTS/GRADE
PTEC	101	Intro to Graphic Communication	3	
PTEC	123	Bindery & Finishing Operations	4	
PTEC	132	Digital Scanning & Tone Reproduction	3	
PTEC	143	Photographic Imaging and Assembly	4	
PTEC	153	Electronic Pagination Systems 1	4	
PTEC	161	Sheetfed Offset Presswork 1	4	
ENGL	150	English 1	3	
MATH	110	Fundamentals of Algebra	4	
PSYC	150	Introduction to Psychology	3	
SOPHOMORE YEAR				
PTEC	232	Digital Color Imaging (PTEC 132 & 153)	3	
PTEC	243	Digital & Color Image Assembly (PTEC 143)	3	
PTEC	253	Electronic Pagination Systems 2 (PTEC 153)	3	
PTEC	261	Sheetfed Offset Presswork 2 (PTEC 161) *OR*	4	
PTEC	267	Web Offset Presswork (PTEC 161)	4	
PTEC	251	Introduction to Estimating (Sophomore Standing)	2	
PTEC	273	Paper & Ink Technology (Sophomore Standing)	3	
PTEC	281	Preventive Maintenance Systems (Sophomore standing)	2	
ENGL	250	English 2 (ENGL 150)	3	
____	____	Scientific Understanding Elective	4	
PHOT	101	Photography (Cultural Enrichment Elective)	3	

The student selects either PTEC 261 or 267 as an advanced press elective to meet the minimum requirement of the Associate degree in Printing and Digital Graphic Imaging

Prerequisite courses are listed in Parentheses

STUDENTS MUST COMPLETE OR SHOW PROFICIENCY FOR MATH 115 - INTERMEDIATE ALGEBRA - BEFORE RECEIVING THE BACHELOR DEGREE.

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FERRIS STATE UNIVERSITY
COLLEGE OF TECHNOLOGY

CURRICULUM REQUIREMENTS
PRINTING AND DIGITAL GRAPHIC IMAGING TECHNOLOGY
ASSOCIATE IN APPLIED SCIENCE DEGREE
FALL SEMESTER

TECHNICAL			CREDIT HOURS
PTEC	101	Intro to Graphic Communication	3
PTEC	123	Bindery & Finishing Operations	4
PTEC	132	Digital Scanning & Tone Reprod.	3
PTEC	143	Photographic Imaging & Assembly	4
PTEC	153	Electronic Pagination Systems 1	4
PTEC	161	Sheetfed Offset Presswork 1	4
PTEC	232	Digital Color Imaging	3
PTEC	243	Digital & Color Image Assembly	3
PTEC	251	Introduction to Estimating	2
PTEC	253	Electronic Pagination Systems 2	3
PTEC	261	Sheetfed Offset Press 2 ***OR***	4
PTEC	267	Web Offset Press	4
PTEC	273	Paper & Ink Technology	3
PTEC	281	Preventive Maintenance Systems	2

GENERAL EDUCATION			CREDIT HOURS
Communication Competence			
ENGL	150	English 1	3
ENGL	250	English 2	3
Scientific Understanding			
Elective			4
Quantitative Skills			
MATH	110	Fundamentals of Algebra	4
Cultural Enrichment			
Elective			3
Social Awareness			
PSYC	150	Introduction to Psychology	3

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FERRIS STATE UNIVERSITY
COLLEGE OF TECHNOLOGY

PRINTING MANAGEMENT
BACHELOR OF SCIENCE DEGREE
FALL SEMESTER
Curriculum Guide Sheet

NAME OF STUDENT _____ STUDENT I.D. _____

Total semester hours required for graduation: 129-130 credits (including AAS degree)

NOTE: Meeting the requirements for graduation indicated on this sheet is the responsibility of the student. The student is also responsible for meeting all FSU General Education requirements as outlined in the university catalog. Your advisor is available to assist you.

		CREDITS	COMMENTS/GRADE
JUNIOR YEAR			
PMGT 351	Printing Production Estimating (PTEC 251)	3	
PMGT 361	Printing Production Planning	5	
PMGT 362	Printing Management (PMGT 361)	5	
PMGT 383	Production Cost Analysis (PMGT 351,ACCT 201)	3	
NMPP 375	Quality Control Systems in Printing	3	
ACCT 201	Principles of Accounting 1 (MATH 110)	3	
COMM 221	Small Group Decision Making	3	
MATH 122	Math Analysis for Business (MATH 115)	3	
MGMT 301	Applied Management	3	
ENGL 311	Advanced Technical Writing (ENGL 250 or 211)	3	
SUMMER JUNIOR/SENIOR YEAR			
PMGT 393	Printing Management Internship (PMGT 351,361)	4	
SENIOR YEAR			
PMGT 432	Printing Marketing and Purchasing (PMGT 362)	4	
PMGT 499	Printing Plant Layout, Organization, OSHA (PMGT 362)	4	
BLAW 301	Legal Environment of Business	3	
MGMT 371	Production/Operations Management (MGMT 301)	3	
ECON 221	Principles of Economics 1 (MATH 110)	3	
PSYC 326	Industrial/Organizational Psychology (PSYC 150)	3	
____ ___	Scientific Understanding Elective	3-4	
____ ___	Cultural Enrichment Elective	3	
____ ___	Cultural Enrichment (Non ARTH)	3	

Prerequisite courses are listed in Parentheses

CURRICULUM REQUIREMENTS
PRINTING MANAGEMENT
BACHELOR OF SCIENCE DEGREE
FALL SEMESTER

ENTRY CRITERIA:

1. Associate Degree in Printing Technology or equivalent.
2. A minimum 2.75 honor point average in major area courses (all Printing courses).

TECHNICAL			CREDIT HOURS
NMPP	375	Quality Control Systems in Printing	3
PMGT	351	Printing Production Estimating	3
PMGT	361	Printing Production Planning	5
PMGT	362	Printing Management	5
PMGT	383	Production Cost Analysis	3
PMGT	393	Printing Management Internship	4
PMGT	432	Printing Marketing & Purchasing	4
PMGT	499	Printing Plant Layout, Organ.,OSHA	4
Technical Related			
ACCT	201	Principles of Accounting 1	3
BLAW	301	Legal Environment of Business	3
MGMT	301	Applied Management	3
MGMT	371	Production/Operations Management	3

GENERAL EDUCATION			CREDIT HOURS
Communication Competence			
COMM	221	Small Group Decision Making	3
ENGL	311	Advanced Technical Writing	3
Scientific Understanding			
Elective			3-4
Quantitative Skills			
MATH	122	Math Analysis for Business	3
Cultural Enrichment			
Electives			6
Social Awareness			
ECON	221	Principles of Economics 1	3
PSYC	326	Industrial/Organizational Psychology	3

NEW MEDIA PRINTING AND PUBLISHING
BACHELOR OF SCIENCE DEGREE
FALL SEMESTER
Curriculum Guide Sheet

NAME OF STUDENT:_____ STUDENT I.D._____

Total semester hours required for graduation: 130-131 credits (including AAS degree)

NOTE: Meeting the requirements for graduation indicated on this sheet is the responsibility of the student. The student is also responsible for meeting all FSU General Education requirements as outlined in the university catalog. Your advisor is available to assist you.

THIRD YEAR - FALL SEMESTER

NMPP	330	Digital Multimedia Production	3 _____
PMGT	361	Print Production Planning	5 _____
ISYS	101	Intro to Programming	3 _____
MATH	115	Intermediate Algebra	4 _____

THIRD YEAR - WINTER SEMESTER

NMPP	375	Quality Control Systems in Printing	3 _____
PMGT	383	Production Cost Analysis	3 _____
ISYS	216	Intro to JAVA Programming	3 _____
COMM	221	Small Group Decision Making	3 _____
ELECTIVE		Scientific Understanding	3-4_____

THIRD YEAR - SUMMER SEMESTER

PMGT	393	Printing Management Internship	4 _____

FOURTH YEAR - FALL SEMESTER

NMPP	410	Digital Printing Systems	2 _____
NMPP	420	World Wide Web Publishing	3 _____
*ISYS	316	Advanced JAVA Programming	3 _____
*ISYS	325	Networking Essentials	3 _____
PSYC	326	Industrial/Organizational Psychology	3 _____
Elective		Social Awareness	3 _____
Elective		Cultural Enrichment	3 _____

FOURTH YEAR - WINTER SEMESTER

NMPP	499	Digital Prepress Project	3 _____
NMPP	450	Internet Server Administration	2 _____
ISYS	310	Networking Administration	3 _____
ISYS	350	Telecomunications	3 _____
Elective		Cultural Enrichment	3 _____
ENGL	311	Advanced Technical Writing	3 _____

*** ELECTIVES - CHOOSE ONE**

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FERRIS STATE UNIVERSITY
COLLEGE OF TECHNOLOGY

CURRICULUM REQUIREMENTS
NEW MEDIA PRINTING AND PUBLISHING
BACHELOR OF SCIENCE DEGREE
FALL SEMESTER

ENTRY CRITERIA:

1. Associate Degree in Printing Technology or equivalent.
2. A minimum 2.75 honor point average in major area courses (all Printing courses).

TECHNICAL			CREDIT HOURS
NMPP	330	Digital Multimedia Production	3
NMPP	375	Quality Control Systems in Printing	3
NMPP	410	Digital Printing Systems	2
NMPP	420	World Wide Web Publishing	3
NMPP	450	Internet Server Administration	2
NMPP	499	Digital Prepress Project	3
PMGT	361	Print Production Planning	5
PMGT	383	Production Cost Analysis	3
PMGT	393	Printing Management Internship	4
Technical Related			
ISYS	101	Intro to Programming	3
ISYS	216	Intro to JAVA Programming	3
ISYS	310	Networking Administration	3
ISYS	316	Adv. JAVA Programming	OR
ISYS	325	Networking Essentials	3
ISYS	350	Telecommunications	3

GENERAL EDUCATION			CREDIT HOURS
Communication Competence			
COMM	221	Small Group Decision Making	3
ENGL	311	Advanced Technical Writing	3
Scientific Understanding			
Elective			3
Quantitative Skills			
MATH	115	Intermediate Algebra	4
Cultural Enrichment			
Electives			6
Social Awareness			
Elective			3
PSYC	326	Industrial/Organizational Psychology	3

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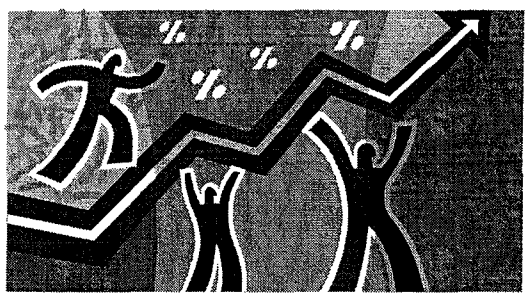
Enrollment Trends

Minor – Desktop Publishing

AAS Printing and Digital Graphic Imaging Technology

BS Printing Management

BS New Media



Overview and Summary

Enrollment trends show that recruiting initiatives started in 1997 began to pay off. Enrollment continues to grow overall despite some fluctuations. Fall of 2001 saw the largest class of freshmen since the mid 1980's. It is anticipated that Fall 2006 the AAS program will reach its full capacity of 120 students. Enrollment is down nationwide in graphic communications programs. This is believed to be a result of a historically strong economy and lack of public awareness of our industry. Recruiting at the high school level is the key to keeping the growth of the AAS degree program going.

The Printing and Imaging Technology Management Department has implemented a fairly extensive recruiting plan which includes the following:

- The Department Secretary maintains a database of all accepted and perspective students and all high school teachers in the Midwest
    - Routine direct mail is sent to all of the above audiences from the Department Chair, faculty advisors and alumni from the department
- The annual High School Tour Day brings, on average, 250 high school students from approximately 10 Michigan and Indiana schools each year.
- The Department Chair visits 20 to 40 high schools each year and gives presentations to graphic communications classes.
- The faculty donates their time to offer 15 high school graphic communications teachers a summer institute. Teachers earn two CEU's by taking three full days of free instruction in our labs. This helps to build champions for our program.
- The Department Chair sits on two state and one national committee for work force development for the print media industry.
- Several new scholarships have been established
    - Printing Industries of Michigan – $2,000 for the Department Chair to use at his discretion to keep students enrolled if financial needs become a factor
    - Ann Arbor Memorial Scholarship Trust Fund – this organization gives approximately 20 FSU printing students $1.600 annually. The Department Chair has been given one scholarship to give to a freshman in financial need
    - Thomas Scott Reuther Memorial Scholarship
    - FP Horak Schoarship
    - Several internship corporate scholarships

Enrollment in the Minor Desktop Publishing is non-existent at this time as approval was given March 2002.

Enrollment in the BS Printing Management program is stable despite fluctuations in the AAS degree. We have been successful in recruiting transfer students from out of state. Currently approximately 10% of the BS degree students transferred to Ferris State University for our BS degrees. Capacity does exist in this program as well. Fall 2001 enrollment data showed 30 students in the program with capacity for 40.

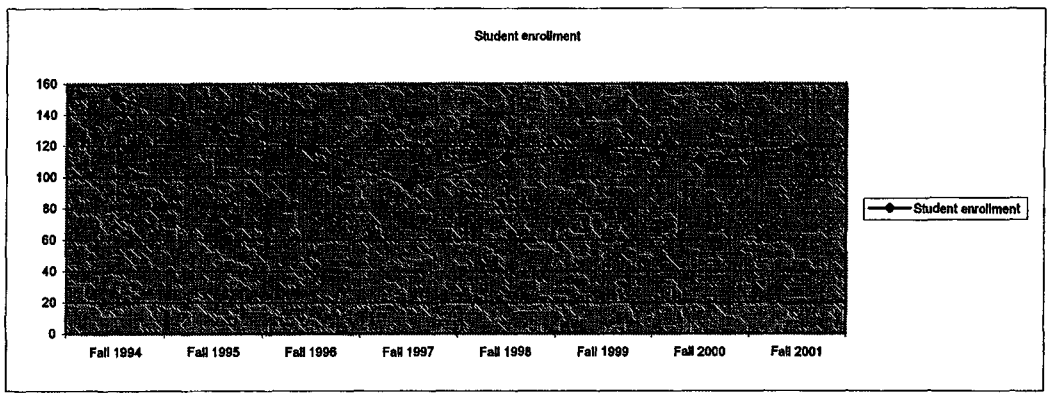
It must be pointed out that the current SIS system prevents showing dual enrollment. Eight students are currently working on both their BS Printing Management degree and BS New Media Printing and Publishing degree. The Department Chair manages a list as to which program is their "official" program of enrollment and which program is their second program. Currently four students are in the PMGT program but are recorded at as NMPP students. The actual enrollment for PMGT is 34.

Enrollment in the BS New Media Printing and Publishing is growing. After being in existence for only two years, we have a positive trend established with eight students the first year and 20 the second. This program too has a capacity of 40 students and is expected to continue its growth.

Enrollment

	Fall 1994	Fall 1995	Fall 1996	Fall 1997	Fall 1998	Fall 1999	Fall 2000	Fall 2001
	151	131	118	95	112	118	111	118
Enrollment on-campus total*	102/49	85/46	84/34	61/34	82/30	84/34	79/25/7 *	68/30/20 *
Freshman	N/A	N/A	44	26	44/0	38/1	36/0/1 *	51/0/0 *
Sophomore	N/A	N/A	30	30	30/1	31/0	32/1/0 *	15/0/0 *
Junior	N/A	N/A	16	19		13/9	10/4/4 *	2/13/11 *
Senior	N/A	N/A	28	20	0/18		1/20/2 *	0/17/9 *

Enrollment expressed by program i.e. AAS PDGI / BS PMGT / BS NMPP



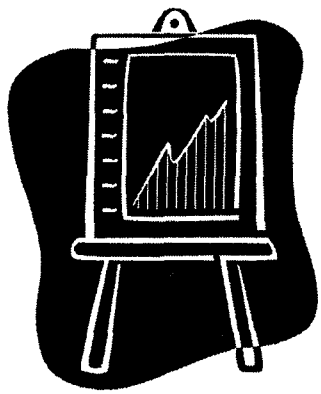
Productivity

Minor – Desktop Publishing

AAS Printing and Digital Graphic Imaging Technology

BS Printing Management

BS New Media



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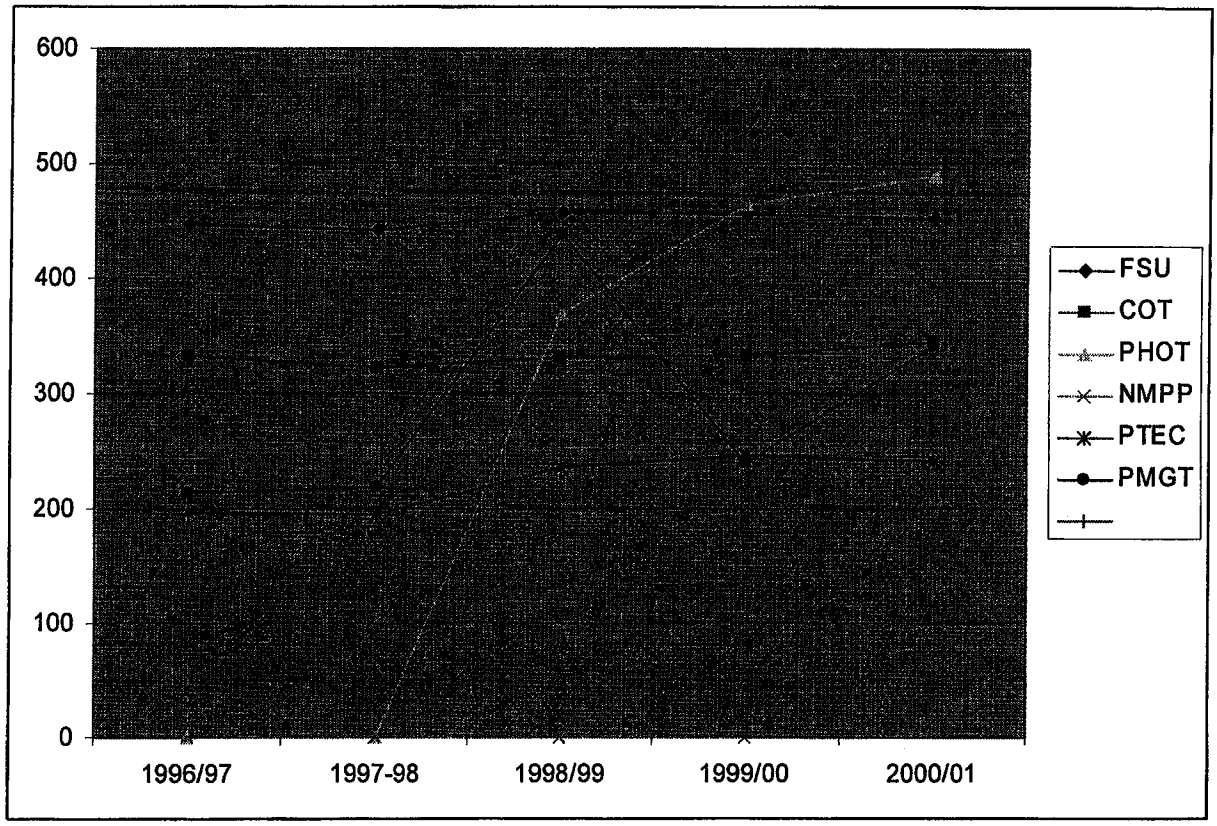
Overview and Summary

Productivity data for the AAS Printing and Digital Graphic Imaging Technology (PTEC), the BS Printing Management (PMGT), and the BS New Media Printing and Publishing (NMPP) programs are reported below. Data for Ferris State University and the College of Technology is also stated for comparison purposes. Due to several restructurings over the past five years, it is not possible to report a department-by-department comparison as the department program make up changed. Department data for 1997/98-99/00 is reported as Design Manufacturing and Graphic Arts. 1996/97 data and 2000/01 data is skewed as the departments were re-structured mid year. The photography courses are taught by our department faculty. The PHOT prefix reflects the productivity generated by our department faculty.

PRODUCTIVITY REPORT
SCH/FTE
1996/97 – 2000/01

AREA	1996/97	1997-98	1998/99	1999/00	2000/01
FSU	447	442	457	455	451
College Technology	333	323	331	332	344
PHOT	N/A	N/A	369	463	489
NMPP	N/A	N/A	N/A	N/A	269
PTEC	197	195	236	247	242
PMGT	213	219	*438	239	*170/341

- *Indicates changes in accounting practices for counting release time and or coverage for sabbatical leave.
- 1998/99 Bill Papo was on sabbatical and release time was subtracted for program coordinator duties
- 2000/01 the .75 release time for Department Chair responsibilities and .25 release time for Bill Papo, Vice President of Academic Senate was not subtracted.
- The 341 SCH/FTE represents an accurate report of productivity for the PMGT program taking into account the contractual release times.


