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ABSTRACT

This handbook, which is one in a series of handbooks designed to help tech prep practitioners replicate successful materials, projects, or programs that have been developed by Partnership for Academic and Career Education (PACE) consortium members, explains how to develop career awareness programs for tech prep students. The introduction contains background information on the PACE consortium. Discussed next are the objectives and content of the PACE program, "Planning for the Future: A Student Awareness Program for Tech Prep and Mid-level Technology Careers." Presented next are the answers to questions about the need for career awareness programs in tech prep, program components and format, program facilitation, and integration of career awareness activities into applied academics classes. Concluding the handbook are guidelines for developing a student career awareness program, including tips for developers and suggestions regarding training staff. Appendixes constituting approximately 90% of this document include the following: table of contents of PACE career awareness facilitator's guide, sample unit dealing with midlevel technology careers, and planning forms. (MN)

PACE "How To" Handbooks for Tech Prep

Developing a Career Awareness Program for Students

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PACE "How-To" Handbooks: Developing a Career Awareness Program for Students

Table of Contents

PACE "How-To" Handbooks: Developing a Career Awareness Program for Students

Introduction

Pace "How-To" Handbooks are developed through funding by one of nine model Tech Prep Demonstration grants awarded by the U.S. Department of Education. The two-year grant provides funds for specific dissemination and technical assistance activities. The official name of the federal program through which the grant was awarded is the "U.S. Department of Education Demonstration Projects for the Integration of Vocational and Academic Learning Program (Model Tech Prep Education Projects)". The grant is administered locally through Tri-County Technical College in Pendleton, SC.

The handbooks are intended for Tech Prep practitioners to use in order to replicate successful materials, projects or programs that have been developed by PACE Consortium members.

PACE (The Partnership for Academic and Career Education), established in 1987, is a business and education consortium involving the seven school districts of Anderson, Oconee and Pickens counties; local businesses and industries; the Anderson County and Oconee County Business and Education Partnerships; Tri-County Technical College; Clemson University/College of Education; The Career and Technology Center; and the National Dropout Prevention Center at Clemson University. A coordinating board provides leadership for implementing Tech Prep programs in the 16 high schools, 4 career centers, and 1 technical college in the PACE Consortium service area. A small administrative staff, housed on the campus of Tri-County Technical College, provides assistance and support to all participating schools.

One of the most successful programs developed and used throughout the PACE Consortium area high schools, junior high schools and middle schools is **Planning for the Future: A Student Awareness Program for Tech Prep and Mid-level Technology Careers.** This handbook will describe the PACE **Student Awareness Program** and then answer the following questions:

- Why is this type of program needed?

- What should a career awareness program for students include?
- What format should be used for the program?
- Who should facilitate the program?
- Can this program be used by classroom teachers?

In addition, suggested guidelines will be given on workshops to plan and develop a similar program.

The PACE Student Awareness Program

Planning for the Future: A Student Awareness Program for Tech Prep and Mid-level Technology Careers is a comprehensive, five-unit student career awareness program designed to be used with maximum flexibility by teachers and counselors. It is intended to educate students about new career opportunities and how they can begin planning to take advantage of these opportunities now while they are in middle school, junior high school or high school. The major topics covered in the program include The Changing Workplace, Mid-level Technology Careers, Student Expectations, Tech Prep: PREParation for TECHnologies, and Planning for the Future. Appendix A of this handbook includes the front section of the program, including an introduction, rationale, purpose statement, suggestions for use, format, and an annotated table of contents.

Each unit in the program includes a suggested outline for the facilitator to use in presenting the material. The outline is organized as a lesson plan, with a major concept to be presented, information on equipment and materials needed, subtopics, and student behavioral objectives. As each subtopic is described, cues in the text refer the facilitator to appendices that contain activities, transparencies, or handouts to be used as part of the presentation of that unit. Appendix B of this handbook contains a sample unit outline with corresponding activities and transparency masters.

Planning for the Future is intended to be presented by middle school, junior high school or high school guidance counselors as a semester course, in workshops, or as stand-alone units as appropriate. In addition, the materials can be used by teachers of applied academics to infuse career awareness materials into their curricula.

Questions and Answers about Developing a Student Career Awareness Program

Why is this type of program needed?

Job market analysts and economists agree: the fastest-growing segment of the job market is the "mid-level technology" sector--jobs that require more than a high school diploma but less than a baccalaureate degree. In fact, many employers fear that these mid-level technology positions will soon provide more career opportunities than there are employees to fill them.