600
500
400
300
200
100
0
1996/97
1997-98
1998/99
1999/00
2000/01
FSU
COT
PHOT
NMPP
PTEC
PMGT

FERRIS STATE UNIVERSITY - COLLEGE OF TECHNOLOGY

Student Credit Hours (SCH), Full Time Equated Faculty (FTEF) and SCH/FTEF

		Student Credit Hours				Full Time Equated Faculty				SCH/FTEF			
Course Prefixes	Year	Summer	Fall	Winter	F + W (a)	Summer	Fall	Winter	Avg F + W (b)	Summer	Fall	Winter	F + W (a/b)
MATL	2000-01	4	315	234	549		1.00	0.86	0.93		315.00	272.09	590.32
ETEC	2000-01		450	204	654		1.71	0.68	1.20		263.82	300.63	547.28
PDET	2000-01		261	402	663		0.82	1.61	1.22		318.88	250.37	545.68
CONM	2000-01		2264	1768	4032		8.04	7.72	7.88		281.67	202.90	511.68
PHOT	2000-01	51	132	186	318	0.25	0.55	0.75	0.65	204	242	248	489.23
BCTM	2000-01		198	234	432		0.83	1.11	0.97		237.60	210.00	445.36
MFGE	2000-01	158	1169	1171	2340	1.17	4.47	6.39	5.43	135	261.25	183.26	430.94
MECH	2000-01	40	684	588	1272	0.13	3.15	3.38	3.27	308	217.43	174.18	389.59
ARCH	2000-01		966	916	1882		5.23	4.50	4.87		184.80	203.56	386.84
AHEM	2000-01	230	504	642	1146	1.26	2.84	3.17	3.01	183	177.67	202.52	381.36
PLTS	2000-01	340	1176	1501	2677	2.21	7.00	7.67	7.34	154	168.00	195.78	364.96
WELD	2000-01	88	1104	800	1904	0.67	5.00	5.55	5.28	131	220.80	144.14	360.95
ABOD	2000-01		360	410	770		2.00	2.28	2.14		180.00	179.82	359.81
EEET	2000-01	107	1453	1351	2804	0.81	7.73	8.88	8.31	132	187.92	152.20	337.63
HVAC	2000-01	116	1400	1168	2568	0.67	8.00	7.70	7.85	173	175.00	151.69	327.13
AUTO	2000-01	378	2177	1862	4039	4.02	12.83	12.33	12.58	94	169.64	151.01	321.07
HEQT	2000-01	168	858	842	1700	1.45	6.10	5.66	5.88	116	140.64	148.85	289.12
SURE	2000-01	237	672	861	1533	1.10	4.55	6.10	5.33	215	147.84	141.09	287.89
HSET	2000-01	44	156	156	312	0.21	0.90	1.33	1.12	210	173.46	117.00	279.82
CDTD	2000-01		599	527	1126		3.50	4.56	4.03		171.14	115.57	279.40
NMFP	2000-01		39	39	78		0.33	0.25	0.29		117.00	156.00	268.97
MFGT	2000-01		846	636	1482		5.46	5.61	5.54		155.08	113.37	267.75
ECNS	2000-01		286	114	400		1.27	1.73	1.50		225.57	65.77	266.67
FMAN	2000-01	82	349	293	642	0.58	2.27	2.67	2.47	140	153.56	109.74	259.92
RUBR	2000-01	68	288	226	514	0.67	2.00	2.08	2.04	101	144.00	108.48	251.96
PTEC	2000-01		821	648	1469		6.12	6.00	6.06		134.12	108.00	242.41
CETM	2000-01		33	117	150		0.33	1.30	0.82		99.00	90.00	184.05
PMGT	2000-01	78	163	178	341	0.67	1.00	1.00	1.00	116	81.50	89.00	170.50
HEQK	2000-01			4	4			0.00	0.00				
Total			19723	18078	37801		106.03	113.87	109.95		5344.39	4585.02	9838.28
Average													343.80
Standard Deviation													110.35
PMGT	2000-01	78	163	178	341	0.67	1.00	1.00	1.00	116	81.50	89.00	341.00

Ferris State University
Degree Program Costing 1999 - 2000 (Summer, Fall, and Winter)

College : Technology
Department : Design, Manufacturing & Graphic Arts

Program Name: Printing & Digital Graphic Imaging Technology AAS

Program Credits Required (Total credits to graduate) 63

*Instructor Cost per Student Credit Hour(SCH) (Average for program)	$216.62
**Department Cost per Student Credit Hour	$49.95
***Dean's Cost per Student Credit Hour	$16.68
Total Cost per Student Credit Hour (Average for program)	**$283.25**
Total Program Instructor Cost (Assumes a student will complete program in one year)	$13,647.03
Total Program Department Cost	$3,146.57
Total Program Dean's Cost	$1,051.07
Total Program Cost (Assumes a student will complete program in one year)	**$17,844.67**

Course ID	Level	Instructor Cost	Dept Cost	Dean's Cost	SCH's Produced	Instructor Cost/SCH	Dept Cost/SCH	Dean's Cost/SCH	Credits Required	Program Instructor Cost	Program Dept Cost	Program Dean's Cost
ENGL150	L	$549,468	$70,827	$51,473	6417	$86	$11	$8	3	$257	$33	$24
ENGL250	L	$431,435	$52,351	$38,045	4743	$91	$11	$8	3	$273	$33	$24
MATH110	L	$456,753	$64,086	$45,689	5696	$80	$11	$8	4	$321	$45	$32
PHOT101	L	$47,851	$18,313	$5,890	300	$160	$61	$20	3	$479	$183	$59
PSYC150	L	$264,468	$85,143	$33,088	4125	$64	$21	$8	3	$192	$62	$24
PTEC101	L	$20,787	$3,296	$1,060	54	$385	$61	$20	3	$1,155	$183	$59
PTEC123	L	$41,663	$9,279	$2,984	152	$274	$61	$20	4	$1,096	$244	$79
PTEC132	L	$35,815	$8,607	$2,768	141	$254	$61	$20	3	$762	$183	$59
PTEC143	L	$43,794	$10,988	$3,534	180	$243	$61	$20	4	$973	$244	$79
PTEC153	L	$53,416	$17,581	$5,654	288	$185	$61	$20	4	$742	$244	$79
PTEC161	L	$47,810	$10,988	$3,534	180	$266	$61	$20	4	$1,062	$244	$79
PTEC171	L	$6,976	$2,320	$746	38	$184	$61	$20	2	$367	$122	$39
PTEC232	L	$19,698	$5,128	$1,649	84	$235	$61	$20	3	$704	$183	$59
PTEC243	L	$28,450	$6,410	$2,061	105	$271	$61	$20	3	$813	$183	$59
PTEC251	L	$13,317	$2,075	$668	34	$392	$61	$20	2	$783	$122	$39
PTEC253	L	$32,157	$7,142	$2,297	117	$275	$61	$20	3	$825	$183	$59
PTEC261	L	$26,327	$5,616	$1,806	92	$286	$61	$20	4	$1,145	$244	$79
PTEC273	L	$19,976	$4,029	$1,296	66	$303	$61	$20	3	$908	$183	$59
PTEC281	L	$13,866	$3,296	$1,060	54	$257	$61	$20	2	$514	$122	$39
SCIUELE	E	$2,204,556	$829,787	$191,348	23855	$92	$35	$8	3	$277	$104	$24

* Instructor Cost - ***Salary & Fringe*** - the actual cost to teach a course
** Depatment Cost - ***Departmental Level Non Instructor Compensation, Supplies and Equipment*** - departmental average applied to all course prefixes within a department
*** Dean's Cost - ***Dean's Level Non Instructor Compensation, Supplies and Equipment*** - college average applied to all course prefixes within a college

Ferris State University
Degree Program Costing 1999 - 2000 (Summer, Fall, and Winter)

College : Technology
Department : Design, Manufacturing & Graphic Arts

Program Name: Printing Management BS (Yrs 3 & 4)

Program Credits Required (Total credits to graduate) 64

*Instructor Cost per Student Credit Hour(SCH) (Average for program)	$140.39
**Department Cost per Student Credit Hour	$37.70
***Dean's Cost per Student Credit Hour	$14.06
Total Cost per Student Credit Hour (Average for program)	**$192.15**
Total Program Instructor Cost (Assumes a student will complete program in one year)	$8,984.80
Total Program Department Cost	$2,412.85
Total Program Dean's Cost	$899.79
Total Program Cost (Assumes a student will complete program in one year)	**$12,297.44**

Course ID	Level	Instructor Cost	Dept Cost	Dean's Cost	SCH's Produced	Instructor Cost/SCH	Dept Cost/SCH	Dean's Cost/SCH	Credits Required	Program Instructor Cost	Program Dept Cost	Program Dean's Cost
ACCT201	L	$212,695	$89,755	$28,301	2349	$91	$38	$12	3	$272	$115	$36
BLAW301	U	$66,948	$16,835	$9,398	780	$86	$22	$12	3	$257	$65	$36
COMM221	L	$65,055	$8,956	$4,668	582	$112	$15	$8	3	$335	$46	$24
CULTELE	E	$1,544,513	$261,981	$148,924	18223	$85	$14	$8	6	$509	$86	$49
ECON221	L	$177,460	$22,464	$27,831	2310	$77	$10	$12	3	$230	$29	$36
ENGL311	U	$132,766	$12,417	$9,024	1125	$118	$11	$8	3	$354	$33	$24
MATH122	L	$47,056	$4,557	$3,249	405	$116	$11	$8	3	$349	$34	$24
MGMT301	U	$183,543	$43,706	$24,398	2025	$91	$22	$12	3	$272	$65	$36
MGMT371	U	$38,828	$8,806	$4,916	408	$95	$22	$12	3	$285	$65	$36
PMGT351	U	$19,812	$3,846	$1,237	63	$314	$61	$20	3	$943	$183	$59
PMGT361	U	$19,117	$5,189	$1,669	85	$225	$61	$20	5	$1,125	$305	$98
PMGT362	U	$13,903	$4,884	$1,571	80	$174	$61	$20	5	$869	$305	$98
PMGT383	U	$8,342	$3,846	$1,237	63	$132	$61	$20	3	$397	$183	$59
PMGT393	U	$16,488	$4,639	$1,492	76	$217	$61	$20	4	$868	$244	$79
PMGT432	U	$16,601	$4,395	$1,414	72	$231	$61	$20	4	$922	$244	$79
PMGT499	U	$11,067	$4,639	$1,492	76	$146	$61	$20	4	$582	$244	$79
PSYC326	U	$26,650	$12,013	$4,668	582	$46	$21	$8	3	$137	$62	$24
SCIUELE	E	$2,204,556	$829,787	$191,348	23855	$92	$35	$8	3	$277	$104	$24

* Instructor Cost - ***Salary & Fringe*** - the actual cost to teach a course
** Depatment Cost - ***Departmental Level Non Instructor Compensation, Supplies and Equipment*** - departmental average applied to all course prefixes within a department
*** Dean's Cost - ***Dean's Level Non Instructor Compensation, Supplies and Equipment*** - college average applied to all course prefixes within a college

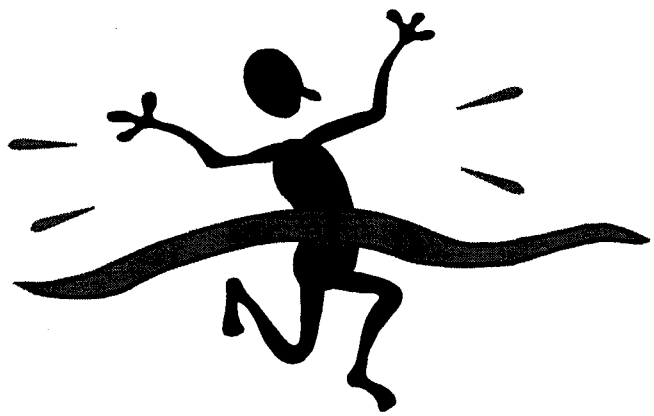
Conclusions

Minor – Desktop Publishing

AAS Printing and Digital Graphic Imaging Technology

BS Printing Management

BS New Media



Centrality to FSU Mission

All programs within the Printing and Imaging Technology Management Department are central to the FSU mission.

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

Uniqueness and Visibility

The Printing and Imaging Technology Management Department has several unique factors:

- The first BS Printing Management program to be accredited in the USA
- The first of its kind BS New Media Printing and Publishing program in the USA
- The third senate approved Minor in the College of Technology open to the entire campus community
- The first two bullet points combine with the awarding of an Honorary Doctorate to Niels Winther, CEO Heidelberg USA has brought a tremendous amount of national attention to our department

Service to the State and Nation

Faculty are involved with committee work and professional societies on a state and national level. One faculty member is on the Board of Directors of the National Graphic Communications Council, the Printing Industries of Michigan Work Force Development committee, and the Board of Directors for the West Michigan Graphic Communications Alliance. Another faculty serves on the managing board of the Accreditation Council for Collegiate Graphic Communications and is active in the National Association of Print Leadership. One faculty contributes regularly as an author to several trade journals. Four faculty work with the ATC as consultants/trainers to various companies throughout the state. One faculty is active in the International Graphic Arts Education Association. All faculty contribute to the annual high school teachers summer institute by sharing their knowledge and projects with high school graphic communications teachers.

Demand by Students

For students who know they want to follow a career path in the printing industry, the demand for Ferris State University's program is high. The challenge is to make unknowing prospective students aware of the print media industry.

Quality of Instruction

Quality of instruction is high as faculty have stayed close to trends in the industry and share their knowledge with students. Students, graduates, faculty, and the advisory board all confirm this with their survey results.

Demand for Graduates

Demand for graduates remains high. The various programs are unable to supply the demand by industry for our graduates. Despite recent economic conditions there were still four job postings for every graduate this year.

Placement Rate and Average Salary of Graduates

Placement rates continue to be 100%. Starting salaries for BS graduates continue to climb each year.

Service to Non-Majors

The Printing and Imaging Technology Management Department offers many courses to the greater campus community:

- Cultural Enrichment elective PHOT 101 Photography is open to the entire campus community
- Technical Communications students are required to take PTEC 101, PTEC 153, and PTEC 253. It is suggested they take PTEC 132 and PTEC 232.
- Computer Information Systems students have available to them as a directed elective NMPP 330 and NMPP 420.
- Until Fall of 2001, Television Production students took PTEC 153 and PTEC 232 as part of their curriculum. This was eliminated due to their curriculum re-write.
- The Minor in Desktop Publishing is for the campus community.

Facilities and Equipment

Current computers in the Swan 220 lab are getting old (4 years) and will need to be replaced soon. Laboratory equipment is a mix of old and state of the art which serves us well.

Swan 220, and 223 need to be re-modeled to better accept curricular and technological changes.

- Remove cement block walls of old dark room space to create Quality Color Management Lab and small digital photo studio.
- Create digital imaging laboratory
- Fix the perpetual roof leak over our computer lab in the Swan Annex
- Replace/repair furniture in Swan 226 – We are philosophically opposed to taking S&E money away from instruction to improve facilities.

Library Information Resources

Library information resources are adequate

Cost

The AAS Printing and Digital Graphic Imaging Technology program costs are on the high side of average for the College of Technology and on the high side for the University. Continued enrollment growth will reduce these costs. However the costs of the BS Printing Management program are below the average COT costs. Not data is available for the BS in New Media Printing and Publishing, See Section 11.

Faculty: Professional and Scholarly Activity

The faculty are extremely involved in professional and scholarly activity. Since the last review two department faculty have taken a semester sabbatical to study new and emerging technologies in our industry. Two department faculty were elected to the Academic Senate and have or do currently hold seats on the executive board. Faculty have written and published trade journal articles. Faculty are active and hold leadership positions in various trade associations. Through the Technology Transfer Center and private arrangement, faculty consult and provide industrial training. Faculty have been instrumental in getting supplies and equipment donated to the department.

Administrative Effectiveness

The lack of a consistent Dean in the College of Technology has made it difficult to focus on issues of importance to the department. We have reorganized the college three times in eight years and are rumored to be reorganized again under our current Dean's leadership. We are constantly and continuously having to explain and or revise our curriculum, our mission, and our industry to fulfill the wishes of new administrators and not able to focus on the accomplishment of initiatives.

The department and college have held their own throughout these transitions. Consistent leadership would be most helpful in assisting the accomplishment of our stated goals and objectives.

Program Review Panel Recommendations

For

Minor – Desktop Publishing

AAS Printing and Digital Graphic Imaging Technology

BS Printing Management

BS New Media

Program Review Panel Recommendations

- Enhance all programs within the Printing and Imaging Technology Management Department through the continued support of evolving initiates, equipment funding request, and minor capital improvement requests.

- Faculty must continue the rigorous review and revision of curriculum that has been done in the past to stay current with technological changes in the print media industry.

- Enhance the support given to all department personnel and stakeholders to continue to recruit talented young people to fill latent capacity in the Printing and Imaging Technology Management Department's family of programs.

- Maintain and enhance the reputation Ferris State University has gained as a leader in quality education of print media, and print management through the continued development of new curriculum and content delivery methods.

- Enhance the level of industrial support for scholarships, faculty development, and capital funding.

JOHN CONATI

18145 Stevens Court, Big Rapids, Michigan 49307 (616)796-1241

EDUCATION

DEGREES

1994 Master of Science
Occupational Education, Ferris State University, Big Rapids, MI. Highest Distinction, G.P.A. - 4.0

1987 Bachelor of Science
Industrial Education concentration in Graphic Communication, Moorhead State University, Moorhead, MN. President-Industrial Education Club, Member-University Golf Team, and Work Study-University Print Shop. Major G.P.A. - 3.4

1982 Associate of Applied Science
Printing Technology, North Dakota State College of Science, Wahpeton, ND. Member-Printers Club, Staff-College Yearbook, and Work Study-College Print Shop. G.P.A. - 3.1

WORKSHOPS, SEMINARS, AND TRADE SHOWS

Post RIP Trapping Training, RAMPage Corporation, Big Rapids, MI (3-days,1999).
1999 Macromedia Users Conference, Macromedia, Mascone Center, San Francisco, CA (5-days, 1999).
Creating Interactive Multimedia, Allen Interactions, Minneapolis, MN (5-days, 1999).
1997 Management Conference, Printing Industries of Michigan, Lewiston, MI (3-days).
Print & Graph Expo, Chicago, IL (2-days each year,1991-1999).
12th Digital Prepress Seminar, Research & Engineering Council of the Graphic Arts, Tampa, FL (4-days,1996).
Tips, Tricks, & Traps, Rogers Printing, Grand Rapids, MI (1-day, 1995).
Raster Image Processors, Xitron Company, Ann Arbor, MI (3-days, 1995).
Printing, Publishing, and Postscript, Acquired Knowledge, Chicago, IL (3-days, 1995).
Midwest Graphics Show, Detroit, MI (1-day, 1994).
Lights, Lenses, and Lasers, Linotype-Hell, Grand Rapids, MI (1-day, 1993).
Total Imagesetting Quality Control, Linotype-Hell, Grand Rapids, MI (1-day, 1993).
Scanned Color Course, Linotype-Hell, Detroit, MI (4-days, 1992).
Heidelberg Show and Seminars, Taylor, MI (1-day, 1991).

EXPERIENCE

TEACHING

1998 1990 ***Associate Professor,*** Graphic Arts Program, Ferris State University, Big Rapids, MI (10 years full time, including summer school). Teaching courses in Image Assembly/Platemaking, Digital & Color Image Assembly, Digital Publishing, Multimedia, Reproduction Photography, and Halftone Photography for students enrolled in the Printing programs. Also, teaching Fundamentals of Photography and Photojournalism for other programs on campus.

1990 ***Vocational Printing Instructor,*** Viking Cooperative Center/New Ulm Senior
1987 High School, New Ulm, MN (1 year full-time and 2 years halftime). Instructed high school students in all phases of offset printing. The job also involved handling a budget, managing the school district print shop, heading the advisory committee, and advising a leadership club for students.

INDUSTRIAL RELATED

1990 ***Industrial Trainer,*** Advertising Unlimited, Inc., Sleepy Eye, MI (1 year full-time
1988 and 1 year halftime). Started as a Designer/Keyliner and promoted to Industrial Trainer in this specialty printing company of 500 employees. Responsible for instructing training seminars designed exclusively for prepress production departments. The job also involved developing training manuals, standard operating procedures and preventative maintenance schedules for equipment.

1987 ***Lithographer,*** Ye Ole Print Shoppe, Crookston, MN (4 years full-time summer
1984 employment while attending college). The job involved all aspects of offset printing.

1983 ***Lithographer,*** Mathison Company, Fargo, ND (1 year full-time). The job involved
1982 stripping, plating, press operation, and bindery in an inplant printing facility.

CONSULTING/TRAINING

1999 ***Valassis Communication,*** Plymouth, MI (4 weeks). Provided prepress training and performance evaluation instruments that were used to prepare their employees for recent digital upgrades to their prepress facilities.

1997 ***International Education,*** New York, NY. Provided training to Savvas Ioannides on the Internet and interactive multimedia production.

1996 ***International Education,*** New York, NY. Provided training to Rosil Da Graca on digital imposition and trapping.

1995 ***Westvaco Paper Company,*** Detroit, MI. Provided training to the sales staff at Westvaco Paper on all aspects of prepress production.

1994 ***American Litho Company,*** Grand Rapids, MI. Provided training to the sales staff at American Litho Company on all aspects of prepress production.

PUBLICATIONS

Printing Industries of Michigan Assists in New Media Education, Printing Industries of Michigan Graphic News, Volume XIV, No. 6, pg. 6-7, June 1997.

How to Select the Contact Screen Best Suited to Your Needs, Printers Link, pg. 14-15, April 1992.

ORGANIZATIONS/INVOLVEMENT

Information Officer, Executive Board, Ferris State University Academic Senate, Big Rapids, MI. Currently serving a second elected one year term.

Senator, Ferris State University Academic Senate, Big Rapids, MI. Currently serving a third elected two year term.

Advisor, Ferris State University Graphic Arts Association, Big Rapids, MI. Active faculty advisor for this student organization for the past seven years.

Chairman, College of Technology Promotion Committee, Ferris State University, Big Rapids, MI. Currently chairing this committee serving an elected two year term.

Chairman, Graphic Arts Program Curriculum Committee, Ferris State University, Big Rapids, MI. Currently chairing this committee which is in the process of performing a revision of the current curriculum and proposing a new bachelors degree in New Media Printing and Publishing.

Member, Printing Industries of Michigan, Detroit, MI.

Member, Newaygo Career & Technical Center Advisory Board, Fremont, MI. Active advisory board member to this high school vocational printing program for the past six years.

Member, Grand Rapids Lithographer's Club, Grand Rapids, MI. Active member for the past seven years.

Member, International Graphic Arts Education Association.

Member, Woodbridge N. Ferris Autobiography Team, Ferris State University, Big Rapids, MI. Provided the digital photography and digital imposition expertise in the production of a hard cover autobiography of the institutions founder. Also involved in converting the autobiography into an electronic book and publishing it on the world wide web.

Donations/acquisitions, Graphic Arts Program, Ferris State University, Big Rapids, MI. Played a significant role in the process of acquiring printing equipment donations such as, RAMPage RIP, 11 copies of ImpoStrip Second Generation software, 24" Oce thermal imposition proofer/printer, Fugi film and plate processors, Press Match laminate color proofing system, Xitron Harlequin based software raster image processor, and Heidelberg MOVP four color press with CP Tronic.

Tools Coordinator, Playscape, Big Rapids, MI. Responsible for acquiring heavy equipment and power tool donations to build a $150,000 community playground project. Also set up the tool crib during the week long construction, and handling the distribution and maintenance of the equipment.

PERSONAL RESUME

Richard Harmsen
831 Rose Avenue
Big Rapids, MI 49307

Home Phone(231)796-1120
Office Phone (231)591-2847
Email: harmsenr@ferris.edu

Experience/ education

1990 to Present

Associate Professor, Department of Design, Manufacturing and Graphic Arts, College of Technology, Ferris State University. Currently teach in the Printing and Digital Graphic Imaging Technology associates degree program and the New Media Printing and Publishing bachelors degree curriculum beginning Fall 2000.

Teaching responsibilities currently include desktop and digital color imaging, scanning and tone reproduction, image assembly, quality control, and 35 mm and digital photography.

Curriculum development: most recently responsible for updating course content for Printing Technology and New Media Printing and Publishing bachelors degree. During this period priority has been to acquire new skills and technical knowledge and updating curriculums. To this end have attended numerous workshops and conferences sponsored by such organizations as GATF, NAPL, RIT, PIM, X-Rite, Linotype-Hell, Agfa, Acquired Knowledge Inc., Eastman Kodak. and others.

1992 academic year sabbatical leave: responsible for developing, conducting and tabulating an industry survey of digital imaging and color reproduction needs and trends. This included curriculum development and updating, in both digital imaging and quality improvement areas.

8-1988 to 8-1989

Quality Improvement Coordinator. Printco Inc. Greenville, MI. This was a one year temporary position while on a leave of absence from Ferris State University. Position reported to the President (see attached published statements by Printco president Jim Pentecost).

Printco is a commercial insert printer with sales, at that time, of around $50 million and approximately 300 employees at two plants. Duties included facilitator for initial Quality Planning Council (composed of CEO and staff), coordination of related team and management training, and facilitation of a several of pilot quality improvement interdepartmental teams.

1983 to 1988 **Associate Professor, Graphic Arts Department, School of Technology, Ferris State College**, Big Rapids, MI. (Note the various name change from College to University that occurred in 1990)

Primary teaching responsibilities at this time included development of electronic rotary drum scanning/color separation and quality classes. Also taught Black and White Process camera and stripping/film assembly.

In 1985 received high end rotary drum scanner training at Modern Imaging of Grand Rapids, MI. During that same year successfully achieved donation of first of three used high end rotary drum Hell scanners.

Other activities during the mid to late 1980's include: 1) initiation of a Printing Industry Resource Unit in cooperation with the FSU Manufacturing Resource and Productivity Center (MRPC) and GILL, involving the coordination of several industry training projects; 2) the coordination of several industry seminars in cooperation with the Printing Industry of Michigan (see sample seminar brochure); and 3) the initiation and development of a Michigan Graphic Arts Subcommittee of the American Society for Quality Control. The latter subcommittee became a PIM committee in 1990 (see reference to involvement in enclosed Pentecost "Viewpoint" attachment and PIM news letter).

1981 to 1983 **Assistant Professor, Department of Journalism and Mass Communications, South Dakota State University.** Brookings, SD. Taught both technical and management courses within the Printing Management bachelors degree, and performed the usual related duties.

1979 to 1981 **Master of Science Degree in Printing Technology, Rochester Institute of Technology (RIT)**, Rochester, NY.

Curriculum covered the entire range of graphic reproduction technology and processes, with emphasis on color reproduction and quality control. Although it was not necessary for the degree, study was extended to two full academic years to take advantage of the RIT curriculum.

1978 to 1979 **Process Camera Operator/Layout Artist, Summa Graphics, Inc.,** Buffalo, NY. Summa Graphics was a full service pre-press service provider and printing brokerage.

1976 to 1978 **Production and Training Officer/Media Specialist, Extension**

	Aids Unit, Department of Agriculture, The Gambia, West Africa. This was a world Bank sponsored Development project. Responsible for set up and staff training of small printing operation, as well as duties as artist and photographer. **Also served on The Gambian National Literacy Advisory Committee** (see enclosed letter [attachment #4 from its Chair) responsible for producing and illustrating literacy primers for a national literacy pilot project.
1974 to 1976	**Bachelor of Science Degree in Media Studies, State University of New York at Buffalo** (University of Buffalo), NY. Curriculum included printing and graphic reproduction, photography, audio and video, film and cinema, and multi media. This was a custom designed curriculum approved by the Dean of the College of Arts and Sciences.
1973 to 1974	Delivery and Production responsibilities, Santa's Bakery, Fairbanks, Alaska.
1972 through 1973	Volunteer Service, National Spiritual Assembly of the Baha'is of Alaska, Anchorage, Alaska.
1970 through 1972	Initial undergraduate studies at the State University of New York at Brockport and the University of Alaska at Fairbanks, Alaska.
1969, June	Graduated, Amherst Central High School, Amherst, NY (Buffalo, NY suburb).
consulting/ training	Technical assistance for SPC pilot project with Ferris team, Uarco, Inc. 1990 (see enclosed letter from Uarco's Vice President for Education Standards of Excellence Larry Dille and Quality Manager Richard Parks [attachments #5 and #6). Participated in industry training with other organizations, including PIM, Eastern Kentucky University, FSC Printing Industry Resources Unit, Strategic Technologies, Inc., FSU Technology Transfer Center, Digital 66, and the FSU's International Affairs.
Publications/ Research	In 1977 became involved with the problems associated with international printing technology transfer, as well as with other media, when asked to participate in a United Nations Conference focusing on that theme in The Gambia, West Africa (see attachment #4 reference from Mr. Sidibe). This experience and research led to a Masters Thesis on that topic at RIT, which in turn led to several published articles

related to this subject during the 1980's:

"Sub-Sahara Africa: An Awakening Giant", part I, *World-Wide Printer*, July-August 1983, pgs. 12-13.

"Africa Awakens" part II, *World-Wide Printer*, September October 1983, pgs. 22-24.

Stephen Jagus and Richard Harmsen, "Selecting a Color Separation System: A Global Perspective",*Export Grafics USA*, January-June 1985, pgs. 16-17, 31-33.

Stephen A. Jagus y Richard Harmsen, "La Selección de un Sistema para la Separación de los Colores: Panorama Nundial--Primera Parte", Marzo-Abril 1985, pgs. 24-28.

Stephen A. Jagus y Richard Harmsen, "La Selección de un Sistema para la Separación de los Colores: Tomando La Decision--Segunda Parte", artes graficas USA, Mayo-Junio 1985, pgs. 22-24.

Other articles have addressed industry training, color reproduction, and quality improvement:

"On-the-Job Training Boosts Productivity", *In-Plant Reproductions & Electronic Publishing*, August 1996, pgs. 51-53.

"Color Correction for Process Color Printing. part I", Export Grafics USA, July-September 1986, pgs. 12-14.

"Color Correction for Process Color Printing. part II", Export Grafics USA, October-December 1986, pgs. 22-23.

"Color Correction for Process Color Printing, part III: Compensation of Ink Hue Error", *Export Grafics USA*, May-August 1987, pgs. 12-14.

Richard Harmsen and Tom Kennedy, "Color Correction Made Easy", *In-Plant Reproductions & Electronic Publishing*, October 1996, pgs. 58-60.

Richard Harmsen and Tom Kennedy, "More on Color Separations", Part 2 of 2, *In-Plant Reproductions & Electronic Publishing*, November 1996 pg. 46-47.

"Four Michigan Printers begin Quality Improvement Process", *Quality Improvement Committee News Bulletin*, Printing

Industries of Michigan, Fall 1990, 4-5.

"The Holy Grail of Objectivity", *Deepen Magazine*, Fall 1995, pgs. 15-33.

Other training/ professional development

"Rampage RIP and Trapping Software Training" by Rampage Inc. (Nov. 8-10 1999).

"Color Management Application Training" by DPA Communications, Chicago, ILL (Nov. 1999)

"Electronic File Navigation Training" by H. P. Horak (June 1998)

"PostScript Training" by Acquired Knowledge Inc. (Oct. 1997)

"Managing Digital Workflow II" by GATF (March 1997)

"J. M. Juan on Quality" by the Juran Institute (October 1996)

"Crossing the Digital Divide" by RIT/NAPL, Chicago, ILL (Nov. 1995)

Participated in two one week training courses at the Miller Consulting Group/Culture College, Quality by Design and Team Coordinator Training (Atlanta, 1989), as well as going through the team approach to quality improvement at the LifeSaver Company, Holland, Michigan (while employed by Printco Inc. as Quality Improvement Coordinator).

Quality Alert Institutes Statistical Process Control System training, Chicago, ILL, October, 1988.

During graduate studies in 1980 and 1981 earned graduate level certification in Criterion Referenced Instruction and Technical Training from Rochester Institute of Technology College of Education.

Community Service

Volunteer service as representative for United Way, the American Cancer Society, and Women's Information Services Domestic Violence Shelter since the late 1980's until 1995. active member of Swords into Plow Shares (Inter-Faith Peace Group from 1984 to 1992. Founding member of the Big Rapids "Forum for the Healing of Racism" in 1992 through 1997, serving as its chair or secretary at various times through 1996. Recently became involved as a volunteer for Hospice of Michigan, which provides assistance to the terminally ill.

PATRICK KLARECKI

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Pat_Klarecki@Ferris.edu

PROFESSIONAL BACKGROUND

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Present

Ferris State University - College of Technology
915 Campus Dr., Swan 314, Big Rapids, MI 49307
Department Chair, /Associate Professor:
Responsibilities:

- Coordinate the activities of 9 full time tenured faculty and 2 staff members. This includes: building all course schedules, developing and implementing private training and consulting opportunities for faculty, recognizing and recommending faculty development opportunities, and develop all strategic and long term plans.
- Manage annual S&E budget of $43,000.
- Develop programs and initiatives to generate an average of $50,000 annual donations for our development foundation account.
- Provide classroom and laboratory instruction in the areas of printing production planning, printing marketing and purchasing, plant layout and design, cost analysis, and preventive maintenance.
- Lead the faculty group through a recent accreditation process with the ACCGC in which full accreditation was granted.
- Lead the faculty group to support a radical curriculum restructuring to better meet the needs of our industry. Restructuring included the rewrite of existing degree and the introduction of a new BS in "New Media Printing and Publishing".
- Developed several relationships with major companies in our industry, which have resulted in the donation and or consignment of over $1,000,000 of equipment or cash.
- Personally visit over 35 high schools to recruit students into Ferris State University and our program each year. Since my tenure as Chair the enrollment trend has turned from negative spiral to positive growth trend.
- Negotiated the start of (3) new corporate student scholarship funds.
- Advisor to the Graphic Arts Association (Student Association)
- Committee Work:
  - National Graphic Communications Council – Board of Directors
  - Graphic Arts Technical Foundation, Accreditation Council for Collegiate Graphic Communications beta test site committee.
  - Printing Industries of Michigan – Work force development committee
  - West Michigan Graphic Communications Alliance – Board of Directors
  - FSU Academic Senate Student Life Committee
  - FSU Alumni Advisory Board
  - Affirmative Action, College of Technology Associate Dean, University Alumni Director, and College of Technology Development Director Search Committees
  - Programmatic Marketing Advisory Committee
  - BTC Management Committee

- Board of Great Lakes Governors Environmental Defense Fund's "Great Printers Project"

- Lectures and Presentations
  - 2002 Graph Expo International Print Trade Exposition, Chicago, IL – "Working with a Diverse and New Motivation of Employee"
  - 2001 Association of Great lakes Newspapers Conference, Lansing, MI – "Where are the workers?"
  - 2000 International Newspaper Group Annual Conference, Dayton, OH – "Is there a lack of qualified employees in the printing industry? – Trends in Graphic Communications Education."
  - 1999 Michigan Governors Conference on Tech Prep – Grand Rapids, MI – How industry and education can work together.
  - 1998 Ink on Paper Conference – Detroit, MI - Work force development and school to work programs.
  - 1997 Graph Expo – Chicago, IL – Career opportunities in the Printing Industry to Guidance Counselors and High School Students
  - 1995 Trends in Education Conference – Grand Rapids, MI - Teaching students with special needs in technology.
- Grants Received
  - GAERF grant sponsored guidance counselors conference in 1999 and 2000
  - PIM Grant to develop, print and distribute 700,000 career awareness brochures to high school students in Michigan

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Valassis Impact Printing
36111 Schoolcraft Rd., Livonia, MI 48150
Operations Manager: Overall responsibility for Customer Service, Estimating, Scheduling, and Traffic.
Responsibilities:

Managed and developed a positive, customer-oriented culture for four supervisors and a staff of 40. Maintained monthly expense, and individual job production budgets for this $62 Million business division. Produced 3-year strategic plan for operations and manufacturing, which supports growth of 30% annually. Developed and implement computerized information systems that met growth needs as well as the needs of the customers.

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Valassis Inserts - Wichita Printing Division
3819 N. Toben St., Wichita, KS 67226
Plate-room Supervisor and Pressroom Supervisor:
Responsibilities:

Start up and direct supervision of a new plate making operation. Hired and trained 12 Plate makers. In 1986, as Pressroom Supervisor, supervised 1 shift consisting of 20 employees and $20 Million of machinery. Maintained daily production and maintenance standards for entire production plant.

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Valassis Inserts - Durham Printing Division
4918 Prospectus Dr., Durham, NC 27713
Process Engineer
Responsibilities:

Participated in a Management Training Program, which covered: plant design and construction, equipment installation and operation and quality control for this new plant. Was placed on the prestigious task force to select the sight, construct, and start up the new $24 million plant in Wichita, KS. This involved capital equipment purchase negotiations, budgeting, and project management.

EDUCATION

Graduate (4.0) 1995 - M.S. Degree in Career and Technical Education, Ferris State University, Big Rapids, MI 49307

Graduate "With High Distinction" 1983 - B.S. Degree in Printing Management, Ferris State University, Big Rapids, MI 49307

PERSONAL BACKGROUND / REFERENCES

- June 2002 elected to the Big Rapids Community Schools Board of Education
- President and Co-Chair of Big Rapids Playscape Inc. - This non-profit corporation was formed by myself to rally the community to design, fund, and build a $150,000 playground in the Big Rapids Community.
- Married with three children.
- I enjoy being challenged, traveling, racquetball, Boating, and building.
- References listed below:

William Papo – Professor, Printing Management
Ferris State University
915 Campus Drive, Swan 314
Big Rapids, MI 49307
bpapo@mea.org
Work (231) 591-2845
Home (231) 796-2570

Joseph J. Corcoran – Vice President Operations
F.P. Horak Inc
401 Saginaw St., PO Box 925
Bay City, MI 48707
jcorcoran@fphorak.com
Work (517) 892-6505

William James Papo
19981 Indian Dr.
Paris, MI 49338
Home: 231-796-2570
Work: 231-591-2854

EDUCATION

Completed eight hours at Michigan State University on a Doctoral program in Vocational Education in 1983.

Completed 18 graduate hours at Central Michigan University in 1978.

Completed a Master's Degree in Educational Leadership at Eastern Michigan University in 1972.

Bachelor of Science from Ferris State College, 1968 in Trade-Technical Education, major area-Printing.

Attended three conference by the National Association of Printers and Lithographers:

1979, 3 day conference on budget hourly costs
1980, 2 day conference on cost controls
1982, 2 day conference on personnel problems

Attended a week long negotiating training in Lansing in 1994.

Attended a week long workshop on Technology in Higher Education, Phoenix, AZ in 1996.

TEACHING EXPERIENCE

Professor, Printing Management, Ferris State University, College of Technology, 1985 - present.

Associate Professor, Printing Management, School of Journalism, Media and Graphic Arts, Florida A&M University, 1983 - 1985.

Assistant Professor, Printing Management, Ferris State College, 1974 until 1983. Primary teaching assignment was in the area of Printing Management.

Taught in Vocational Printing at Monroe Public Schools, Monroe, Michigan, 1968 until 1974.

MAJOR COURSE AREAS TAUGHT

Printing Production Management
Printing Management
Printing Cost Analysis
Printing Estimating
Basic Composition
Introduction to Stripping
Graphic Arts Marketing
Plant Layout
Ink and Color Theory
Binding and Finishing
Internship Coordinator
Layout and Design

RELATED WORK EXPERIENCE

Maxwell Printing Co., Plymouth, MI. Duties included working supervisory in prepress. (1968-1970)

Education Services, Inc., Manager of Southeastern Michigan area. Duties included set-up and staffing educational programs for organizations such as Y.M.C.A. (1970-74)

The Printing House, Inc., Tallahassee, FL. Duties included process stripping. (1984-1985)

CONSULTANT WORK

Production scheduling two-day seminar for Mitchell Graphics, Inc.

Marketing training for the McNamara and Zacharias Company.

Supervisory seminar for H&H Plastics Manufacturing Company.

Six month Management Training program at Printco in Greenville, Michigan.

Two-day seminar on Designing for Printed Media at the Michigan Department of Mental Health.

Reorganized and prepared equipment layout for inplant printing operation for the City of Pontiac, Pontiac, Michigan.

Taught a 10-week employee updating course for employees in their inplant printing operation at Amway, Inc., Ada, Michigan.

Established budgeted hourly rate and did equipment layout for the newly expanded plant of House of Printing, Inc. in Grand Rapids, Michigan.

NON-TEACHING ASSIGNMENTS

At Florida A&M University:

Industrial liaison, set up industrial awareness project to promote graduate placement and program visibility.

Prepared articulation agreements between each of the community colleges and Florida A&M University.

Conducted active student recruitment programs state wide.

At Ferris State University:

Supervise University Printing operations. I am responsible for 10-15 student employees and two full time staff, maintain work schedules, develop and monitor budget.

Sponsor of Alpha Phi Omega, national service fraternity.

Education Planning Committee

Festival of the Arts Committee

Commencement Coordinating Committee

NCA Self Study--Facilities Committee

Chaired Distinguished Teacher Award Selection Committee

College of Technology Promotions Committee

Campus/Community Substance Abuse Task Force

Summer School Committee

University College Committee

Faculty Senate

College of Technology Curriculum Committee

STATE AND NATIONAL COMMITTEES

Graphic Communication Accreditation Committee--set up the standards for post secondary accreditation of Graphic Arts programs.

Michigan Great Printers Project Task Group member--Environmental Quality for the Department of Environmental Quality for the State of Michigan.

RELATED ACTIVITIES

Revision of Graphic Arts Student Occupational Competency Achievement test.

One of the principle writers of the "Cluster Guide for Visual Imaging Technology", curriculum project.

Work with Kent Skill Center and Newaygo County Area Vocational Center on articulation and competency testing.

PROFESSIONAL ORGANIZATIONS

NAPL--National Association of Printers and Lithographers

PIM-Printing Industries of Michigan

IGAEA--International Graphic Arts Educators Association

REFERENCES

Credentials and other information available upon request.

Ramon Robinson
11614 190th Ave.
Big Rapids, MI 49307
(616) 592-2956 (W) (616) 592-3139 (H)

SUMMARY OF QUALIFICATIONS

FERRIS STATE UNIVERSITY *1990 - Present*

ASSISTANT PROFESSOR,
GRAPHIC ARTS DEPARTMENT

COURSES TAUGHT

BINDERY AND FINISHING OPERATIONS: A BEGINNING LEVEL COURSE DESIGNED TO DEVELOP THE STUDENTS KNOWLEDGE AND SKILLS IN THE FINISHING OPERATIONS OF PRINTED PRODUCTS.

SHEETFED OFFSET PRESSWORK I: A BEGINNING LEVEL COURSE IN THEORY AND OPERATION OF SHEETFED OFFSET PRESSES. EXTENSIVE DEMONSTRATION AND PRACTICE IN SET-UP, MAKE-READY RUNNING, PRESS ADJUSTMENTS, AND THE CHEMISTRY OF LITHOGRAPHY.

SHEETFED OFFSET PRESSWORK II: AN ADVANCED LEVEL COURSE WITH EXTENSIVE HANDS ON LAB WORK EMPHASIZING PROCESS COLOR, SOLIDS, DENSITOMETRY READINGS AND COLOR REPRODUCTION.

WEB OFFSET PRESSWORK: AN ADVANCED LEVEL COURSE IN OFFSET PRINTING BY WEB. THE COURSE COVERS OPERATION TECHNIQUES OF PRE-PRESS STRIPPING METHODS, PLATE MAKING, PREPARING AND RUNNING THE WEB PRESS, PROBLEM SOLVING, PERFORMANCE TESTING, AUXILIARY OPERATIONS, AND DAILY MAINTENANCE IS TAUGHT.

INTERNATIONAL PAPER COMPANY 1989 - 1990

LIQUID PACKAGING DIVISION

SHIFT SUPERVISOR - SUPERVISED CONVERTING AND SEALING PERSONNEL. ALSO RESPONSIBLE FOR PRODUCTION QUOTAS, WASTE REDUCTION, AND QUALITY OF PRINTED CARTONS.