These mid-level technology positions are challenging, high-paying careers in a number of areas, including manufacturing, business and health-related fields. They offer good opportunities for advancement and require skills in critical thinking, communication, and team problem-solving. These careers are frequently the "new," high-technology fields whose names are often unfamiliar to teachers, counselors, students and parents.

And these mid-level technology careers, with their promise of challenge and opportunity, are the "pay-off" to Tech Prep programs. It is the demand for these positions that will offer a promising future to students who once had limited options after high school. However, students cannot take advantage of career opportunities unless they are informed about these options early enough to plan for the future.

To prepare students to make good career choices later and to position themselves now to take advantage of new opportunities, educators must offer up-to-date career awareness information and career exploration opportunities.

What Should a Career Awareness Program for Students Include?

This question is best answered locally, based on the needs of a school or school district, but here are some suggested guidelines:

- Some discussion of the changing workplace and its new requirements should be included to help students understand what skills employers value.

- To help students understand new opportunities in the workplace, they need to be informed about mid-level technology careers, what they are and how to prepare for them.

- **Planning for the Future** includes a section on the local Tech Prep initiative in order to help both students and teachers understand the changes happening in their schools and across the country. In addition, this unit stresses the connection between what students are learning now and their career goals.

- Students need to begin to understand the career selection process and become aware of their own expectations and aspirations. They need to understand the importance of setting goals and planning now in order to be able to make good choices later.

- Additional units or topics could include information/activities on the job seeking process, self-esteem, the importance of completing high school, and postsecondary career options.

What Format Should be Used for the Program?

Again, this question can probably best be answered by those who will be developing or facilitating this program. Format is largely a matter local preference and budgetary or time constraints. However, experience has demonstrated the importance of a few guidelines:

- **Flexibility** will be critical to the success of this program. Facilitators must be able to adapt any program structure or materials to their own needs and constraints. The more adaptable the information, resources and activities are, the more they will be used.

- **Accessibility** is another critical characteristic to consider. The more "user-friendly" the program can be, the better. Facilitators will be not only grateful for, but much more likely to use, any program that is thorough and complete. If they must supplement the program, or if it is complicated to prepare and understand, it is likely to sit on the shelf.

- **Student-centered activities** will encourage facilitators and motivate students. The more interactive the program can be, the more likely students will be engaged.

- **Attractive, portable packaging** may seem like a trivial consideration, but experience indicates that a program that looks professional and can be easily transported will be usable. This does not necessarily mean spending a great deal of money--just anticipating what is likely to look good and be easy to use.

Who Should Facilitate the Program?

This type of program, if designed for maximum flexibility and accessibility, can effectively be facilitated by any number of professionals, including

- Guidance Counselors
- Faculty
- Administrators
- Business Partners
- Career Counselors

Can this Program be Used by Classroom Teachers?

Yes; experience has shown that teachers of applied academics have been very successful in using such a program to infuse career awareness activities into their curricula. English or Communications classes, in particular, seem well-suited for the inclusion of career awareness activities that require (or can be modified to require) a writing or public speaking component.

Guidelines for Developing a Student Career Awareness Program

A project of this magnitude is most likely to be successful if done by a group of teachers and counselors led by a coordinator. The first step, then, is for the group to meet together to brainstorm, envision and plan the desired product. They can then anticipate the tasks that will need to be completed in order to design the program, and they can assign responsibility for each task. Appendix C of this handbook contains planning forms that can be used in such a workshop, with brainstorming activities for both the large group and smaller breakout groups. The last form, Planning Form D, is a "sweating the details" form that allows participants to synthesize the decisions they have made and plan the actual tasks resulting from their brainstorming sessions.

Step by step, then, here is a process to follow to develop a student career awareness program:

1. Form a team of teachers and counselors, led by a coordinator, to be responsible for developing a career awareness program for students grades 8-12.

2. Obtain a copy of the **PACE Student Awareness Program** by writing to Kathy Young, PACE, P.O. Box 587, Hwy 76, Pendleton, SC 29670. The packet with the program is free until December 31, 1994 through a federal dissemination grant. After that date, you will be charged a small fee to cover printing costs and postage. The packet you will receive is a dissemination copy that comes with directions for assembly. Or, if you know of a similar student career awareness program developed locally or by another consortium, consider obtaining a copy of that program.