MAYS PRINTING COMPANY INC. 1980 - 1989

GENERAL COMMERCIAL PRINTER

PRODUCTION MANAGER - DIRECT SUPERVISION OF PRE-PRESS, PRESS AND BINDERY PERSONNEL. OTHER RESPONSIBILITIES INCLUDED; ESTIMATING, SCHEDULING, PURCHASING, AND EMPLOYEE TRAINING AND EVALUATION

FORD MOTOR COMPANY 1979 - 1980

IN-PLANT PRINTING OPERATION

PRESS OPERATOR

EDUCATION

Ferris State University
Big Rapids, Michigan

Associate of Applied Science - Printing Technology 1976
Bachelor of Science - Printing Management 1978
Master of Science - Occupational Education Expected completion May 1998

ADDITIONAL PROFESSIONAL ACTIVITIES

X-RITE

CERTIFICATE OF COMPLETION - UNDERSTANDING X-SCAN

HEIDELBERG

CERTIFICATE OF TRAINING - HEIDELBERG M-OFFSET

MAN ROLAND

CERTIFICATE OF COMPLETION - ROLAND 700

PROFESSIONAL MEMBERSHIPS

MEMBER - GRAND RAPIDS LITHO CLUB

ANNUAL JUDGE - LANSING CLUB OF PRINTING HOUSE CRAFTSMEN, INC. GALLERY OF SUPERB PRINTING

Donald P. Santer

Instructor of Printing Technology

Diverse experience in printing technology including: layout and design, process photography, stripping and platemaking, offset press operation, binding and finishing, screen process printing and preventive maintenance. I have vast experience in shop and plant management in the areas of administrative and production.

EDUCATION

B.S. Technical Education (Printing), Ferris State University. M.S.O.E. Masters of Science Occupational Education. Ferris State University.

CERTIFICATIONS / SPECIAL TRAINING

Lithographers Training Center, Alexandria, VA.
Reproduction Equipment Repair school, Defence Mapping Service, Fort Belvoir, VA.
Master Examiner, Michigan Occupational Competence Assessment Center,(MOCAC).
Certified Home Inspector. State of MI.
Egress and survival training, Coranodo, CA.
Fire and rescue training, Littlecreek Amphibious base, Littlecreek, VA.

PROFESSIONAL AFFILIATIONS

Ferris Faculty Association, FSU
Lithographers association US Navy.
Plank owners association USS Nimitz.
Graphic arts technical foundation (GATF)
Institute of Home Inspectors.
National Rifle Association (NRA)
National Geographic Association
New Hope United Methodist Church, Financial auditor, Mecosta, MI.

EXPERTISE

Classroom instruction, Laboratory instruction both mechanical and computer aided.
Binding and Finishing of printed materials.
Preventive maintenance and repair of mechanical equipment.
Wood working and building construction.

EXPERIENCE

- Lithographer with the US Navy from 1961-1981 Held positions of shop supervisor and Printing plant manager aboard ships and shore stations, Including Defense Intelligence Center, Fleet Intelligence Center Commander in Chief Atlantic Fleet Printing Plant. Production training at Stars and Stripes, Tokyo, Japan. Staff printer for Commander Sixth Fleet, Giaeta, Italy. Special printer for Commander Seventh Fleet JAG, Taiwan.

- Associate Professor of Printing technology at Ferris State University.1983 - to present. Courses taught are: PTEC-123 Binding and Finishing, PTEC-153 Electronic Pagination. PTEC-281 Preventive Maintenance of mechanical equipment.

PERSONAL DATA

- Born and raised in Southern California, completed high school 1961, joined the US Navy directly out of high school. Served 20 years with honors. Served a tour in Vietnam from Jan. 1970 thru Dec. 1970.

- Entered college for one year at Central Michigan University after retirement from the navy. Transferred to Ferris State University 1982. Graduated with B.S. 1984. Became full-time faculty at Ferris 1984, started masters program at Ferris, graduated with MSOE 1989 and have been teaching at Ferris to the present. I plan on retiring from teaching at FSU around 2006.

ACTIVITIES/ HOBBIES

- My main activities outside of teaching is wood working, square dancing, hunting, Skeet shooting, traveling and spending time with my wife, kids,and grand son.

Resume
for
Dennis C. Smith

EMPLOYMENT HISTORY

EDUCATIONAL INSTITUTION POSITIONS

1990–present
Ferris State University, Big Rapids, MI
Associate Professor in Printing Technology
Courses taught include: Sheetfed Offset Press, Advanced Sheetfed Press, Image Assembly, Advanced Image Assembly, Printing Estimating, Layout & Design, Quality in Graphic Arts, Introduction to Graphic Arts, and Production Seminar.
Committees served: College of Technology Curriculum Committee, College of Technology Sabbatical Review Committee, Semester Transition Committee. Other initiatives: ongoing recruiting visitations, student scholarship committees, Past Advisor student Graphic Arts Association, VICA judging, Delegate National Association of Litho Clubs, E-Board of Ferris Faculty Association.

1986–1990
Ann Arbor Public Schools Huron High School, Ann Arbor, MI
Vocational Graphic Arts Teacher
Instructor in comprehensive high school graphic arts program. Solely responsible for program.

1988
Washtenaw Community College, Ann Arbor, MI
Graphic Arts Instructor-part time position

1986
Rochester Institute of Technology, Rochester, NY
Scanning Lab Instructor-Graduate Assistantship

1981–1985
Ypsilanti Public Schools Regional Career Technical Center, Ypsilanti, MI
Vocational Graphic Arts Teacher

PRINTING INDUSTRY EMPLOYMENT

1978-81
Kolossos Printing, Ann Arbor, MI
Prepress Manager-responsible for managing/performing work in prepress area of commercial printer

1978
Edwards Brothers Book Manufacturing, Ann Arbor, MI
Pressman-operation of large format sheetfed offset press

1972-1978
Ann Arbor Public Schools, Ann Arbor, MI
Offset Printer-production position including press operation with in-plant printer

EDUCATION

M.S.-Eastern Michigan University, Ypsilanti, MI-Vocational Education Major

B.S. -The University of Michigan, Ann Arbor, MI-Graphic Arts Education Major

Rochester Institute of Technology, Rochester, NY-graduate courses in printing

Ferris State University, Big Rapids, MI-undergraduate coursework in printing

PROFESSIONAL MEMBERSHIPS

Past President and active member of the Grand Rapids Litho Club, Member-Graphic Arts Technical Foundation, International Graphic Arts Education Association, Licensed Secondary/Vocational Teacher Certificate-State of Michigan

Education

June, 1981- August, 1982	Rochester Institute of Technology Pursued study towards Master of Science in Printing Technology. Thesis topic was "Study to Determine the Amount of Fountain Solution on a Lithographic Printing Plate". Granted Master of Science degree in March, 1987.	Rochester, New York
March, 1970- June, 1972	Rochester Institute of Technology Bachelor of Science degree in Printing Technology, June, 1972.	Rochester, New York
June, 1968- January, 1970	Williamsport Area Community College Associate of Science degree in Printing Management, January, 1970.	Williamsport, Pennsylvania
	Central York High School High School Diploma, June, 1968	York, Pennsylvania

Miscellaneous

Memberships in professional organizations: Technical Association of Graphic Arts, Technical Association of Pulp and Paper Industry, Graphic Arts Technical Foundation, International Graphic Arts Education Association, Optical Society of America.

Instructor of Printing Production Planning for three years with the Graphic Arts Association of Delaware Valley, Philadelphia, PA.

Serve as consultant to the printing industry.

Certified GRACOL instructor.

Conference Host of 1999 IGAEA Conference.

Personal interests include: Boy Scouts of America-Cubmaster/Assistant Cubmaster, American Youth Soccer Organization-Coach/Referee, photography, music, woodworking.

VITA

Robert G. Beaverson
Ferris State University
College of Technology
Graphic Arts Program
Swan 314
Extension 2908

Work Experience

August, 1984-Present	Ferris State University	Big Rapids, Michigan
	Associate Professor of Graphic Arts, instructed courses in Reproduction Photography, Photomechanical and Digital Electronic Color Separation, Paper and Ink Technology, Quality Control, Production Planning, Marketing, Estimating. Granted Tenure and promoted from Assistant Professor in 1990. Other responsibilities included course development, maintenance of related laboratories, student advising, serving on various department and university committees, interacting and serving as consultant to printing and related companies.	
September, 1975-May, 1981 & September, 1982-August, 1984	Telegraph Press	Harrisburg, Pennsylvania
	Special Accounts Manager, responsibilities included coordinating the printing of publications and books, oversee schedules and quality, served as technical liaison to customers, quoting prices and invoicing. Sales responsibility was over $12 million dollars per year.	
October, 1972-August, 1975	Diversified Printing Corporation	Atglen, Pennsylvania
	Production Coordinator, shift responsibilities for coordinating production schedules for pre-press, press, and shipping for a rotogravure publication printer. Other functions included writing press schedules and manpower schedules.	
June, 1972-October, 1972	Fulton Press, Inc.	Lancaster, Pennsylvania
	Manager of small company reporting to owner. Responsible for operations of company including scheduling, estimating, and invoicing of jobs. Supervised a workforce of sixteen people.	
June, 1971-September, 1971	Lehigh Litho, Inc.	Bethlehem, Pennsylvania
	Assistant to the production manager, replacing vacationing employees for the summer. Duties included writing production schedules, disseminating work to the various departments, customer service. One specific responsibility was to design plant layout and coordinate moving of a small subsidiary printing company.	

Education

June, 1981- August, 1982	Rochester Institute of Technology Pursued study towards Master of Science in Printing Technology. Thesis topic was "Study to Determine the Amount of Fountain Solution on a Lithographic Printing Plate". Granted Master of Science degree in March, 1987.	Rochester, New York
March, 1970- June, 1972	Rochester Institute of Technology Bachelor of Science degree in Printing Technology, June, 1972.	Rochester, New York
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FERRIS STATE UNIVERSITY
COLLEGE OF TECHNOLOGY
PRINTING AND IMAGING TECHNOLOGY
MANAGEMENT DEPARTMENT

COURSE OUTLINE

COURSE TITLE: PTEC 101: Introduction to Graphic Communication

COURSE DESCRIPTION: An exploratory course designed to provide the student with a basic working knowledge of the printing industry. Involves developing a printed piece from concept to the finishing operation. Will include all printing processes. Emphasis will be placed on current digital imaging and lithographic methods.

CREDIT HOURS: Three

CONTACT HOURS: Lecture: 2 hours/week
Lab: 3 hours/week

PREREQUISITES: None

TEXTBOOK: Printing Technology, 4th Edition, by Michael Adams, published by Delmar Publications, 1996

MATERIALS REQUIRED: Zip Disk

MAJOR UNITS OF INSTRUCTION AND STUDENT LEARNING GOALS

		Time Weight LEC	LAB
I.	Printing Industry	2	3
	A. Know the course goals, grading policy		
	B. Understand the size and scope of the printing industry		
	C. Know the various careers in printing		
	D. Understand lab safety procedures		
II.	Basic Printing Processes	3	3
	A. Know the screen printing process		
	B. Know the gravure printing process		
	C. Know the relief printing process		

	D. Know the lithograpic printing process		
	E. Know the electrostatic printing process		
	F. Know the ink-jet printing process		
III.	Digital Page Layout and Design	6	9
	A. Understand typographic concepts		
	B. Know the types of layouts		
	C. Learn the printing measurement system		
	D. Understand components of digital prepress system		
	1. hardware		
	2. software		
IV.	Line and Halftone Reproduction	4	6
	A. Learn camera fundamentals		
	B. Understand exposure principles		
	C. Perform film processing		
	D. Learn scanning procedures		
V.	Image Assembly	2	6
	A. Learn different impositions types		
	B. Perform basic stripping techniques		
	C. Perform multiflat registration		
	D. Learn proofing techniques		
VI.	Offset Platemaking	1	3
	A. Know litho printing plate types		
	B. Perform plate processing		
VII.	Offset Press	5	9
	A. Know different types of presses		
	1. Sheetfed		
	2. Web		
	B. Perform press makeready		
	C. Perform press operation		
	D. Perform press maintenance		
VIII.	Finishing Operations	2	3
	A. Perform cutting operations		
	B. Perform folding operations		
	C. Perform assembling operations		

IX.	Related Printing Topics		2	
	A.	Understand paper types and selections		
	B.	Know color matching system		
	C.	Understand health, safety, and environmental concerns		
X.	Testing and Evaluation		3	
		TOTAL	30	42

MINIMUM REQUIRED STUDENT LAB ACTIVITIES DEFINED

Required Assignments:

1. Single color one side card
2. Single color stationery project
3. Playing card project

Revised 12/15/99
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FERRIS STATE UNIVERSITY
COLLEGE OF TECHNOLOGY
PRINTING AND IMAGING TECHNOLOGY
MANAGEMENT DEPARTMENT

COURSE OUTLINE

COURSE TITLE: PTEC 123: Bindery and Finishing Operations

COURSE DESCRIPTION: Designed to develop knowledge and skill in the finishing operations for printed products. Various methods of binding, including folding, cutting, mechanical and perfect binding, padding and shrink wrapping will be discussed and practiced in the printing laboratory. Essential and specialties such as scoring, perforating will be discussed and practiced in lecture and laboratory with safety emphasized and quality control stressed.

CREDIT HOURS: Four

CONTACT HOURS: Lecture - 2 hours/week
Lab - 6 hours/week

PREREQUISITES: None

TEXTBOOK: Bindery and Finishing Lab Pack, by Don Santer

MATERIALS REQUIRED: Pocket calculator, tape measure (SAE/Metric)

UNITS OF INSTRUCTION AND STUDENT LEARNING GOALS

		Time Weight LEC	LAB
I.	Introduction, Orientation and Safety	2	6
	A. Know the course goals, attendance policy, grading schedule, safety rules and regulations, materials required.		
	B. Tour of bindery lab and equipment, location of work stations, assignment, lab safety and working procedures.		
	C. Understand the terms used in the printing industry and the importance of using the correct terminology.		
	D. Be able to identify concerns in bindery and finishing		
II.	Folding Operations	4	15
	A. Know the different types of folders		
	B. Know how folders operate		
	C. Know the different folds and their uses		

	D. Know the advantages of different types of folders		
	E. Know how to score/perforate		
III.	Gather/Stitcher/Trimmer Operations	2	18
	A. Understand the principles of signature gathering.		
	B. Able to set the pockets for low folio lip signatures		
	C. Able to set the stitcher heads to fit signatures		
	D. Able to set three knife trimmer to size needed		
	E. Exhibit proper safety procedures for this machine		
IV.	Imposition	3	4
	A. Know the various methods of imposition		
	B. Know how to prepare a dummy for a product, and the need for such a dummy.		
	C. Understand different methods of pagination, and how to accomplish correct page order.		
V.	Paper Cutting	4	24
	A. Know the classifications of paper		
	B. Know basic and standard sizes of paper		
	C. Know the different paper cutters and the fundamentals of paper cutting.		
	D. Calculate the maximum pieces out of a sheet		
	E. Know the various methods of programming cutters		
	F. Able to perform cutting operations.		
	G. Calculate the Mwt for non standard sheetsize.		
VI.	Methods of Binding	5	12
	A. Know the various methods of mechanical binding.		
	B. Able to set-up and operate binding equipment in lab.		
	C. Understand procedures for case binding.		
	D. Know the advantages of different mechanical binders.		
	E. Field trip to binders and publishers		
VII.	Packing (Product Fulfillment)	2	0
	A. Know the importance of correct packaging		
	B. Know the disadvantage of unlabeled quantities		
	C. Know how packages are labeled		
	D. Know the advantages and disadvantages of skid packaging		
VIII.	Auxiliary Finishing Operations	1	0
	A. Foil stamping		
	B. Blind embossing		
	C. Die cutting		

IX.	New Technologies A. Know different procedures performed in line B. Know modern method of signature storage and retrieval C. Be able to identify integrated finishing systems	2	0
X.	Tests, performance tests and instructor demonstrations	5	6
XI.	Evaluation of Student Learning	2	0
	Total	30	90

MINIMUM REQUIRED STUDENT LAB ACTIVITIES DEFINED

1. Buckle folder operation:
   Set-up and operate folder using different plates
   Set-up and operate folder using the right angle attachment

2. Combination folder operation:
   Set-up and operate folder using plates and knives to produce various folds.

3. Paper cutting exercise:
   Determine best method of making cuts, program cutter and cut stock to determined size.
   Change knife.

4. Mechanical binding exercise:
   Set-up and operate wire stitcher, paper drill and bind using mechanical binders.

5. Set-up and operate gather/stitcher/trimmer equipment:

6. Production binding:
   The students are required and encouraged to use lab time to finish products in process from production printing.
   Due to the inherent complexities of these projects, lab time will be allocated to discuss these problems and how to overcome them.

revised 11/23/99

FERRIS STATE UNIVERSITY
COLLEGE OF TECHNOLOGY
PRINTING AND IMAGING TECHNOLOGY
MANAGEMENT DEPARTMENT

COURSE OUTLINE

COURSE TITLE: PTEC 132: Digital Scanning and Tone Reproduction

COURSE DESCRIPTION: Theory and methods of bitmap and grayscale digital imaging on the Macintosh platform, including scanning, imagesetting, and proofing. Issues of resolution, gray levels, printing characteristics and halftone screening are emphasized. Theory is supplemented with laboratory exercises, and the principles of tone reproduction for quality printing are examined in depth using Photoshop and QuarkXpress application programs. The purpose of this class is to provide a strong foundation for understanding color reproduction.

CREDIT HOURS: Three

CONTACT HOURS: Lecture: 2 hours/week
Lab: 3 hours/week
NOTE: Students will be expected to spend time outside of scheduled lab hours working on projects in the Mac lab.

PREREQUISITE: None

TEXTBOOK: Scanning: The Professional Way by Sybil Ihrig, etc., published by Osborn McGraw-Hill

MATERIALS REQUIRED: 8 to 12 power magnifying glass, reflection gray scale, accurate ruler, Sharpie permanent marker, pocket calculator, three ring notebook, several lab report folders, and a Zip cartridge.

MAJOR UNITS OF INSTRUCTION AND STUDENT LEARNING GOALS

		Time Weight LEC	LAB
I.	Introduction to Monochrome Images	1	
	A. Know course goals and attendance policy, lab policies and safety procedures.		
	B. Describe the characteristics of line and continuous tone monochrome originals		

C. Describe the difference and necessity for both negative and positive film images within various reproduction systems.
D. Describe the nature of digital images as they are represented by the various devices in DTP.
E. Describe the uses and applications of monochrome imaging in the printing industry.

II. Desktop Publishing Equipment 2
A. Recall the primary equipment components and minimum specifications for commercial quality color publishing.
B. Recall the lab specific equipment configuration and specifications.
C. Discuss the care and handling of digital equipment
D. Describe the primary function of the various components of the prepress system:
1. input options
2. workstation and CPU
3. peripheral storage
4. printers and imagesetters

III. Introduction to Digital Imaging on the Desktop Macintosh Platform. 1 3
A. Identify and discuss the essential characteristics of the Mac platform.
B. Identify and discuss the essential software necessary for monochrome scanning, imaging manipulation, and image editing.
C. Understand the various transformations that occur in the digitizing process in DTP.
D. Discuss the essential nature of line and halftone imaging knowledge.

IV. Digital Imaging Using Bitmaps (Line Art or Type) 2 9
A. Describe the procedure for scanning a bitmapped image at various pixel resolutions.
B. Describe the relationships and rules of thumb between sampling and resizing a bitmapped image.
C. Crop and touch up a bitmapped image in Photoshop.
D. List and describe the dominant characteristics of the most used file formats for exporting to page make-up application programs.

E. Describe the procedure to construct a Quark page and import bitmap images.

F. Describe the procedure for setting up printer and printer driver and for printing from QuarkXpress.

G. Discuss the relationship of scan and file resolution and image quality in relation to bitmapped images.

H. Discuss the relationship between imagesetter or printer resolution and image quality in relation to bitmapped images.

I. Discuss the function of the "threshold" control when scanning bitmapped images.

V. Digital Halftone Reproduction 4 15

A. Discuss the settings and procedure for scanning grayscale images.

B. Explain the nature of pixel resolution and the difference between bitmap and grayscale images.

C. Discuss the relationship between halftone dot resolution, imagesetter resolution, and gray levels, and its effects upon the quality of halftone reproduction.

D. Describe how Gamma curves (TR curves) within Photoshop are used to adjust highlight and shadow dot sizes for two aim point control halftones.

E. Describe how Gamma curves (TR curves) are used for three aim point control, adjust reproductions for various paper/ printing characteristics, and for copy characteristics.

F. Calculate the recommended scanning resolution for various copy so as to conform to the proper file vs. screen ruling ration in the final piece.

G. Outline the procedure for combining halftone images with text in a page layout program.

H. Discuss the effects of dot shape or geometry on tone production characteristics of a final printed piece.

I. Discuss the relationships between halftone screen ruling, image detail and sharpness, and its possible trade off with gray levels in relation to quality.

J. Outline the procedure for silhouetting an image within Photoshop.

K. Discuss the procedure and critical considerations in rescanning a halftone, and demonstrating knowledge of techniques to reduce chances of moire.

L. Discuss the procedure and considerations for producing duotones.

VI.	Imagesetting Technologies A. Know the function and purpose of Postscript Interpreters (RIP) B. Understand the theory of digital halftone dots C. Appreciate halftone screen angles and grid geometry D. Be able to set up the application and RIP to output film	5	3
VII.	File Formats	2	3
VIII.	Digital Proofing Devices and Technologies	2	3
IX.	Digital Imaging Concerns and Related Issues A. Define continuous tone copy, and the primary ways it is classified for halftone reproduction. B. Discuss why the halftoning is necessary for traditional impact printing processes. C. Visually discriminate between highlight, midtone and shadow dots. D. Visually determine the relative size of highlight and shadow dots within three percent of actual size. E. Define density. F. Discuss the advantages of using densitometry in halftone reproduction. G. Describe the appropriate way to measure the density of photographic copy and gray scale. H. Discuss the relationship between density and reflection, and density and exposure. I. Construct and interpret tone reproduction curves in relation to characteristics of original copy and printing characteristics (ie. notably dot gain). J. Discuss the relationship of tone reproduction and printing and press characteristics.	8	3
X.	Plant Visitation		3
XI.	Evaluation of Student Learning	3	3
	TOTAL	30	45

MINIMUM REQUIRED STUDENT LAB ACTIVITIES DEFINED

1. Orientation and introduction to desktop imaging lab.
2. Bitmap scanning and imaging lab 2: scan resolution and quality.
3. Gray levels, printers, and halftone resolution lab.
4. Producing line negatives from poor and fine line copy lab.
5. Introduction to scanning grayscale images in Photoshop.
6. Quark page layout and the utilization of line and halftone art.
7. Rescanning halftone/copy dot lab.
8. Digital duotone lab.
9. Merging images in Photoshop lab.
10. Silhouetting halftones in Photoshop and importing to QuarkXpress lab.
11. Tone reproduction for variable copy lab (ie. as in high key vs. low key copy)
12. Tone reproduction for variable printing characteristics lab.

FERRIS STATE UNIVERSITY
COLLEGE OF TECHNOLOGY
PRINTING AND IMAGING TECHNOLOGY
MANAGEMENT DEPARTMENT

COURSE OUTLINE

COURSE TITLE: PTEC 143: Photographic Imaging and Assembly

COURSE DESCRIPTION: Designed to introduce the student to photographic imaging and conventional manual film image assembly. Primary emphasis of the course is to teach students a variety of conventional prepress techniques which incorporate reproduction photography, contact printing, emulsion-up image assembly, imposition strategies, complementary flats, color image assembly, and platemaking procedures.

CREDIT HOURS: Four

CONTACT HOURS: Lecture: 2 hour/week
Lab: 6 hours/week

PREREQUISITE: None

TEXTBOOK: Understanding Digital Imposition, by Hal Hinderliter published by GATF (Graphic Arts Technical Foundation, Pittsburgh, PA).

MATERIALS REQUIRED: 10 or 12 power magnifying glass (linen tester), two different colored extra fine tip ball point pen, pocket calculator, T-square, triangle, 24" metal ruler, x-acto knife and extra blades, scissors, 4 register pins, and a report folder.

MAJOR UNITS OF INSTRUCTION AND STUDENT LEARNING GOALS

		Time Weight LEC	LAB
I.	Fundamentals of Photographic Imaging and Assembly	9	20
	A. Know the course goals and attendance policy		
	B. Understand the role that photographic imaging and assembly plays in the printing process		
	C. Learn the characteristics of graphic arts films		
	D. Understand the exposure of graphic arts films		
	E. Learn how graphic arts films are processed		
	F. Understand line and halftone photography		
	G. Understand contact photography		

H. Understand the role of the stripper
I. Understand the function of stripping in the lithographic process
J. Able to use the various stripping tools and equipment
K. Learn proper care and safety in handling stripping tools and equipment
L. Identify and choose the correct masking material for a particular job
M. Understand the stripper's role in quality control
N. Learn cutting, taping, and opaquing techniques
O. Understand the various classifications of image assembly

II.	Single Color	12	49

A. Learn how to layout the flat
B. Understand the various press and bindery specifications that affect laying out the flat
C. Learn flat registration techniques
D. Able to assemble press and bindery marks
E. Understand the various impositions
F. Able to choose the correct imposition for various jobs.
G. Able to strip one-sided, sheetwise, work & turn, and work & tumble impositions
H. Identify the anatomy of a printed page
I. Learn assembly procedures for signatures
J. Able to assemble step and repeat layouts
K. Learn to assemble jobs requiring complementary flats
L. Learn the various tint screen specifications
M. Understand the differences between moire and rosette patterns
N. Able to assemble tint screens

III.	Color Image Assembly	4	15

A. Able to assemble spot color jobs
B. Understand process color
C. Able to strip fake color and color separation
D. Understand the need for trapping images
E. Able to produce a choke and spread
F. Learn techniques for determining the amount of trap
G. Understand how to use the Pantone Matching System

IV.	Lithographic Platemaking	2	6

A. Understand how a lithographic plate works
B. Understand the various classifications of plates
C. Able to expose and process a subtractive plate

V.	Evaluation of Student Learning	3	0
	Totals	30	90

MINIMUM REQUIRED STUDENT LAB ACTIVITIES DEFINED

1. Photographic Imaging--the student will reproduce the necessary films needed in the various image assembly labs.

2. One-sided Impositions--the student will image the films and assemble one emulsion-down and two emulsion-up single sided stripping flats utilizing the common edge registration method.

3. Two-sided Impositions--the student will image the films and assemble pin registered emulsion-up jobs incorporating work & turn, work & tumble, and sheetwise impositions.

4. Signature Impositions--the student will image the films and assemble an emulsion-up 16 page booklet using a sheetwise imposition and a matching booklet cover using a work & turn imposition.

5. Step & Repeat Techniques--the student will image the films and assemble jobs that include notched and pin registered step and repeat techniques.

6. Tint Screens Assignments--the student will complete projects which incorporate knockouts, surprints, and cross screening within jobs that contain tint screen panels.

7. Color Stripping--the student will strip jobs that involve spot color, trapping with chokes and spreads, and process color.

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COURSE OUTLINE

COURSE TITLE: PTEC 153: Electronic Pagination Systems 1

COURSE DESCRIPTION: A course in computerized typography, page make-up, conventional and modern layout. Desktop composition software will be utilized to present typographic procedures, including mark-up, text preparation, page make-up, proofreading, typographical measure, and typographical treatment. Composition terminology, software competency, and fundamental mechanical art preparation are also integral parts of the course. Keyboarding skills suggested.

CREDIT HOURS: Four

CONTACT HOURS: Lecture: 2 hours/week
Lab: 6 hours/week

PREREQUISITE: None

TEXTBOOK: Adobe PageMaker 7.0

MATERIALS REQUIRED: Typesetting E-scale, two (2) 100mb Zip Disks (Macintosh formatted), one (1) letter-sized manila folder and one portable copy stand.

MAJOR UNITS OF INSTRUCTION AND STUDENT LEARNING GOALS

		Time Weight LEC	LAB
I.	Course Introduction	1	3
	A. Know the course grading and attendance policies.		
	B. Know required lab procedures.		
	C. Learn proper care of equipment and supplies.		
	D. Understand the function of the composition department in the printing vocation.		

II.	Introduction to Equipment and Software	3	6
	A. Identify and explain the function of the major components of a typesetting system.		
	B. Know how to power up the system.		
	C. Understand disk preparation.		
	D. Understand the desktop screen.		
	E. Learn the capabilities of the operating program.		
	F. Be able to utilize the screen manipulation features of operating system.		
	G. Use the operating system to access different applications.		
	H. Know how to use the file manager for disk maintenance.		
	I. Understand proper shut down procedures.		
III.	Introduction to PageMaker	2	6
	A. Know how to launch program.		
	B. Learn the major components of the PM desktop screen.		
	C. Learn the functions of the file menu commands.		
	D. Know the three methods of entering data in a dialogue box.		
	E. earn the functions of the save and save as...commands.		
	F. Be able to designate file addresses.		
	G. Understand the title bar information.		
IV.	PageMaker Program Features	10	41
	A. Be able to retrieve files.		
	B. Understand to page set-up dialogue box.		
	C. Know the functions of the toolbox icons.		
	D. Learn the specified keyboard shortcuts.		
	E. Identify the major typographical elements and how to use PM to control them.		
	F. Create text blocks.		
	G. Understand the function of master pages.		
	H. Use PM to control word and lettering spacing features.		
	I. Be able to set column text.		
	J. Understand tabular composition.		
	K. Know the proper hyphenation rules.		
	L. Learn to manipulate multiple stacked items.		
	M. Understand the use of the place command.		
	N. Create a style palette.		
	O. Create a color palette.		
	P. Use the print command features.		
V.	Printer's Measurement System	1	3
	A. Know why the point system was adopted.		

B. Understand the relationship of points, picas and inches.
C. Know which typographical elements are measured in points and picas.
D. Know the five character measurement lines.
E. Use the E-scale to measure type size and line spacing.
F. Learn the standard type sizes.
G. Know the basic rule sizes.

VI. Proofreader's Marks 1 3
A. Identify and understand the specified proofreader's marks.
B. Know how to properly mark copy.

VII. Scanning 1 6
A. Learn the proper operating procedures for the scanner.
B. Know how to properly clean the scanner.
C. Understand the major scanning formats.
D. Incorporate a scanned image into the page make-up program.

VIII. Classification of Typefaces 2 3
A. Know the features for the basic type styles.
B. Learn the specified classifications
C. Identify samples of each classification

IX. Text Preparation 1 6
A. Understand the advantages of using word-processing software for text preparation
B. Know how to prepare text for importing to a page make-up program
C. Use word-processing and page make-up software to complete camera ready copy

X. Copyfitting 2 3
A. Understand the uses of copyfitting procedures
B. Know the elements of composition used in copyfitting
C. Understand and use copyfitting formulas
D. Be able to calculate:
1. copy area for different types of layouts
2. total character count
3. required type size and lines spacing
4. required number of printed pages

XI. Mechanical Art Preparation 2 6
A. Understand the function of mechanical art
B. Identify the specified tools

C. Understand mechanical art techniques for preparation and use of:
   1. base art
   2. printing control marks
   3. overlays
      a. spot color
      b. tint screen
      c. reverses

XII. Student Evaluations

	4	4
Total	30	90

MINIMUM LAB ACTIVITIES DEFINED

Introductory Lab - Student will use PageMaker to properly compose a specified page format including (1) properly setting page orientation, (2) designating printing areas, (3) producing four types of borders at specified locations, (4) performing printer set-ups, (5) producing printed copies of each page, (6) saving their files in the required format and (7) laser printing each format.

Graphics Lab - Student will use PageMaker graphic tools to match a supplied page with various graphic formations at specified locations and arrangements and laser print the finished product.

Text Lab - Student will complete a page with a photo box headline and two different text blocks with specified attributes at required locations. The page will be laser printed and should be grammatically correct.

PageMaker Workbook Lab - Student will produce a double-sided 8-1/2 x 11 3-panel brochure by placing text and graphics into position and applying the proper text attributes according to designated instructions. In addition, the student will produce a double-sided 8-1/2" x 11" catalog page with required specifications. Both pages will be laser printed in finished formats.

Column Text Lab - Student will typeset a 2-column text page according to specified attributes in two required formats. Both finished pages will be laser printed.

Tabular Text Lab - Student will typeset a given project according to required specifications. Finished project will be laser printed.

Work Processing Lab - Using the required program, student will typeset given text in the proper format and import it into the page make-up program. Finished project will be laser printed.

Mechanical Art Lab - Student will typeset supplied copy according to designated instructions and use it to prepare a business card, letterhead and #10 envelope in the required formats.

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COURSE OUTLINE

COURSE TITLE: PTEC 161: Sheetfed Offset Presswork I

COURSE DESCRIPTION: Theory and operation of sheetfed offset presses. Extensive demonstration and practice in set-up, make ready, running, press adjustments, troubleshooting and chemistry of lithography. Includes care, maintenance and performance capabilities, of modern presses including inking and dampening systems.

CREDIT HOURS: Four

CONTACT HOURS: Lecture - 2 hours/week
Lab - 6 hours/week

PREREQUISITE: None

TEXTBOOK: Sheetfed Offset Press Operating, by Dejidas, published by GATF

MATERIALS REQUIRED: Linen tester, 6 ft. metric tape measure

UNITS OF INSTRUCTION AND STUDENT LEARNING GOALS

		TIME WEIGHT Lec. Hrs.	Lab Hrs.
I.	Introduction, Orientation and Safety	1	3
	A. Know the course goals, attendance policy, grading schedule, safety rules and regulations and materials required.		
	B. Know the location of equipment in the lab. Know proper use of pressroom chemicals.		
II.	Terminology	1	0
	A. Understand the terms used in the printing industry and the importance of using the correct terminology.		

III.	Introduction to Lithography	1	0
	A. Know the offset method		
	B. Know the principles of image and non-image separation		
	C. Understand the difference between duplicators and offset printing presses		
	D. Know how offset plates are created		
IV.	Introduction to the Printing Press	3	6
	A. Know the different types of feeders		
	B. Know the different types of deliveries		
	C. Know the different printing unit designs		
	D. Maintenance of printing presses		
V.	Register Systems	2	3
	A. Understand how push guides work		
	B. Understand how pull guides work		
	C. Know how feed cams operate		
	D. Understand the principles of three point registration		
VI.	Cylinders of the Press	2	3
	A. Know the cylinders in a press		
	B. Know the functions of each cylinder		
	C. Be able to describe parts of the cylinder		
VII.	Different Press Designs	2	0
	A. Be able to identify a unitized press		
	B. Be able to identify a common impression cylinder press		
	C. Understand how perfecting presses operate		
VIII.	Inking Systems	3	6
	A. Be able to identify rollers in the inking system		
	B. Know the different materials used to cover rollers		
	C. Know different inking system designs		
	D. Understand adjustments of the inking system		
	E. Understand the care and maintenance of the inking system		
IX.	Dampening Systems	3	6
	A. Be able to identify rollers in the dampening system		
	B. Know the different materials used to cover rollers		
	C. Know different dampening system designs		
	D. Know the settings of the dampening system		
	E. Understand the care and maintenance of the dampening system		

X.	Offset Blankets	1	3
	A. Know different types of blankets		
	B. Be able to identify different blankets		
	C. Know the proper care of offset blankets		
XI.	Lithographic Inks	2	6
	A. Know different ingredients of inks		
	B. Know different inks used in lithography		
	C. Know how inks dry		
	D. Be able to identify ink problems		
	E. Be able to mix PMS colors		
XII.	Fountain System Solution	1	0
	A. Know ingredients in solutions		
	B. Be able to determine Ph		
	C. Know how fountain solutions work		
XIII.	Paper	2	0
	A. Know the classifications of paper		
	B. Know the drying properties of different papers		
	C. Know the print characteristics of different papers		
	D. Know how water affects paper		
	E. Know how environment affects paper		
XIV.	Printing Quality	1	0
	A. Be able to identify press problems		
	B. Know how to identify ink and water problems		
	C. Be able to identify paper problems		
	D. Understand how densitomers work		
XV.	Students Assigned to Printing Presses	0	54
	A. Be able to set feeder		
	B. Be able to register paper		
	C. Be able to plate all presses in lab		
	D. Be able to ink press		
	E. Demonstrate proper running and inspection of a job		
	F. Demonstrate proper clean up procedures		
XVI.	Student Evaluations	5	6
		30	90

MINIMUM REQUIRED STUDENT LAB ACTIVITIES DEFINED

1. G.T.O. 1/c project
Set up and register a single color project.

2. G.T.O. 2/c project
Set up and register a two color project.

3. MO-E 1/c project
Set up and register a single color project.

4. MO-E 2/c project
Set up and register a two color project.

5. Miehle 1/c project
Set up and register a single color project.

6. Miehle 2/c project
Set up and register a two color project.

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COURSE OUTLINE

COURSE TITLE: PTEC 232: Digital Color Imaging

COURSE DESCRIPTION: Theory and methods of creating and handling digital color files and color pages on the Macintosh platform, including rotary drum and flatbed scanning, color correction, image editing, imagesetting and proofing, and color management. The principles of tone reproduction, gray balance, gray component replacement, trapping, pre-flighting, and related technologies are also reviewed. Photoshop and QuarkXpress are the primary software used.

CREDIT HOURS: Three

CONTACT HOURS: Lecture: 2 hours/week
Lab: 3 hours/week
NOTE: Students will be required to perform lab work outside of scheduled class hours.

PREREQUISITES: PTEC 132: Digital Scanning and Tone Reproduction and
PTEC 153: Electronic Pagination Systems 1

TEXTBOOK: Understanding Digital Color, Hal Hinderliter published by GATF
by Dan Margulis.
Photoshop tutorial (supplied by instructor)

MATERIALS REQUIRED: 10 or 12 power magnifying glass, reflection gray scale, accurate ruler, pocket calculator, three ring notebook, two lab report folders, graph paper, flexible curve, 100MB Zip disk.

MAJOR UNITS OF INSTRUCTION AND STUDENT LEARNING GOALS

		Time Weight LEC	LAB
I.	Historical Perspective of Color Separations, and CEPPS	1	
	A. Discuss the development of color printing since the nineteenth century.		
	B. Recall the decade in which electronic scanning became a viable and accepted technology for color separation.		

C. Discuss the evolution of high end CEPPS systems.
D. Name three technological developments that made electronic scanning viable.
E. Discuss the evolution of digital color on the Mac/PC platform.
F. Discuss the evolution of technology which contributed to the rapid growth of printing from WWII up until the viability of rotary drum scanners.
G. Discuss the evolution of high, mid-range, and low end platforms.

II. Color Theory in a Digital Age 3 6

A. Describe the visible electromagnetic spectrum in terms of both wavelengths and its primary color bands.
B. Describe the characteristics of human vision, and discuss how this corresponds to or complements the existing color models.
C. Recall the characteristics and differences between the additive (RGB) and subtractive (CMYK) color models.
D. Recall the absorptive and reflective difference between ideal and real (i.e. SWOP) process inks, and describe how this translates into color shifts in the printing process.
E. Recall the formulas for hue error and grayness, and calculate HE and G percentages for various ink sets given appropriate solid ink density data.
F. Describe the absorptive characteristics of color filters, and how they are used in the color separation and densitometric processes.
G. Discuss the characteristics and differences of scanned vs. fake or synthetic process color, vs. the characteristics of flat or spot or special colors.
H. Discuss the characteristics of the other dominant color models (i.e. HSV or HSB, CIE Lab, CIE xyz, and special synthetic color systems.)

III. Review of Digital Halftone Fundamentals 1 0

A. Discuss dot function, imagesetters and their tone reproduction considerations.
B. Explain imagesetter resolution, halftone lpi and gray levels as a quality characteristic.
C. Recall the meaning and significance of two vs. three vs. five aim point control.
D. Calculate gray levels given appropriate imagesetter and halftone specs.

IV.	Color Scanners	2	6
	A. Distinguish the characteristics of the flatbed vs. rotary drum scanner.		
	B. Describe the characteristics of CCD vs. PMT technology.		
	C. List the most common scanner classifications.		
	D. List the most important scanner configurations and specifications.		
	E. List and discuss the criteria for selecting a scanner to meet specific production requirements.		
	F. Outline the steps and critical software and hardware settings for scanning continuous tone color on the rotary drum scanner		
	G. Outline the steps and critical software and hardware settings for scanning continuous tone color on a flatbed scanner.		
V.	Integration of Photoshop with Other Prepress Software Applications	3	6
	A. Be able to use QuarkXpress in conjunction with Photoshop		
	B. Be able to use Illustrator in conjunction with Photoshop and QuarkXpress		
	C. Be able to construct color pages in QuarkXpress		
VI.	Color Correction, Image Editing and Gray Balance	6	9
	A. Recall the definition of color correction within the digital environment.		
	B. Discuss the relationship between tone reproduction and color correction.		
	C. Recall the underlying problems which gray balance and color correction attempts to redress, and compensate for.		
	D. Discuss the importance of gray balance in maintaining quality in the color reproduction process.		
	E. Outline the recommended procedure for correcting color files (color separations) using the tools available within Photoshop.		
VII.	Related Digital Color Technology	9	3
	A. Describe the nature of Frequency Modulated or Stochastic Screening.		
	B. Describe the characteristics of hi-fi color printing		
	C. Recall the names and advantages and weaknesses of the most common file formats used for digital color on open systems.		
	D. Describe the meaning and nature of Postscript.		

E. Discuss the importance which Postscript has played in the development of digital color within the printing industry.

F. Outline the process of color creation and the nature of color architecture on the Mac platform.

G. Calculate the color variations relative to pixel depth. Discuss the relationship of file size to file resolution.

H. Discuss the limitations CPU, RAM, imagesetter, and RIP specifications can potentially impose upon productivity.

I. Recall the various device resolutions which directly affect productivity and quality of reproductions.

J. Explain the importance of the ratio of file resolution to screen ruling of halftones and color separations in terms of quality and productivity.

K. Recall the meaning of SWOP and the relative standards for screen ruling, dot gain, SID, and selected other specifications.

L. Recall the meaning of SNAP, and how press color bar specifications differ from SWOP.

M. Describe the nature of manual dot etch methods (i.e. dry and wet etching).

N. Discuss the advantages and disadvantages of Photoshop and QuarkXpress for various type and graphics operations and production functions.

O. Describe the characteristics of object (vector) and bitmapped images, and discuss the advantages of each format.

P. Discuss the nature of USM and other digital sharpening functions available in Photoshop and other similar programs.

Q. Describe the nature of replication and interpolation and give examples of where these functions are used in the digital imaging process.

R. Discuss the function of the RIP in relation to application programs and the imagesetter.

VIII. Gray Component Replacement and Under Color Removal 1 3

A. List the primary reasons for utilizing UCR and GCR in process color production.

B. Articulate two major differences between UCR and GCR.

C. Describe the manner of specifying UCR and what that means in terms of actual ink on paper.

D. Describe the manner of specifying GCR.

E. Explain the meaning of gray stabilization.

IX.	Color Proofing	1	6
	A. Identify the distinguishing characteristics of the major proofing systems.		
	B. Articulate the differences between overlay and laminant type film generated color proofing systems.		
	C. Name and describe several dominant technologies used in digital proofing systems.		
	D. Discuss current trends in color proofing.		
X.	Color Viewing Standards for the Graphic Arts	1	
	A. List the five general areas or types of criteria necessary within the printing industry to conform to standard.		
	B. Recall the correlated color temperature requirement for the graphic arts.		
	C. Discuss the meaning and nature of correlated color temperature, and the difference between degrees Kelvin, and Kelvins.		
	D. Articulate several reasons that color viewing standards are important and necessary within the printing industry.		
XI.	Plant Visitation		3
XII.	Evaluation of Student Learning	2	3
	TOTAL	30	45

MINIMUM REQUIRED STUDENT LAB ACTIVITIES DEFINED

1. Selected Photoshop tutorials.
   Student will successfully complete selected Photoshop tutorials often outside of class.