3. After reviewing a career awareness program as a model, use the forms provided in this handbook (Appendix C) to go through the process of brainstorming purpose, format, topics, etc.

4. Use the last form, Planning Form D, to assign tasks and deadlines to individuals, and to plan the overall process your group will use in order to develop the program.

5. Set up a series of meetings for the team to check in with each other and discuss problems/obstacles along the way.

6. Consider working with a school or school district in order to pilot test activities and handouts as they are developed.

Some Key "Tips" for Developers

▸ Envision yourself delivering the material. Consider your audience, their characteristics, and their probable responses. Mentally go through the logistics of the activities as you develop them.

▸ Provide enough direction and material for an inexperienced presenter, but try to maintain a balance so that you are not "talking down" to a more confident, experienced presenter.

▸ Deliver the message that you want to get across to students in a non-threatening, fun way. Provide activities that will cause students to interact with your message in a way that engages them and causes them to think.

▸ Anticipate a facilitator's need to know where information came from by giving a "Works Cited" list. You might also support the facilitator by providing a glossary of unfamiliar terms, background readings, and a list of further readings or sources.

▸ Encourage facilitators to "make the program their own" by changing it as appropriate to suit their needs and vision.

Training

Once the program has been developed, a good training program is essential. If at all possible, training should be done by developers for every individual who is likely to be asked to facilitate the program. A sample agenda for such a training session would include the following elements:

- An initial overview of the need for the program, program rationale, objectives and format;
- A detailed discussion of resources available with the program;
- A detailed discussion and demonstration of one unit or topic;
- An opportunity for participants to do at least one activity included in the program;
- A detailed discussion of suggestions for using the program.

Final Suggestions

An effective student career awareness program can be an excellent tool for Tech Prep practitioners to use in order to build a positive school climate for Tech Prep programs and activities. However, this type of program cannot bridge that gap that exists between educators and students who have become excited about future career opportunities and parents who are still relatively uninformed and passive. Therefore, planners and facilitators should give some thought to developing companion activities and resources to involve parents in their children's career exploration process. Generally, such a program should be short (a one- to three-hour workshop is probably best), participatory, and thorough. Parents need to be informed about many of the same topics that their children will learn about (e.g. the changing workplace, mid-level technologies, Tech Prep) but will also want to focus on their role as an active partner in the process.

Appendix A

Planning for the Future
Sections

Planning for the Future

A Student Awareness Program for
Tech Prep & Mid-Level Technology Careers

FACILITATOR'S GUIDE

Funding for this publication was made possible by a Carl Perkins Grant awarded to PACE by the South Carolina Department of Education and the State Board for Technical and Comprehensive Education. The opinions and information presented herein do not necessarily reflect the positions or policies of these entities, and no official endorsement by them should be inferred.

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Planning for the Future:
A Student Awareness Program for Tech Prep & Mid-Level Technology Careers

Facilitator's Guide

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APPENDICES

This facilitator's guide as written by Charlotte Holt, career advancement/evaluation specialist for the Partnership for Academic and Career Education (PACE) and Diana Walter, PACE Executive Director. Other contributors who provided invaluable input to the development of this guide included Wayne Pendergrass, Director of Guidance at Liberty High School, Doris Bigby, Guidance Counselor at Liberty High School, Doris Shabazz, At-Risk Coordinator for Anderson School District Four, members of the PACE Counseling Committee and the PACE administrative staff. PACE is a business and education consortium involving the school districts of Anderson, Oconee and Pickens counties, local businesses and industries, Tri-County Technical College, the Career Center, Clemson University/College of Education, the Anderson County Business and Education Partnership, the Bosch Apprenticeship Program and the national Dropout Prevention Center.

June 1992

INTRODUCTION

"Planning for the Future: A Student Awareness Program" is an interactive program for guidance counselors and teachers to use in presenting the Tech Prep concept and related career information to students at the middle, junior, and senior high school level.

Students often give greater credence to what they "discover" for themselves than to what they are "told"; therefore, in addition to supplying facts and figures about employment and education trends and about Tech Prep, this presentation provides opportunities for student inquiry, self-examination, and discussion. It is designed not only to provide students with information, but to elicit questions, research, thought, and action on their parts.

"Planning for the Future: A Student Awareness Program for Tech Prep and Mid-Level Technology Careers"

FACILITATOR'S GUIDE

RATIONALE

Technology is changing the face of the American workplace. It is projected that mid-level technologies will soon provide more career opportunities than there are American workers qualified to fill them. These jobs will require some occupational training in high school up to an associate degree for entry or advancement.