2. Intro to flatbed scanning color originals.
   Student will adjust tone and other characteristics to achieve optimum scanning results.

3. Intro to rotary drum scanning.
   Student will review rotary drum fundamentals, dry and oil mounting, and basic tone and color adjustments.

4. Scanning poor color continuous tone copy.

Student will make scanning adjustments to compensate for various deficient copy.

5. Intro to Photoshop color correction tools.
   Student will correct electronic files using selected Photoshop color correction tools.

6. Correcting colorcast originals.
   Student will correct colorcast originals supplied by instructor.

7. Repairing damaged files.
   Student will repair color files supplied by instructor.

8. Matching color originals.
   Student will attempt to match H,S and V of original using various color correction tools.

9. Gray balance.
   Student will gray balance an unbalanced gray scale file and proof.

10. GCR/UCR.
    Student will apply prespecified UCR and GCR specs in Photoshop and proof.

11. Color page make-up.
    Student will construct a complex color page following a prespecified layout and specifications.

12. Laminant color proofing.
    Student will proof approved color Quark pages.

13. Plant visitation.

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COURSE OUTLINE

COURSE TITLE: PTEC 243: Digital & Color Image Assembly

COURSE DESCRIPTION: Primary emphasis involves students in advanced conventional color image assembly and digital stripping techniques. Specific topics include stripping spot and process color, chokes and spreads, digital imposition and trapping and digital fake color. Imagesetter, digital color proofing, and computer-to-plate technology will also be discussed. Students will perform these advanced image assembly techniques through lab assignments which will be accomplished in a conventional and digital electronic prepress environment.

CREDIT HOURS: Three

CONTACT HOURS: Lecture: 1 hours/week
Lab: 6 hours/week
NOTE: Students will be required to perform lab work outside of scheduled class hours.

PREREQUISITE: PTEC 143: Photographic Imaging and Assembly

TEXTBOOK: Understanding Digital Imposition, by Hal Hinderliter, published by GATF, Pittsburgh, PA.

MATERIALS REQUIRED: T-square, triangle, 24" metal rule, x-acto knife, scissors, 4 register pins, 10 or 12 power magnifying glass (linen tester), permanent marker, 2 extra fine tip ball point pens (green and black), calculator, OO opaque brush, and 100Mb Zip disk.

MAJOR UNITS OF INSTRUCTION AND STUDENT LEARNING GOALS

		Time Weight LEC	LAB
I.	Basic Image Assembly Techniques	3	7
	A. Know the course grading and attendance policies.		
	B. Understand the function of film image assembly in the lithographic process.		
	C. Learn proper care of stripping/platemaking equipment and tools.		

	D. Understand the variables that affect the layout of the flat.		
	E. Be able to rule out an emulsion-up flat.		
	F. Understand the various impositions used in the printing process.		
	G. Know the parts of a book signature.		
	H. Understand the concept of binder's creep.		
	I. Be able to strip multiple signatures using various binding methods.		
	J. Be able to setup a job on a step and repeat pin register system.		
	K. Understand the differences between lithographic plate characteristics.		
	L. Learn how to troubleshoot the symptoms of common plate problems.		
	M. Be able to hand and machine process subtractive plates		
II.	Color Image Assembly	4	36
	A. Understand the theory of color and light.		
	B. Learn the various color models used in printing.		
	C. Be able to produce contact films and proofs.		
	D. Understand how chokes and spreads are produced to create color traps.		
	E. Understand the purpose of color bars.		
	F. Be able to strip spot color jobs.		
	G. Be able to strip fake color jobs.		
	H. Be able to strip color separations.		
	I. Learn the limitations of process color.		
	J. Learn conventional color proofing techniques.		
III.	Digital Image Assembly	6	40
	A. Understand the impact that digital image assembly has on the printing industry.		
	B. Demonstrate a working knowledge in an electronic color Be able to electronically impose digital pages utilizing dedicated imposition software.		
	D. Learn how digital files are stored and output on an electronic color prepress work station.		
	E. Be able to produce fake color using various image creation software		
	F. Be able to produce object oriented traps from page layout software.		
	G. Be able to create digital traps from a dedicated trapping software application.		
	H. Understand digital color proofing and its advantages.		
	I. Understand direct-to-film/plate technology.		
IV.	Evaluation	2	0
	Totals	15	90

MINIMUM STUDENT LAB ACTIVITIES DEFINED

1. *Basic Imposition* - the student will manually strip a sheetwise, work & turn, and work & tumble imposition and produce a proof to check accuracy.

2. *Pin Register Step & Repeat* - the student will strip a multiple-up step & repeat flat that will be proofed using a stepping board and pin system.

3. *Digital Imposition* - the student will impose two saddle stitched books, one perfect bound book along with covers that will be in a work & turn imposition utilizing a digital imposition software application.

4. *Spot Color Image Assembly* - the student will manually strip two-color jobs with multiple screened images that will require multiple complementary flats.

5. *Fake Color Image Assembly* - the student will create a conventional fake color job from line copy. The student will be required to match colors using a process color book.

6. *Digital Fake Color Image Assembly* - the student will create fake color from a scanned line image utilizing an electronic paint software application, create an EPS file which will be imported into page layout software application where fake color type will be added to the design and output to CMYK separations on an imagesetter.

7. *Color Separation Image Assembly* - the student will manually strip two jobs which require stripping conventional color separations manually on a light table.

8. *Combination Manual & Digital Image Assembly* - the student will produce a job requiring fake color type created with a page layout software application within a set of conventionally created color separations.

9. *Digital Trapping* - the student will create specialized traps utilizing a dedicated trapping software application.

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COURSE OUTLINE

COURSE TITLE: PTEC 251: Introduction to Estimating

COURSE DESCRIPTION: Designed to introduce the printing student to the basics of estimating the cost of a printed job. Each printing operation will be surveyed, and methods of determining their costs will be discussed. Use of the paper catalog and paper pricing will be studied along with the economical use of time and materials.

CREDIT HOURS: Two

CONTACT HOURS: Lecture 2 hours/week

PREREQUISITE: PTEC-123 Bindery and Finishing Operations

TEXTBOOK: None

MAJOR UNITS OF INSTRUCTION AND GOALS FOR EACH UNIT:

		Time Weight Lecture Hours
I.	Introduction and Orientation	1
	A. Know course goals	
	B. Know attendance and grading	
II.	The Work Station or Cost Center	3
	A. Define cost center	
	B. Calculate hourly cost of a cost center	
	C. Determine cost of each center	
III.	Percentage Markup	1
	A. Determine costs	
	B. Calculate selling price	
	C. Determine profit	

IV.	Other Methods of Estimating	1
	A. Understand different methods of estimating	
V.	Paper	11
	A. Know paper packaging	
	B. Know the most used papers	
	C. Understand basic weights and sizes	
	D. Identify the various kinds of paper	
	E. Know square inch method	
	F. Know DSN method	
	G. Determine sheets required	
	H. Understand signatures	
	I. Determine signature spoilage	
	J. Determine job spoilage	
	K. Utilize the paper Catalog	
	L. Understand cwt method	
	M. Understand the M sheet method	
VI.	Composition Costs	2
	A. Understand different methods of costing composition	
VII.	Ink Cost	2
	A. Understand different methods of finding ink costs	
VIII.	The Cost of Supplies	1
	A. Determine cost of miscellaneous supplies	
IX.	Assembling Costs	2
X.	Estimating the Job	2
IX.	Evaluation	4
	A. Quizzes and tests	
	Total	30

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MANAGEMENT DEPARTMENT

COURSE OUTLINE

COURSE TITLE: PTEC 253: Electronic Pagination Systems 2

COURSE DESCRIPTION: Students will become familiar with page makeup and graphics programs using the personal computer. Continuing emphasis will be on proper typeface selection, kerning, letter and word spacing, and multiple-page document text manipulation using a page makeup program. Additional emphasis will be placed on using a graphics program for scanning, creating templates, tracing, and creative adjustments to imported artwork.

CREDIT HOURS: Three

CONTACT HOURS: Lecture: 2 hours/week
Lab: 3 hours/week
NOTE: Students will be required to perform lab work outside of scheduled class hours.

PREREQUISITE: PTEC 153: Electronic Pagination Systems 1

TEXTBOOK: Adobe Illustrator Classroom in a Book, version 10.0, published by Adobe Press

MATERIALS REQUIRED: Typesetting E-scale, two (2) 100mb Zip Disks (Macintosh formatted), one (1) letter-sized manila folder, and one portable copy stand.

MAJOR UNITS OF INSTRUCTION AND STUDENT LEARNING GOALS

		Time Weight LEC	LAB
I.	Course Introduction	1	2
	A. Know the course grading and attendance policies		
	B. Know required lab procedures		
	C. Know proper care of equipment and supplies		
	D. Understand the skills required for entry level typographers		
	E. Know the relationships and uses for the software used in the course		
	F. Understand the proper operation of equipment		

II.	Review of Typographic Terminology	2	3
	A. Understand type measurement		
	B. Understand type alignments		
	C. Be able to measure line spacing		
	D. Know proper use of fixed spaces		
III.	Typographic Refinements	2	6
	A. Adjust word and letter spacing		
	B. Understand x-height and optical line spacing		
	C. Know proper paragraph treatments		
	D. Learn various methods of using hanging punctuation and decorative caps		
	E. Be able to recognize specified typefaces		
IV.	Typographic Considerations for Papers	2	1
	A. Understand effect of paper surface on typography		
	B. Be able to select suitable typeface for various types of paper surfaces		
V.	Color and Typography	1	3
	A. Understand effects of colors on typographic readability		
	B. Know how to use background colors to enhance typography		
	C. Know suitable color combinations to enhance readability		
	C. Learn typographic effect of specified product and color associations		
VI.	Page Layout Software	8	13
	A. Learn to set document defaults		
	B. Be able to use the Preferences box		
	C. Be able to set typographic parameters		
	D. Understand tool box selections		
	E. Use the document layout palette		
	F. Understand master pages		
	G. Create multipage spreads		
	H. Understand typographic editing features		
	I. Use the tabulation program		
	J. Create and use style sheets		
	K. Understand importing graphics and text		
	L. Use the spot and process color features		
	M. Know how to use the print options features		
VII.	Graphics Software	8	14
	A. Understand program start-up		
	B. Create page layouts		
	C. Work with templates		
	D. Use scanned images		
	E. Know how to properly plan art work		
	F. Be able to use correction features		
	G. Use the toolbox		

H. Understand informational palettes
I. Create open and closed drawing paths
J. Manage multiple windows
K. Work with corner points
L. Draw simple geometric shapes
M. Select and arrange layers
N. Be able to adjust paths
O. Use the paint tools
P. Be able to move, copy and delete objects
Q. Understand transformation
R. Understand measuring and constraining
S. Understand blending
T. Be able to save a document in the proper format

VIII.	Student Evaluations		6	3
		Total	30	45

MINIMUM LAB REQUIREMENTS

1. Single Column Text
   Student will compose a single column text page in accordance with instructor requirements.

2. Multiple Column Text
   Student will compose a multi-column text page in accordance with instructor requirements.

3. Imported Text and Graphics
   Student will compose a page in accordance with instructor requirements using imported text and graphic files.

4. Special Feature Lab
   Student will compose and modify a page using the special features of the composition program as determined by the instructor.

5. Single Element Lab
   Student will create a line drawing graphic in accordance with instructor requirements.

6. Multi-Layered Graphic
   Student will complete a multi-layered complex graphic in accordance with instructor requirements.

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COURSE OUTLINE

COURSE TITLE: PTEC 261 Sheetfed Offset Presswork 2

COURSE DESCRIPTION: Theory and operation of sheetfed offset presses. Extensive hands-on lab work emphasizing make-ready, press adjustments and trouble shooting. Includes care, maintenance and performance capabilities of modern presses

CREDIT HOURS: Four

CONTACT HOURS: Lecture - 2 hours/week
Lab - 6 hours/week

PREREQUISITE: PTEC 161 Offset Presswork I

TEXTBOOK: Sheetfed Offset Press Operating, by Dejidas, published by GATF

ADDITIONAL MATERIALS:
Linen tester, and 6 ft. metric tape measure

UNITS OF INSTRUCTION AND STUDENT LEARNING GOALS

		TIME WEIGHT Lec	Lab
I.	Introduction, Orientation and Safety	1	3
	A. Know the course goals, attendance policy, grading schedule, safety rules and regulations and materials required.		
	B. Know the location of equipment in the lab. Know proper use of pressroom chemicals.		
II.	Review	2	3
	A. Be able to use correct printing terminology		
	B. Recall the principles of lithography		
	C. Be able to identify the different presses in the lab		
III.	Registration	2	6
	A. Understand how running registration works		
	B. Be able to register 4/c process		
	C. Be able to identify and trouble shoot register problems		

IV.	Cylinders of the Press	3	9
	A. Be able to mount an offset blanket		
	B. Be able to change print ratio		
	C. Be able to delete and add image to plates		
	D. Be able to skew an offset plate		
	E. Know maintenance procedures		
	F. Know transfer cylinders coverings and proper care		
	G. Be able to repair a damaged blanket		
V.	Inking Systems	2	6
	A. Be able to control osculation		
	B. Be able to set ink rollers		
	C. Understand how remote control inking systems work		
	D. Understand how computer control inking systems work		
VI.	Dampening Systems	1	3
	A. Be able to determine pH and alcohol content		
	B. Be able to set roller pressures		
	C. Be able to change roller coverings		
VII.	Lithographic Inks	1	3
	A. Be able to solve ink problems		
	B. Be able to mix and match PMS colors		
	C. Be able to make transparent inks opaque		
	D. Know the ink requirement for non fibrous materials		
VIII.	Paper	1	0
	A. Be able to trouble-shoot paper problems		
	B. Know the characteristics of non fibrous materials		
	C. Know how to condition paper		
IX.	Printing Quality	2	3
	A. Be able to use a densitometer		
	B. Be able to use a packing gauge		
	C. Know the principles of spectrophotometry		
X.	Pressroom Maintenance	3	3
	A. Be able to change filters in compressors		
	B. Know how to adjust brake motor		
	C. Be able to remove fountain blade		
	D. Be able to check continuity		
	E. Know how to turn press by hand		
	F. Understand proper preventive maintenance		
XI.	Auxiliary Printing Operations	2	6
	A. Be able to apply a perf and score		
	B. Be able to run a wet and dry varnish		

	C. Understand how U.V. coater works		
XII.	Pressroom Layout A. Know the importance of goods in progress space B. Understand the proper use of working space C. Understand the fundamental elements of work flow D. Know how to plan for utilities	1	0
XIII.	Students Assigned to Equipment	0	45
XIV.	Student Evaluations	5	0
		30	90

MINIMUM LAB REQUIRED LAB ACTIVITIES DEFINED

1. Offset press
   Set up presses in lab accomplishing registration and fit

2. Four color printing
   Set up and register a set of 4/c plates, controlling density with and without a densitometer

3. Full coverage
   Set up and run a project with heavy ink coverage

4. Perforation and scoring
   Set up a press to perform perforation and scoring

5. Ghosting
   Set up and run a project controlling ink starvation

6. Computer Simulation SHOTS
   Use the SHOTS program to troubleshoot varies press-related press problems

7. Rollers
   Remove, clean and reset ink rollers in press. Remove and recover dampening rollers

8. Ink
   Mix and match PMS color. Change ink transparency and run a project using an overprint varnish

9. Production printing
   Students are required to use lab time to run jobs that are in Production Printing

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COURSE OUTLINE

COURSE TITLE: PTEC 267: Web Offset Presswork

COURSE DESCRIPTION: A course in offset printing by web (continuous roll of paper) selected by students desiring to enrich and extend their basic knowledge in the field of lithography. Technical terminology and operational techniques of pre-press stripping methods, platemaking, preparing and running the web press, problem solving and troubleshooting of presswork problems, performance testing, presswork auxiliary operations and daily maintenance will be taught.

CREDIT HOURS: Four

CONTACT HOURS: Lecture: 2 hours/week
Lab: 6 hours/week

PREREQUISITES: PTEC 132: Digital Scanning and Tone Reproduction
PTEC 143: Photographic Imaging and Assembly
PTEC 161: Sheetfed Offset Presswork I

TEXTBOOK: Web Offset Press Operating by Edward J. Kelly with David B. Crouse and Robert R. Supansic, Graphic Arts Technical Foundation, Inc. 4615 Forbes Avenue Pittsburgh, Pennsylvania 15213.

The following Press Operations Manuals are provided by the Instructor--all manuals are to be returned upon completion of the course:

(1) Goss Press Operations Manual, Number 210, MGD Graphic Systems, 5601 West 31st Street, Chicago, IL 60650

(2) Goss Pressman's Suburban Folder Manual, Number 161, MGD Graphic Systems, 5601 West 31st Street, Chicago, IL 60650

MAJOR UNITS OF INSTRUCTION AND STUDENT LEARNING GOALS

		LEC	LAB
I.	Introduction, Orientation and Safety	1	0
	A. Know the course goals, requirements, attendance policy and grading policy		
	B. Know general shop safety rules and safe work habits		
II.	Types of Web Offset Presses	2	0
	A. Be familiar with the basic web offset press designs		
	B. Recognize various press classifications and capabilities		
	C. Know the different types of products capable by various web equipment		
III.	Pre-Press Operations	6	30
	A. Know all the pre-press operations and requirements for a web newspaper press		
	B. Be able to perform all the pre-press operations for a four unit web offset press		
	C. Recognize problems and trouble shoot pre-press operations		
	D. Recognize advantages and disadvantages of orderly sequences in pre-press operations		
IV.	Press Operations	6	53
	A. Be able to perform all pre-press and initial start-up, and running operations		
	B. Know the register techniques while running		
	C. Be able to prepare and change rolls during run		
	D. Be able to set, maintain and replace rollers and parts		
V.	Trade Applications	2	0
	A. Be familiar with expectations from newspaper commercials and printing establishments		
	B. Understand the difference and the role of different web printing establishments with the graphic arts industry		
VI.	Work and Worker Traits	2	0
	A. Be familiar with job employment expectations		
	B. Understand what is expected at entry, during, and for experienced trade personnel		
VII.	History and Future of Web Offset	1	0
	A. Realize the past and recognize the future of web offset presswork		

VIII.	Paper and Other Substrates for Web Offset A. Recognize the different applications for various substrates used in web printing B. Be able to determine and select the appropriate substrates for the various kinds of equipment and finish products capable on web offset presses	2	0
IX.	Web Ink Specifications/Characteristics A. Be able to select, and determine the appropriate ink for the various substrates in web offset B. Know the specifics in matching and mixing inks achieving specified colors for web printing	2	0
X.	Evaluation A. Quizzes and Tests B. Stripping proficiency C. Press proficiency	4	6
XI.	Field Trip	2	
	Total	30	90

MINIMUM REQUIRED STUDENT LAB ACTIVITIES DEFINED

1. Stripping pages in sequence:	Set up, rule flat, assemble negatives, mount or strip in half tones, spot color and or tints completing all flats necessary for numerous multi-page productions
2. Platemaking:	Coat, burn, develop, gum and bend plates for press runs
3. Press Preparation:	Fill ink fountains, mix dampener fountain solutions, shaft,exchange and mount rolls, pack and mount plates and web press for various press runs
4. Press Operation:	Register plates, image to image, color to color, unit, and unit to folder for multi-page and multi-color press runs within trade standards
5. Roller Maintenance:	Set, clean, adjust, replace dampener system rollers, ink fountain, transfer and form rollers
6. Folder Adjustments:	Change folder from half to quarter and back for various job fold requirements. Perform all daily and weekly maintenance operations
7. Press Maintenance:	Remove, clean and exchange blankets. Grease and oil all fittings, clean and exchange oil in oil baths

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COURSE OUTLINE

COURSE TITLE: PTEC 273: Paper and Ink Technology

COURSE DESCRIPTION: Classifications of papers used in the printing processes will be studied. Paper and ink properties and their appropriate testing procedures will be discussed and demonstrated. The nature of light and color and the effects on paper and ink color will be explored. Includes a field trip to a paper making mill.

CREDIT HOURS: Three

CONTACT HOURS: Lecture: 3 Hours/week

PREREQUISITES: None

TEXTBOOKS:

MAJOR UNITS OF INSTRUCTION AND STUDENT LEARNING GOALS

		Time Weight LEC
I.	Introduction to Course	1
	A. Know the course goals, grading policy and attendance policy.	
	B. Understand, in a general way, what constitutes a printing paper and in printing ink.	
	C. Become familiar with overall manufacturing of paper.	
II.	Manufacturing of Paper	6
	A. Understand the fibrous materials which paper can be manufactured from.	
	B. Understand the difference between hardwood and softwood pulp and the physical properties each imparts on paper.	
	C. Know the various stages of paper manufacturing and describing their purpose, beginning with the harvesting of trees, converting wood into pulp, actual forming of paper, finishing procedures for printing papers.	

III. Different Classification of Printing Papers 8

A. Be able to identify the different major printing papers, ground woods, business, book papers, uncoated, coated, cover papers, and index papers.

B. Know the basic size and basic weights of each paper class.

C. Understand the physical characteristics of each paper classification.

IV. Printability Properties of Paper 5

A. Become familiar with the physical properties of paper and how each affects the printing of paper and final printed reproduction. The properties studied are the following: brightness, whiteness, color, gloss, opacity, fiber content, moisture content and PH.

B. Become familiar with the structural properties of paper and how each affects the printing of paper. These properties are blistering, compressibility, dimensional stability, fiber formation, grain of paper, porosity and surface properties.