A general high school education will not adequately prepare graduates to qualify for these new mid-level technology careers; therefore, students must begin planning for the future at the middle, junior high, and high school levels. Tech Prep can help students identify career interests and achieve educational preparation for these careers.

PURPOSE

The purpose of this program is to provide guidance counselors and teachers with information, materials, and activities they can use to teach students about the changing workplace, the levels of education and the skills required by employers, the new career opportunities provided by mid-level technologies, and the ways that Tech Prep can help students prepare to take advantage of these new opportunities.

This presentation is designed to meet the following goals:

1. to give students a brief historical perspective on the changing workplace—past, present, and future;
2. to counteract stereotypical ideas or misconceptions about various education levels, occupational training, skills, and experience required to enter and advance in the new workplace;
3. to identify and emphasize the opportunities presented by mid-level technology careers;
4. to explain how Tech Prep can prepare students for future employment, for an associate degree, and for education opportunities beyond the two-year degree; and
5. to help students examine their own personal skills, aptitudes, interests, and goals for the future.

Suggestions for Use

This program is a framework for guidance counselors and teachers to use in presenting information about Tech Prep and mid-level technology careers to students. ***Facilitators are encouraged to individualize the presentation and supplement these materials with their own experience and resources.***

The topics and corresponding activities in this program may be selected and adapted according to the needs of each specific audience. Student age, grade level, and possible prior experience with Tech Prep should be considered before selecting materials and topics to emphasize.

Facilitators are advised to read through each unit and activity before use in order to choose and prepare handouts and other materials suitable for a specific student audience. Activities found in **APPENDIX A** include instructions for xeroxing handouts and preparing other materials.

Prepared transparencies and masters are provided in **APPENDIX B**; however, facilitators may choose to customize or create their own visual aids. **(Blank transparency film and empty flip-frame transparency protectors are included.)** Please note that while some numbered transparencies may be referred to more than once, duplicates have not been provided.

APPENDIX C contains handout masters which may be xeroxed as necessary. These handouts correspond to the presentation text and may provide additional information to supplement the facilitator's remarks.

Reference materials are provided in **APPENDIX D**, including source articles, supplemental literature, a list of works cited, and a list of materials and publications available through the PACE office.

Format

This program is divided into five units which may be presented during class-length sessions or independently as time and need dictate. Each unit is divided into the following components:

- major concept
- equipment and materials needed
- topics
- student behavioral objectives
- presentation

The following support materials for each unit are provided in appendices which follow the text:

Appendix A - numbered activities

Appendix B - numbered transparencies and transparency masters; blank transparencies for customized use

Appendix C - handouts

Appendix D - reference materials

Appendix E - a glossary of terms

Suggestions for using these materials appear in bold type within the presentation text to direct facilitators to the appropriate appendix.

CONTENT

This Facilitator's Guide includes the following five units:

UNIT I

The Changing Workplace

An overview of the past, present, and future trends in employment, including discussion of the skills expected of future employees, levels of training, education and experience required, and mid-level technology career opportunities available.

UNIT II

Mid-level Technology Careers

An explanation of the new career opportunities in mid-level technology positions, including job titles, job descriptions, education requirements, and salaries, with emphasis upon mid-level technology opportunities available locally and regionally.

UNIT III

Student Expectations

An exploration of each student's dreams and goals; a discussion of student ideas of "success" and what is involved in earning a comfortable living and achieving job satisfaction; a personal inventory of student likes, dislikes, aptitudes, and interests.

UNIT IV

Tech Prep: PREParation for TECHnologies

A description of the Tech Prep program in Anderson, Oconee, and Pickens Counties which explains academic course options including applied academics courses, advanced standing opportunities in postsecondary programs, and career/educational advancement potential.

UNIT V

Planning for the Future

An assessment of where the student stands today and what steps need to be taken next; a follow-up checklist of each student's progress to be used as a planning tool for high school and post-secondary education; activities involving "real life" profiles of professionals.

Appendix B

Planning for the Future
Sample Unit

UNIT II

Mid-Level Technology Careers

UNIT II

Mid-Level Technology Careers

Major concept:

Advances in technology have created a whole new level of career opportunities in jobs which require some occupational training at the high school level up to an occupational associate degree for entry or advancement.

Equipment and Materials Needed:

- Overhead projector
- Handout: "Introduction to Careers: A Matching Quiz"
- Handout: "Average Salaries"
- Handout: "Fastest Growing Occupations"
- Handout: "Compensation Potential"
- Job Titles cards

Topics:

1. definition of mid-level technology careers
2. fastest-growing occupations in the four general areas of mid-level technology careers
3. salary ranges of mid-level technology careers
4. education and training required to enter or advance in mid-level technology careers
5. comparisons of mid-level technology careers with careers requiring no post-secondary education and those requiring four-year or professional degrees

Student Behavioral Objectives:

At the conclusion of this unit, students will be able to

1. define mid-level technology careers.
2. identify career opportunities in the four areas: industrial/engineering technologies, health technologies, business technologies, and public service technologies.
3. describe salary ranges for a variety of jobs in mid-level technology.
4. define and discuss changing educational requirements for careers of the future.
5. identify and discuss career choices in mid-level technology and the educational paths that will lead to these careers.

Presentation:

1.

Introduce this unit on Mid-Level Technology Careers by reminding students that technological advances are creating new career opportunities for them. **(USE TRANSPARENCY II-1: "General Characteristics of Mid-Level Technology Careers"—APPENDIX B)**

- Discuss the definition of mid-level technology careers: Mid-level technology careers require more than a general high school diploma but do not require a four-year college degree. To enter or advance in these careers requires some occupational training at the high school level up to an occupational associate degree from a two-year college.

2.

Before engaging in a detailed discussion of these careers and the education required to enter and advance in them, some student audiences may need help with basic terms and concepts, including the following:

- What is meant by "entry" and "advancement?" Explain that entry involves obtaining a job in a career area for the first time. Describe how an employee may advance within a job and within a career by earning raises and receiving promotions which involve greater responsibility and more desirable working conditions.

- What are the differences between "field," "career," and "job." Ask students for their own definitions, then help them agree upon the best interpretation of each term. They should understand that a field is a broad area of related work opportunities; a career is a chosen pursuit, a path or course which may involve several different or related jobs over a period of time; a job is a specific position in which one is employed. **(USE TRANSPARENCY II-2: "Average number of job and career changes"—APPENDIX B)**

- What is meant by the different kinds of degrees? Discuss how many years of education may be required for some occupational training certificates and for an associate, bachelor, master, and doctorate degrees. Make sure students understand the distinctions between two-year and four-year degrees.

3.

Because many students share common misconceptions about careers and the education levels they require and salaries they command, you may choose to assign a career quiz which will reveal to students just how little they know about careers, salaries, and commensurate education. **(SEE HANDOUT: "Introduction to Careers - A Matching Quiz"—APPENDIX C)**

Discuss the correct answers to the careers quiz, responding to student questions and observations. Emphasize the following points:

- A "passing" grade on this quiz requires 11 correct answers. Note that many people do not pass this quiz because of the misconceptions they have about the education levels required and the salaries provided in these representative jobs.
- Many of the careers listed require less than a four-year degree. These are considered mid-level technology careers.
- Competitive salaries are available for some careers which require fewer years of education than it takes to earn a bachelor's degree—and you get to go to work sooner!
- Mid-level technology careers offer opportunities in four areas including industrial/engineering technology, business technology, health technology, and human and public service technology

4.

Help students understand that by the time they are ready to join the workforce in 199__ (specify for the age group addressed), the following facts about employment opportunities in South Carolina will apply:

- More jobs will be available for technicians in industrial/engineering technology areas and in other service technologies than for any other major occupational group.
- So many new mid-level technology positions are expected that local employers may have to hire workers from outside South Carolina if there are not enough trained, skilled workers in our area to fill these new jobs.
- The fastest-growing career opportunities today include those in the industrial/engineering technologies, business technologies, human and public service technologies, and health technologies. **(SEE HANDOUT: "Fastest-growing Occupations"—APPENDIX C)**

5.

Explain to students that many careers in mid-level technologies offer financial opportunities that rival those offered by careers requiring four years of college or more.

Emphasize the following points:

- Salaries for jobs in mid-level technology career areas will be competitive with the salaries of many jobs which require four or more years of college education. **(SEE HANDOUT: "Average Salaries for Mid-Level Technology Careers"—APPENDIX C)**
- Associate degree graduates can earn more than double what a high school graduate without any occupational training can earn.
- Persons with some vocational/technical education—particularly at the associate degree level—often earn as much or more than graduates of many four-year programs, and their earnings can increase more quickly than those of some professionals. One example of this potential is seen in the career of a tool and die maker. **(SEE HANDOUT: "Compensation Potential"—APPENDIX C)**
- Some on-the-job training may also occur in many mid-level technology positions. As the technology continues to develop, workers will have to learn new skills, techniques, and practices.
- While salary is important, the main reason for selecting a mid-level technology career, or any career, should be interest in the career field.