V. Runnability Properties of Paper 3

A. Become familiar with the chemical composition properties of paper without interfering with mechanics of the press operation. These properties include adhesion to surfaces, flame resistance, moisture content, durability, resistant to water.

B. Become familiar with the structural properties of paper and their relationship to the printing of paper without interfering with the mechanics of the press operation. These properties include density of paper, basic weight, caliper of paper, sheet flatness, grain direction, porosity, surface properties.

C. Become familiar with the mechanical properties of paper and their relationship to the printing of paper without interfering with the mechanics of the press operation. These properties include bursting strength, folding endurance, stiffness, tearing resistance, tensile strength, wet strength.

VI. Paper Requirements for the Major Printing Processes 1

A. Understand why the different printing processes require paper to possess certain physical requirements. The printing processes studies are flexography, gravure, screen printing, letterpress, ink jet and major emphasis on lithography.

VII. Paper Handling and Paper Protection 2

A. Become familiar with the devices used to transport sheeted paper and roll paper in printing companies.
B. Understand the term relative humidity and its affect on paper.
C. Understand how roll paper and sheet paper are identified by the paper mill and the purpose for the identification.
D. Become familiar with the various manufacturing defects in paper and how to identify them.
E. Under the paper procedure to follow should a printing company experience manufacturing problems with paper.

VIII. Video of Paper Making 1

IX. Instructor Demonstrations of Ink Absorbing into Paper, and Picking of Paper Surface. 1

X. Color Theory 3

A. Understand the nature of light
B. Be able to differentiate between additive and subtractive color theory and why subtractive color theory is used in the printing process.
C. Be able to distinguish between a spectrophotometer, colorimeter and densitometer for color measurement.
D. Understand the difference between under color removal and gray component replacement and their effects on process color printing.

XI. Ink Manufacturing 1

A. Understand the basic components of a printing ink.
B. Understand the methods for mixing and milling ink.

XII. Ink Pigments 1

A. Understand how pigments are produced.
A. Be able to distinguish between the various properties of pigments.

XIII. Ink Vehicles 1

A. Understand the types of vehicles used in sheetfed inks.
B. Understand the types of vehicles which are used in web inks and solvent base inks.

XIV. Ink Driers 1

A. Understand and be able to specify the type of drier needed for a given paste ink.

XV.	Setting and Drying of Printing Ink	1
	A. Differentiate between the setting and drying of inks.	
	B. Understand the various methods which paste inks dry.	
XVI.	Rheology of Printing Inks	1
	A. Be able to distinguish between the ink properties of viscosity, length and tack.	
XVII.	Specifications of Printing Inks	1
	A. Understand the specifications a knowledgeable buyer of printing ink should know before purchasing an ink.	
XVIII.	Lithographic and Letterpress Ink Requirements and Problems	1
	A. Understand the ink requirements for sheet-fed and web-fed printing.	
	B. Understand the various types of specialty inks used in these printing processes.	
XIX.	Ink Color Specifications Systems	2
	A. Understand why a color specification system is needed.	
	B. Understand the Pantone Matching System of ink colors.	
	C. Understand the specifying of process colors.	
XX.	Student Evaluations	4
	Total	45

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COURSE OUTLINE

COURSE TITLE: PTEC 281:. Preventive Maintenance Systems

COURSE DESCRIPTION: Designed to give the student the ability to organize an effective preventive maintenance program that will keep any mechanical equipment in the best possible operation condition. Four areas will be covered: lubrication, inspection, cleaning and electrical inspection. Each area will be dealt with individually, then brought together to produce an effective preventive maintenance program.

CREDIT HOURS: Two (2) semester hours

CONTACT HOURS: Lecture (2) hours/week

PREREQUISITE: Sophomore Standing in Printing Technology

TEXTBOOK: Preventive Maintenance of Mechanical Equipment by Don Santer

MATERIALS REQUIRED: Notepaper, pens/pencils

MAJOR UNITS OF INSTRUCTION AND STUDENT LEARNING GOALS

		Time Weight Lec. Hrs.
I.	Introduction to Preventive Maintenance	2
	A. Understand course goals	
	B. Know course attendance and grading policy	
	C. Know the difference between repair and preventive maintenance	
II.	Lubricants, Their Origin and How They Are Used	2
	A. Know where lubricants come from	
	B. Know the different types of lubricants, petroleum, carbon	
	C. Understand the principle of lubricants	
	D. Understand friction and the control of wear	
	E. Be able to determine the characteristics of lubricants	
	F. Know how to set-up a lubrication program	
	G. Know the safety procedures for working on mechanical equipment	

III. Determining the Correct Lubricant 1
- A. Know the manufacturers recommendations
- B. Know what your responsibilities are
- C. Know how to determine a lubricants effectiveness
- D. Survey all the equipment within your charge

IV. Electrical Systems 2
- A. Understand the basics of electricity
- B. Basic electronics (movie) 37 min.
- C. Perform mathematical equations to find voltage, current, resistance watt and horsepower

V. Hydraulics 1
- A. Understand Pascal's Law
- B. Know the law of physics dealing with work
- C. Understand the general hydraulic system

VI. Hydraulic System Preventive Maintenance 2
- A. Understand the purpose of the reservoir
- B. Know where and how to service filters and
- C. Know what to look for when inspecting hydraulic piping
- D. Know the different types of hydraulic pumps
- E. Know the importance of pressure relief valves

VII. Hydraulic Cylinders and Motors 1
- A. Understand single action cylinders
- B. Understand double action cylinders
- C. Know how hydraulics are used in printing
- D. Understand the advantages and disadvantages of hydraulic systems

VIII. Pneumatics 2
- A. Know the law of physics dealing with compressed gasses
- B. Know Boyles Law
- C. Know how to convert temperatures from fahrenheit to celsius and visa versa
- D. Know the types of pneumatic compressors
- E. Understand compressed air systems
- F. Know the preventive maintenance procedures for pneumatic systems

IX. The Rotary Pneumatic Compressor 2
- A. Be able to service a rotary pneumatic compressor

X. Safety in Preventive Maintenance 1
- A. Understand proper safety procedures
- B. Understand and define the steps taken to ensure safe maintenance tasks.

XI. Shaking Hands with Danger 1
- A. Observe the movie, shake hands with danger

XII. Mechanical Drives 1
- A. Understand what constitutes a mechanical drive
- B. Be able to define a chain drive
- C. Know what a sprocket is used for
- D. Be able to define: pitch, width, diameter of a chain
- E. Know the parts of a chain and how they are kept in good working condition
- F. Know the different types of chains

XIII. Sprockets 1
- A. Know what ANSI stands for
- B. Know the four types of sprockets
- C. Be able to define a sprocket hub
- D. Be able to define a shear pin sprocket
- E. Know the advantages and disadvantages of chains and sprockets
- F. Know the methods of preventive maintenance of chains and sprockets (lubrication)

XIV. Belts and Pulleys 1
- A. Be able to define a belt drive power source
- B. Know the types of belts, V-belts, rope, flat cog and timing belts
- C. Know the maintenance of V-belts
- D. Know the advantages and disadvantages of belt drives

XV. Pulleys 1
- A. Know the four main classifications of pulleys
- B. Flat belt pulley
- C. V-belt pulley
- D. V-ribbed pulley
- E. Timing belt pulley
- F. Split pulley drive
- G. Variable speed pulley

XVI. Cams 1
- A. Know the definition of a cam
- B. Know the purpose of a cam follower
- C. Know the different types of cams

D. Know the advantages and disadvantages of cams
E. Know and illustrate a knowledge of cam preventive maintenance

XVII. Gears 1
A. Be able to define a gear
B. Understand gear terminology
C. Know the types of gears used in printing

XVIII. Bearings & Bushings 1
A. Be able to define a bearing
B. Be able to define a bushing
C. Know the specific applications of bearings and bushings
C. Know the preventive maintenance procedures for bearings and bushings

IXX. Preventive Maintenance Projects 2
A. Produce a preventive maintenance program for a small machine used in printing.
B. Produce a preventive maintenance program for a large printing related machine

XX. Tests 4
A. Demonstrate knowledge of preventive by passing three (3) written tests
B. Demonstrate overall knowledge of preventive maintenance by successfully completing a cognitive final exam on preventive maintenance
C. Complete five (5) homework assignments

Total 30 hrs

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COURSE OUTLINE

COURSE TITLE: PMGT-351: Printing Production Estimating

COURSE DESCRIPTION: A course designed to give the student a working knowledge of estimating the cost of a job in the graphic arts industry. Involves the estimating of materials and labor time relative to current industry practices for the production of a printed product. Emphasis will be on estimating by analyzing the product to be produced and deciding the most economical ways of production.

CREDIT HOURS: Three

CONTACT HOURS: Lecture: 3 hours/week

PREREQUISITE: Introduction to Estimating - PTEC-251

TEXTBOOK: Printing Estimating: Principles and Practices by Philip Kent Ruggles (second edition)

UNITS OF INSTRUCTION AND STUDENT LEARNING GOALS FOR EACH UNIT:

Time Weight
Lec. Hrs.

After completion of this course students should be able to:

I. Introduction — 1
   A. Understand the goals, structure and policies of the course.

II. Paper — 8
   A. State how paper surfaces, ingredients and grain affect the printability.
   B. List basic paper types and sizes.
   C. Show and understand how to use paper catalogs for pricing.
   D. Calculate paper cost using "M" price and "CWT" price.
   E. Work various problems requiring use of equivalency formula.

F. Calculate spoilage needs for a printed product.
G. Discuss the difference between spoilage and waste.

III. Ink 4
A. State and use formulas involved in estimating inks.
B. Understand the concept of estimating ink coverage and realize the lack of extreme accuracy.

IV. Copyfitting 2
A. State and use the different way of estimating composition changes.

V. Structure of Estimating 1
A. State the concepts in production analysis in pricing.
B. State processes of assigning costs.

VI. Pricing 4
A. Understand the concept of competitive pricing.
B. Discuss the pros and cons of value added.
C. Discuss how the estimate is used to determine price.

VII. Estimating Prepress 4
A. Analyze a printed job to determine all pre-press need for production.
B. Describe pricing variables in color separation work.

VIII. Offset Press Estimating 4
A. Analyze jobs to forecast possible problems that may affect cost during press operations.
B. Determine the changeover point on a press.
C. Conduct a time study and evaluate the results.

IX. Bindery Estimating 3
A. Determine bindery operations and their cost for various kinds of printed products.

X. Computer Estimating 4
A. Use a computer estimating program in determining price.
B. List the pro's and con's of computer use in estimating.

XI. Computer Uses 2
A. Develop a spread sheet computer program for estimating.

XII.	Web	2
	A. Estimate web printing and state variable web production pricing.	
XIII.	Legal Problems in Pricing	3
	A. State legal problems in pricing and how these will affect company pricing policy.	
IX.	Test and Class Evaluation	3
	Total	45

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COURSE OUTLINE

COURSE TITLE: PMGT-361: Printing Production Planning

COURSE DESCRIPTION: Systematic and analytical approach to achieving an efficient production system in all areas of printing. Production and material control. Analyzing and planning jobs for most economical means of production. Production scheduling systems. Production record keeping including inventory system.

CREDIT HOURS: Five credit hours (2+9)

CONTACT HOURS: Lecture - 2 hours/week
Lab - 9 hours/week

PREREQUISITES: Completed all major labs in Printing and Digital Graphic Imaging Technology

TEXTBOOKS: None

UNITS OF INSTRUCTION AND STUDENT LEARNING GOALS FOR EACH UNIT:

Upon completion of this course, the students should be able to satisfactorily complete these requirements:

		Time Weight Lec. Hrs.	Lab Hrs.
1.	Be able to maintain customer contact relative to schedule or any other problems encountered in the production of a printed job.	1	10
2.	Take a printed job and plan how the job should best be produced in each department of a graphic arts shop.	2	30

3.	Prepare a job jacket or job ticket with all the necessary information to allow a plant to utilize the information and produce the printed product.	1	5
4.	Be able to assist a customer in design and production considerations relative to the finished printed job.	1	5
5.	Be able to analyze all the component operations necessary for the completion of a printing job.	1	5
6.	Be able to prepare accurate stripping layouts for offset press equipment.	2	5
7.	Through a production control system be able to analyze the work load of the various operations in a printing plant and through this analysis, schedule a newly entered printing job.	1	10
8.	Be able to set up an effective follow up system that will enable a printing company to maintain a production schedule.	1	5
9.	Know the necessary record keeping to attain and maintain accurate printing production records.	2	5
10.	Be able to set up an effective filing system of completed printed jobs for future reruns.	1	5
11.	With a knowledge of the quality objective for a specific job, follow up with quality control inspection as to the job is being produced to assure that industry standards of quality are achieved.	1	10
12.	Be able to analyze the actual costs of the printed job as compared to the pre-production estimate.	2	5
13.	Be able to complete accurate billing of printed work and know proper follow up on unpaid accounts.	1	5
14.	Be able to make dummies that include the many considerations of bindery operations.	2	10

15.	Be able to determine what equipment can best be utilized to produce a given job, especially in the areas of platemaking, presswork and finishing operations.	1	5
16.	Operate computer software used in the printing industry.	2	15
17.	Have an understanding of personnel problems that occur in the printing industry.	2	0
18.	Be able to state basic organizational set-up used in printing.	2	0
19.	Understand the need for and use of job descriptions in the Graphic Arts industry.	1	0
20.	State normal inventory controls applied in the printing industry.	1	0
Tests and Evaluations		2	
	Total	30	135

Minimum required student lab activities defined

1. Short reports
   One page in length, typed, (spelling and grammar will be a major part of the grade) these reports are to be from trade magazine articles.

2. Term paper
   Management subject to be assigned.

3. Practice jobs
   One per week-instruction sheets will be supplied.

4. Will handle customer problems that come up during production.

5. Computer projects in spreadsheet, word processing, and printing software program.

6. Performance QC check during production.

7. Set up scheduling system and follow up production

work in all printing departments.

8. Maintain shipping records.

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COLLEGE OF TECHNOLOGY
PRINTING AND IMAGING TECHNOLOGY
MANAGEMENT DEPARTMENT

COURSE SYLLABUS

COURSE TITLE: PMGT 362: Printing Management

COURSE DESCRIPTION: Administrative organization of a printing business to include all necessary record keeping forms to operate an efficient printing plant. Accounting and bookkeeping system records; other management records. Develops an understanding of how an organization can operate more efficiently with all necessary record systems. Customer relations, customer contact skills, along with people management skills.

CREDIT HOURS: Five (5) credit hours

CONTACT HOURS: Lecture: 2 hours/week
Lab: 9 hours/week

PREREQUISITE: PMGT 361 Printing Production Planning

TEXTBOOK: No Text

UNITS OF INSTRUCTION AND STUDENT LEARNING GOALS FOR EACH UNIT:

		Time Weight Lec.hrs.	Lab hrs.
I.	Be able to use position descriptions	3	5
	A. Processor manual		
	B. Use of position description		
II.	Be able to maintain production time records	3	15
	A. Scheduling		
	B. Time records		
	C. Work organization		
	D. Personnel time management		
III.	Use of finance and accounting process as applied in printing	4	15
	A. Planning		
	B. Staffing		
	C. Controlling		

	D. Chart of accounts 1. how to use them 2. organizing accounting records		
IV.	Understand team and approaches using the proven leadership in the printing industry A. Organizing others B. Setting goals C. Getting the job done	3	15
V.	Be able to set up and maintain normal customer contact as conducted in the printing industry A. Sales planning B. Customer problem solving C. Phone use	2	20
VI.	Set up group projects as they would be handled in a small shop environment A. Group organization B. Leading the motivated C. Understanding goals	3	20
VII.	Using applicable printing industry computer programs for needed record keeping A. Easy record keeping B. Date base C. Inventory D. Customer data E. Order entry (job jacket) F. File system	4	15
VIII.	Demonstrate an understanding of leadership skills needed in the printing industry A. Risk taking B. Making the best use of people C. Working with others	2	15
IX.	How to use statistical quality control methods in the printing industry A. Put in action B. What to look for?	1	0
X.	Planning for future development in the printing industry A. Taxes B. Equipment selection	2	15

C. Sales
D. Business cycles

XI.	Testing and Evaluation		3	
		Total	30	135

MINIMUM REQUIRED STUDENT LAB ACTIVITIES DEFINED

1. Practice Jobs
   One per week--instruction sheet will be provided.

2. Research Paper
   Management subject to be assigned.

3. Book Report
   Both oral and written report.

4. Group Research
   In practical management problems.

5. Practical Problem Solving
   Handling management/problems that come up during production.

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COLLEGE OF TECHNOLOGY
PRINTING AND IMAGING TECHNOLOGY
MANAGEMENT DEPARTMENT

COURSE OUTLINE

COURSE TITLE: PMGT 383: Production Cost Analysis

COURSE DESCRIPTION: A course designed to give the student knowledge of cost controls used in the graphic arts. The course includes break-even charts, budgeted hourly rates, cash flow projection, return-on-investment analysis, budget forecasting, and contribution analysis.

CREDIT HOURS: Three

CONTACT HOURS: Three hours of lecture per week

PREREQUISITE(S)/CO-REQUISITE(S):
PMGT-351 Printing Production Estimating
ACCT-201 Princ. Financial Act 1

TEXTBOOK: No Text

UNITS OF INSTRUCTION AND STUDENT LEARNING GOALS

		TIME WEIGHT Lec. Hrs.
I.	Introduction	1
	A. Become aware of subjects to be covered, attendance policy, project specifications, grading procedures from instructor and syllabus.	
II.	Defining Costs, Sources	3
	A. Fixed costs	
	B. Variable costs	
	C. Balance sheet, income statement	
III.	Establishing a Cost System	3
	A. Know reasons for establishing a cost system.	

B. Understand importance of making the system fit the particular business.
C. Using the information

IV. Budgeted Hourly Rate 5
A. Understand what budgeted hourly rates are
B. How to gather the necessary information for the construct.
C. Knowing the difference between fixed costs and variable costs.
D. Questions about the supplied information.

V. The Spread Sheet 4
A. Working to develop budgeted hourly rates for fictional plant from supplied specifications and figures.

VI. Budgeted Hourly Rate Wrap-up 1
A. Identifying the results and analyzing the meaning of the figure.

VII. Time Study in the Printing Industry 4
A. Way of conducting a time study
B. How to use the data
C. Developing plant standards

VIII. Contribution Concept 3
A. Understand the basic concept of contribution.
B. Use contribution analysis to determine value of work to business.

IX. Break-even Point 4
A. Learn difference between after-the-fact break-even and projected break-even.
B. Use the break-even formula.
C. Understand uses of break-even analysis.

X. Cash Flow 2
A. Understand what liquidity is.
B. Know the necessity of understanding cash flow and the cash cycle.
C. Where cash comes from - where it goes.

XI. Cash Flow Projection 4
A. Develop cash projections - spread sheet format-from information given.

XII.	Budget Forecasting	5
	A. Learn difference between forecasted budget and inflation-proof budget.	
	B. Prepare budgets from provided specifications.	
XIII.	Return-On-Investment	3
	A. Learn source of figures to determine return-on-investment.	
	B. Prepare return-on-investment analyses.	
XIV.	Tests	3
	TOTAL	45

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MANAGEMENT DEPARTMENT

COURSE OUTLINE

COURSE TITLE: PMGT 393: Printing Management Internship

COURSE DESCRIPTION: A ten-week work experience in a printing plant or with a company directly related to the printing industry. Must be taken the summer prior to graduation, and must be a management-related position. Written weekly progress reports by the students are required. Ten orientation sessions which must be completed the semester prior to the internship will focus on resume writing and the job search. Also required will be one all day session, on campus, near the end of the internship period.

CREDIT HOURS: Four

CONTACT HOURS: Ten hours prior to internship; one or two faculty visits on site during the internship; six-eight hours in one day at end of internship.

COURSE PREREQUISITE:
PMGT 351, Printing Production Estimating
PMGT 361, Printing Production Planning

TEXT: None

UNITS OF INSTRUCTION AND STUDENT LEARNING GOALS FOR EACH UNIT:

		Lec. Hrs.	Lab Hrs.
I.	Resume writing	5	
	A. Format		
	B. Length		
	C. References		
II.	Job search	5	
	A. Geographic area		
	B. Prior experience		
	C. Work area desired		

D. Cover letter
   1. Directed to?
   2. Selling yourself
   3. Selling the program

III. The work experience 400-600
   A. Ten weeks of approved, supervised employment at a printing or printing related firm. The position must carry some managerial responsibility.
      1. Ten weekly reports detailing on one-two pages, the work experience for the week.
         a. to be received no later than 15 days after end of week covered by report
         b. to be signed by supervisor
   B. Written evaluations by employment supervisor
      1. Five weeks
      2. End of employment
   C. Final report
      1. Six to eight pages in length detailing work experience, management techniques used by firm, observations of positive/ negative aspects of company and suggestions for improvement of latter.
      2. **To be submitted by _____**

IV. Experience critique 6-8

TOPICAL UNIT OUTLINE OF MAJOR UNITS OF INSTRUCTION:

I. The Purpose of the Internship
   A. The value of the internship
   B. The behavior requirements
   C. Course requirements

II. Resume Writing
   A. The purpose of the resume
   B. The resume format
   C. What to include and omit

III. The Job Search
- A. Where to look
- B. Types of work already done
- C. Management area/areas you would like to try
- D. Putting things in writing in the cover letter
- 1. Finding the right person to write to
- 2. What you can do for the firm
- 3. The preparation you have received at Ferris
- 4. What you hope to get out of the experience

IV. Reviewing the Internship
- A. The positive factors
- B. The negative factors
- C. Suggestions for improvement

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MANAGEMENT DEPARTMENT

COURSE OUTLINE

COURSE TITLE: PMGT 432: Printing Marketing and Purchasing

COURSE DESCRIPTION: A course concerning various marketing/selling concepts as they are related to the printing industry. After establishing a marketing oriented approach, the course addresses the purchasing functions and how they are influenced by the marketing philosophy of the business.

CREDIT HOURS: Four

CONTACT HOURS: Lecture: 4 hrs./week

PREREQUISITE: PMGT 362, Printing Management

TEXTBOOKS: None

UNITS OF INSTRUCTION AND STUDENT LEARNING GOALS FOR EACH UNIT

Time Weight
Lec. Hrs.

I. Introduction — 2
- A. Know the course goals, attendance policy and grading policy.
- B. Know what is expected of students re: outside reading assignments and projects.
- C. Understand some of the parts that comprise the marketing whole.

II. Basic Marketing Fundamentals — 3
- A. Understand the universal functions of marketing and their relationship in a business setting.
- B. Know the historical stages of marketing.
- C. Understand the term "Marketing Concept" as a printing business philosophy.
- D. Understand the process of adopting the marketing concept within a printing company.

III. Graphic Arts Marketing Planning 3

A. Be able to determine the company's current business status, the objectives of the firm, and the strategy for achieving those objectives.

B. Development of the marketing plan as a major control for the printing company attainment of goals.

IV. Marketing Research 4

A. Understand what marketing research is and the steps necessary to conduct the research.

B. Become aware of marketing information sources available about the printing industry.

C. Be able to determine whether a geographic area is an importer or exporter of printing.

D. Understand what a mail survey is and how to conduct a successful one.

E. Become aware of some of the possible ways to promote a printing company.

V. Market Segmentation 1

A. Understand the concept of market segmentation.

B. Know the general process for print market segmentation.

VI. Targeting the Printing Market

A. Understand how to develop a target marketing strategy and determine which segments to concentrate on.

B. Be able to develop a means for evaluation the competition and position the printing company within the market based on the market's 4 P's.

VII. Telemarketing 2

A. Understand how telemarketing can be used to benefit a printing company.

B. Design a telemarketing program.

VIII. Sales Management 2

A. Gain an insight into the recruiting and hiring of sales people.

B. Understand what is involved in establishing a print sales training program.

C. Familiarize oneself with the necessary reasons for needing a sales manager.

D. Become familiar with compensation plans and expense reporting for sales people.

IX. Customer Service/Sales Service 2

A. Understand the need and benefits to the company and customer for having these specialists.

X. Sales Forecasting 3

A. Understand the need for forecasting.

B. Explore the various methods used for forecasting.

XI. Relationship of Pricing and Marketing 3

A. Understand the difference between costs and pricing.

B. Understand how to establish pricing policy

C. Recognize how product worth has a direct bearing on price.

XII. Trade Customs 2

A. Understand the various trade customs established in the printing industry and their interrelation with the marketing concept.

XIII. Transition to Purchasing 2

A. Review the concept of a marketing-driven graphic arts business.

B. Understand how the products that are profitable define the purchases made.

C. Awareness of the necessity for objectivity in purchasing.

XIV. Day-to-Day Purchasing 2

A. Awareness of difference in approach in buying daily items vs. infrequent purchases.

B. Different approaches in dealing with vendors: having a purchasing strategy; ethics of purchasing.

XV. Inventory Control 3

A. Establishing the right system for the particular printing firm; affect on cash flow, liquidity.

B. How to use the Economic Order Quantity, establish reorder points; ABC inventory control.

XVI. Major Printing Equipment Purchases 3

A. Understand some of the factors in making the purchasing decision.

B. Study several analysis procedures. Will the purchase return a profit.

C. Know some of the ways to finance a major printing equipment purchase.

XVII. Leasing 2

A. An understanding of the nature of a lease.
B. The printing industry's attitude toward leasing.
C. The advantages and disadvantages of a lease
D. Sources of lease money for the printing industry.

XVIII. Lease/Buy Analysis 3

A. Prepare a printing press lease/buy analysis spread sheet from given information and discuss conclusions drawn from the analysis.

XIX. Time Value of Money (integrated in leasing discussion) 2

A. Develop a concept of the time value of money, and further understanding from work on the spread sheet, which requires use of discount factors.
B. Also determine the importance of the concept through the final analysis of spread sheet totals.

XX. New VS. Used 2

A. Understand the advantages and disadvantages of used equipment as opposed to new.
B. Know of some of the ways to find used printing equipment and how to negotiate for it.

XXI. Make/Buy 2

A. How to analyze a printing job or portion of a job from the point of view of contribution.
B. What trade house to use, how to negotiate with other printers.

XXII. Maintenance 3

A. An understanding of the importance, changing nature of maintenance of printing equipment.
B. Awareness of the three types of maintenance--pre-purchases, preventive, crisis.

XXIII. Depreciation 2

A. Understanding of depreciation as a business reality. How to work with your accountant.
B. What are the tax considerations.
C. Awareness of straight-line, some of the digits, ballooning.

XXIV. Quality Control 2

A. Knowing the relationship between quality control and inventory usage-how it can be an inventory saving tool.
B. How to start quality control when a print job is started, not when it is finished.

C. Understand statistical quality control as it applies to printing.

XXV. Insurance 1

A. General insurance, inventory insurance, for the printing industry, shopping around. Do you need it?

XXVI. Tests 4

Total 60

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PRINTING AND IMAGING TECHNOLOGY
MANAGEMENT DEPARTMENT

COURSE OUTLINE

COURSE TITLE: PMGT 499: Printing Plant Layout, Organization, and OSHA

COURSE DESCRIPTION: General organizational concepts for the printing plant; effective plant layout to best provide for efficient utilization of good organization; practical facilities management to maintain the investment; and the integration throughout of safety and environmental protection as they apply to the printing industry. Students will complete a layout to scale of a graphic arts facility, including personnel used.

CREDIT HOURS: Four credit hours

CONTACT HOURS: Lecture: four hours per week

PREREQUISITES: PMGT 362: Printing Management

REQUIRED TEXTBOOK: "Printing Plant Layout and Facility Design Handbook," Geis, A. John; Graphic Arts Technical Foundation; Pittsburgh, PA; 1991

REFERENCE TEXTBOOKS:

"Managing Your Facilities," Sievert, Richard W., Jr.; Printing Industries of Illinois/Indiana; Chicago, Il; 1991

"Simplified Systematic Layout Planning," Muther, Richard and Wheeler, John D.; Management and Industrial Research Publications; Kansas City, MO; 1962

"Environmental Compliance Screening Guide," "PIA Community Right to Know Manual," "PIA Safety Manual"; "PIA Hazard Communication Manual"; Printing Industries of America; Arlington, VA; 1990

"Environmental Compliance for the Printing Industries"; Compliance Technology; 1991

UNITS OF INSTRUCTION AND STUDENT LEARNING GOALS FOR EACH UNIT

		Time Weight Lec. Hours
I.	To understand the basics of effective printing plant organization.	4
II.	To understand and be able to use work simplification procedures.	2
III.	To be able to use, in the design of a printing plant layout system.	7
IV.	To understand proper work flow within a printing plant and various flow patterns.	4
V.	To be able to determine area requirements and understand area interrelationships.	12
VI.	To understand the total printing facility as an asset, and be able to communicate the procedures necessary to maximize the asset.	16
VII.	To be able to state the governmental requirements of a printing business to meet OSHA and EPA standards through readings and case studies.	11
VIII.	To understand the importance of long range planning for expansion.	1
IX.	To be aware of how organization, layout and facility management interrelate, and the necessity of an understand of and compliance with the regulations stipulated by OSHA, MIOSHA and the EPA.	1
X.	Tests	2
	Total	60

FERRIS STATE UNIVERSITY
COLLEGE OF TECHNOLOGY
PRINTING AND IMAGING TECHNOLOGY
MANAGEMENT DEPARTMENT

COURSE OUTLINE

COURSE TITLE: NMPP 330: Digital Multimedia Production

COURSE DESCRIPTION: This lecture and laboratory course is designed to introduce students to producing digital multimedia presentations using graphics, audio, video, and animation. Other topics covered include digital photography, CDROM and DVD production, and Shockwave Technology.

CREDIT HOURS: Three

CONTACT HOURS: Lecture: two hours/week
Lab: three hours/week

PREREQUISITE: None

TEXTBOOK: None

MAJOR UNITS OF INSTRUCTION AND STUDENT LEARNING GOALS

		Time Weight LEC	LAB
I.	Multimedia Overview	2	0
	A. Course policies		
	B. Multimedia defined		
	C. Uses for multimedia		
	D. Careers in multimedia		
II.	Types of Media	12	15
	A. Creating graphic files		
	1. hardware		
	2. software		
	3. file formats		
	4. resolution		
	5. color depth		
	B. Creating audio files		
	1. hardware		
	2. software		

	3. file formats			
	4. resolution			
	C. Creating video files			
	1. hardware			
	2. software			
	3. file formats			
	4. resolution			
	5. color depth			
III.	Presentation Software		1	6
	A. Design			
	B. Implementation			
IV.	Multimedia Authoring		12	18
	A. Hyper media			
	B. Animation			
	C. Importing media			
	D. Scripting			
V.	Multimedia Storage Mediums		2	0
	A. Removable media			
	B. CD ROM			
	C. DVD			
	D. Server			
VI.	Digital Photography		1	6
	A. Digital photography defined			
	B. Uses of digital photography			
	C. Digital camera technology			
	D. Photographic software applications			
		Total	30	45

FERRIS STATE UNIVERSITY
COLLEGE OF TECHNOLOGY
GRAPIC ARTS PROGRAM
COURSE OUTLINE

COURSE TITLE: NMPP 375: Quality Control Systems in Printing

COURSE DESCRIPTION: An overview of the changing quality requirements in the printing industry, and the resulting quality improvement methods now being introduced. The fundamental concepts and tools of statistical process control (SPC) will be reviewed, as well as terms, definitions, trends and some of the control targets and measurement instruments common to the printing industry.

CREDIT HOURS: Three semester hours

CONTACT HOURS: Lecture - 3 hours per week

PREREQUISITE: Junior standing in Printing Management or New Media programs.

TOPICAL UNIT OUTLINE OF MAJOR UNITS OF INSTRUCTION

I. The Quality Control Function
   - A. Definitions
   - B. Quality of conformance
   - C. Quality of design

II. The Status of Quality Control in the Printing Industry
   - A. Characteristics
   - B. Old vs. new approaches
   - C. Trends

III. Common Quality Improvement Tools
   - A. Check sheets
   - B. Pareto analysis
     1. pareto principle
     2. pareto chart
     3. pareto charts in quality improvement
   - C. Cause and effect diagram
     1. construction of cause and effect diagram
     2. brainstorming and pareto analysis
     3. benefits and uses

D. The process flow chart/diagram
   1. construction of process flow diagram
   2. benefits and uses
E. The time plot
   1. construction
   2. advantages and uses
F. The frequency histogram/distribution
   1. constructing a frequency histogram
   2. advantages and uses
G. Other more powerful quality improvement tools
   1. scatter plot
   2. linear regression analysis
H. The quality control chart
   1. theory

IV. Historical Perspective of the Quality Control Function
   A. Nature of the quality revolution
   B. Paradigms shifts in quality control function
   C. Historical imperatives for quality
   D. Edward W. Deming and Joseph Juran
   E. Quality revolution and the printing industry in North America

V. Trends in the Quality Control Function
   A. Changing roles of the quality department and manager
   B. Teamwork and participatory management in quality control and improvement
   C. Statistical process control (SPC) is changing the QC function
   D. Movement toward Total Quality Management in the printing industry

VI. Specifications
   A. Variable vs. attribute type data
   B. Quantitative specification
   C. Application of specifications and rules
   D. Role of industry standards (ie. SWOP, etc.)

VII. Common Control Targets and Measuring Instruments
   A. Densitometry for quality control and improvement
   B. Incoming raw materials testing
   C. Pressroom quality control
   D. Test targets for prepress operations

VIII. Fundamentals of Statistical Process Control
   A. Definition of statistics
   B. Primary statistical symbols

C. The nature of variation
   1. chance vs. assignable cause variation
   2. three measures of central tendency
   3. two measures of dispersion
   4. normal curve
   5. standard deviation
   6. histogram and time plot

D. Measures of process capability
   1. graphical analysis of process capability
   2. CP and CPK indexes/quantitative approaches
   3. graphical/visual approach to process capability

E. Control chart fundamentals

F. The variable control chart
   1. X bar and R chart (or X bar and s chart)
   2. X bar and moving range chart
   3. Other variable charts

G. The attribute control chart
   1. non-conforming units
   2. number of non-conformities

IX. Process Improvement Concepts and Methodology
- A. Breakthrough concept in quality improvement
- B. Attribute charting breakthroughs
- C. Process accuracy and precision (variable type data)
- D. Process improvement cycle leading to a breakthrough

X. Introduction to Benchmarking in Quality Improvement Efforts

XI. ISO 9000 and the Printing Industry in the 90's
- A. ISO 9000 cycle and components
- B. Printing industry applications
- C. Quality manual

XII. Supplier Certification
- A. Certification cycle
- B. Identifying external and internal customers
- C. "Preferred supplier"
- D. Advantages of certification

XIII. Malcom Baldrich and other Awards for Quality Excellence
- A. MBA and the printing industry
- B. Historical background
- C. Benchmarking using the MBA criteria

FERRIS STATE UNIVERSITY
COLLEGE OF TECHNOLOGY
GRAPIC ARTS PROGRAM
COURSE OUTLINE

COURSE TITLE: NMPP 410: Digital Printing Systems

COURSE DESCRIPTION: This lecture course is designed to introduce students to new emerging technologies in digital printing. The impact of these technologies on both traditional print markets as well as new on-demand printing markets will be examined. Students will explore specific digital printing technologies including: toner based prints, ink jet, direct to press and digital webs.

CREDIT HOURS: Two

CONTACT HOURS: Two hrs./week

PREREQUISITE: None

TOPICAL UNIT OUTLINE OF MAJOR UNITS OF INSTRUCTION

I. Introduction to Digital Printing
   - A. Course goals, grading policy
   - B. Definitions of digital printing
     1. digital printing
     2. on-demand printing
     3. variable printing
     4. variable on-demand
     5. variable digital press

II. On-Demand Publishing
   - A. Conventional on-demand printing
   - B. Distributed demand printing
   - C. Advantages of on-demand printing
     1. cycle time
     2. run length
     3. variable printing
     4. cost per copy

III. Market Research for this Technology
- A. Total market for on-demand
  1. run length
  2. number of originals
  3. turnaround
  4. economics of long vs. short run
- B. Database management and marketing
  1. mass marketing vs. targeted marketing
  2. database marketing
  3. mail merge programs

IV. Product Types for On-demand Printing
- A. Conventional print products
  1. direct mail
  2. manuals
  3. catalogs
  4. customized textbooks
  5. forms
  6. newsletters
  7. menus
  8. reprints
- B. Book publishing
  1. traditional publishing
  2. customized texts
  3. copyrights
  4. coursepack books
- C. In-plant applications-case studies
  1. advertisers
  2. manufacturers
  3. financial/banking
  4. retailers

V. Specific On-Demand Printing Technologies
- A. Black and white toner based
  1. Xerox docutech (B&W)
  2. models
  3. print engine
  4. in-line finishing
- B. Color toner based
  1. Xerox docucolor
  2. Scitex spontane
  3. Canon CLC 1000

C. Hybrids with litho-direct to plate on press
   1. Heidelberg GTO DI
   2. Heidelberg Quickmaster
   3. Presstek imaging
   4. Omni-Adast-DI

D. Web based digital presses
   1. Xeikon DCP
   2. AGFA Chromapress
   3. IBM Web

E. Indigo E-Print 1000
   1. variable print process
   2. basic technology
   3. electro ink
   4. RIPS
   5. dynamic plates
   6. paper
   7. print speed
   8. bindery options
   9. label option

VI. Bindery Issues In Digital On-Demand Presses
   A. In-line finishing
   B. Off-line finishing

VII. Substrates
   A. Label stock
   B. Paper stocks
   C. Special papers

VIII. Future of On-Demand Printing

FERRIS STATE UNIVERSITY
COLLEGE OF TECHNOLOGY
PRINTING AND IMAGING TECHNOLOGY
MANAGEMENT DEPARTMENT

COURSE OUTLINE

COURSE TITLE: NMPP 420: World Wide Web Publishing

COURSE DESCRIPTION: This lecture and laboratory course is designed to build the students knowledge and skills in publishing digital media on the world wide web. This course will cover all aspects of the world wide web, including: understanding hypertext media, web server technology, html, web page design, and shockwave technology.

CREDIT HOURS: Three

CONTACT HOURS: Lecture: two hours/week
Lab: three hours/week

PREREQUISITE: None

TOPICAL UNIT OUTLINE OF MAJOR UNITS OF INSTRUCTION

		Time Weights	
		Lecture Hrs.	Lab Hrs.
I.	Introduction to the World Wide Web	6	15
	A. Course policies		
	B. WWW publishing vs. print		
	C. Advantages of the WWW as a publishing medium		
	D. Understanding hypertext		
	E. Hyper links		
	1. internal		
	2. external		
	F. How the WWW works		
	1. protocols		
	2. uniform resource locator		
	3. client/server		
	G. Browers		
	H. Search engines		
II.	Hypertext Markup Language (HTML)	3	6
	A. HTML defined		
	B. Tools for creating web pages		
	1. HTML converter		

	2. HTML editor			
	3. Word processing software			
	C. Naming parts			
	1. elements			
	2. attributes			
	3. entities			
	D. Tags			
III.	Creating WWW Sites		15	18
	A. WWW servers			
	B. Developing a publishing plan			
	C. Home page design			
	D. Tools for creating web pages			
	1. HTML converter			
	2. HTML editor			
	3. Word processing software			
	E. Adding graphics			
	1. file format			
	2. file size			
	3. color depth			
	4. image maps			
IV.	Advanced Interactive Web Site Designs		3	6
	A. Interactive defined			
	B. Java			
	C. Virtual reality modeling language			
	D. Streaming technologies			
	1. streaming audio			
	2. streaming video			
	E. Shockwave technology			
	F. CGI scripting			
V.	Web Publishing Issues		3	0
	A. Security			
	B. Copyright			
		Total	30	45

FERRIS STATE UNIVERSITY
COLLEGE OF TECHNOLOGY
PRINTING AND IMAGING TECHNOLOGY
MANAGEMENT DEPARTMENT

COURSE OUTLINE

COURSE TITLE: NMPP 450: Printing Industry Server Administration

COURSE DESCRIPTION: This lecture course is designed to familiarize the student with the various tasks in running and maintaining internet servers used in the printing and graphic imaging industries. This course will cover administration of server care, hardware and software, user profile and logging, programming, and data security.

CREDIT HOURS: Two

CONTACT HOURS: Lecture: two hours/week

PREREQUISITE: ISYS 101, ISYS 216, NMPP 420

TOPICAL UNIT OUTLINE OF MAJOR UNITS OF INSTRUCTION

		Time Weight Lecture Hrs.
I.	Printing Industry Server Administration/Overview	10
	A. Course policies	
	B. Basic server properties	
	C. Differences in servers	
	1. WWW	
	2. FTP	
	3. Email	
	D. Server care	
	E. Administrators responsibilities	
II.	Hardware	2
	A. System requirements	
	B. Platforms	
	1. Macintosh	
	2. DOS	
	3. UNIX	
	C. Backup systems	
	D. RAID RAIC	
	E. Virtual hosting	
	F. Dial-up service	

III. Programming
- A. Server engines (software)
  - 1. WWW
  - 2. Email
  - 3. FTP
  - 4. News groups
- B. Database
- C. CGI scripting
- D. Remote access/administration

IV. User Profile
- A. Logging statistics
- B. Cookies/marketing
- C. E-commerce

V. Data Security
- A. Firewalls
- B. Encryption
- C. Secure socket layer (SSL)
- D. Backup systems

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COURSE OUTLINE

COURSE TITLE: NMPP 499: Digital Prepress Project

COURSE DESCRIPTION: Lecture/lab class is a capstone course for the New Media prepress emphasis. Students will conceptualize and carry out a digital imaging project from start to finish (with a print and non-print application). Students will bring together various skills and processes learned in the curriculum. Weekly project reporting and documentation are required.

CREDIT HOURS: Three Semester Hours

CONTACT HOURS: Lecture/project reporting: one hr./week
Lab: six hours/week

PREREQUISITE: PTEC 375

TOPICAL UNIT OUTLINE OF MAJOR UNITS OF INSTRUCTION

		Lec	Lab
I.	Introduction	1	
	A. Goals		
	B. Requirements for attendance, grading, lab work		
II.	Project	2	78
	A. Project conceptualization		
	B. Timeline of project development		
	C. Periodic project status reports will be prepared and communicated		
	D. Final written summary of the project, its problems and a description of its applications and limitations		
	E. Formal project presentation will be made at the end of the semester		
III.	Periodic Lectures to Cover	12	12
	A. Planning and integrating reproduction processes		
	B. Color management		
	C. Quality assurance procedures		

D. Preflighting
E. Project cost analysis

Total 15 90

MINIMUM REQUIRED STUDENT LAB ACTIVITIES:

The student will be required to develop and complete an approved project and to present the finished project with written report and oral presentation to the faculty and students of the Printing program.

Requirements for the project are as follows:

- Decide to perform a project dealing with electronic media (internet or presentation), printed media, or research project
- Decide on the subject of the project, this will require the student to research the project–who will make use of the project, final use of the project, contents of project. Research project will require an hypothesis.
- Develop a cost estimate for the project using material costs and/or outside vendors
- Develop a Gantt Chart for the project
- Develop a flow chart as required
- Develop a Program Evaluation and Review Technique (PERT) Chart as required
- Produce the project
- Submit weekly progress reports and meet with the instructor periodically
- Fulfill the requirements of the customer for whom the project is intended
- Make a presentation to the class, faculty, and other interested people discussing the project
- Submit a written report with samples if feasible to the instructor.

Each student should keep a copy of the presentation and the written report and samples. Submitted work will not be returned but kept on file in the Department.