6.

Many modern job titles may be unfamiliar to students. **(USE TRANSPARENCY II-3: "You want to be a what?"—APPENDIX B)** Allow students to speculate about the job titles listed on the transparency and to contribute other titles they may have heard or read. Let them examine a job advertisement from Mitsubishi and discuss the information contained in the ad. **(USE TRANSPARENCY II-4: "Mitsubishi Semiconductor America, Inc."—APPENDIX B)**

Students should consider the following:

- What in the world is a Wafer Fabrication Process Technician? Trying to guess by looking at the fields of study listed does not help you figure out what the job involves. (Answer: There are various technician positions involved in the "wafer fabrication" process of creating silicon computer chips from raw materials.)

7.

To help students discover the facts behind the job titles, you may choose to assign an activity which will prompt discussion of mid-level technology positions. **(STUDENT ACTIVITY II-A: "Job Titles in Mid-Level Technologies"—APPENDIX A)**

8.

Summarize the information covered in Unit II, emphasizing the following points:

- Many new mid-level technology career opportunities exist in our community.
- Throughout your working years, you may hold several jobs during a career and more than one career—which may or may not be in the same field.
- Salaries and advancement opportunities in mid-level technology careers are competitive with those in several professions requiring a four-year degree.
- Occupational training in high school up to and including an associate degree from a two-year/technical college will be required for entry into most new mid-level technology careers.

STUDENT ACTIVITIES

Unit II

STUDENT ACTIVITY II-A:

"Job Titles in Mid-Level Technology Careers"

MATERIALS NEEDED:

- Job Title Cards (Master copies are provided. Facilitator should prepare these cards before beginning the unit.)
- Key to Job Titles list
- Signs designating four mid-level technology cluster areas: Industry/Engineering Technologies, Business Technologies, Human and Public Service Technologies, Health Technologies. (Facilitator will need to make these signs and post them in four corners of the room ahead of time.)

PROCESS:

1.

Shuffle and hand out cards containing mid-level technology job titles to students.

2.

Remind students of the four major areas of mid-level technology careers, referring to the handout provided: "Average Salaries for Mid-Level Technology Careers." Point out that each corner of the room has been assigned one of the four mid-level technology career cluster areas.

3.

Ask students to classify their job titles into the correct area by moving to the appropriate corner. Have the groups in each corner discuss each card to verify that each job belongs in this category.

4.

Have each group elect a recorder who will take notes for the group and a spokesperson who will use these notes in the general class discussion. Ask students in each of the four groups to discuss these job titles in as much detail as possible, trying to determine what each one might involve.

QUESTIONS FOR DISCUSSION:

a. Where does this job occur in our community?

b. Who do we know who works in such a position? (relatives, friends?)

c. What kind of work does this job require?

d. What kind of equipment or tools does it utilize?

e. How much education is required to enter this job?

f. What other jobs in this field are also available?

5.

Ask groups to present job titles and group observations about these jobs to the entire class, until everyone has a solid understanding of representative jobs in the four major areas of mid-level technology careers. Ask students to consider the following points:

- Which jobs typically require only high school occupational education courses?
- Which typically require some high school occupational classes and some post-secondary education at a technical college (but not an entire two-year degree)?
- Which typically require a two-year occupational associate degree from a technical college?

OPTIONAL ACTIVITY:

As an out-of-class assignment, have each student research a job title and report to the class at a later date. Facts to determine could include:

1. job responsibilities;
2. skills and equipment used;
3. salary range; and
4. education and experience required.

ACCOUNTING TECHNICIAN	BROADCAST TECHNICIAN
FOOD SERVICE MANAGER	COMPUTER OPERATOR
WORD PROCESSING SPECIALIST	LIBRARY TECHNICAIN
PSYCHIATRIC AIDE	POLICE OFFICER
DETECTIVE	FIREFIGHTER

AIRCRAFT MECHANIC	BRICK MASON
DIESEL ENGINE SPECIALIST	ELECTRONICS ENGINEERING SPECIALIST
ELECTRICIAN	TOOL & DIE MAKER
WELDER	DRAFTER
REGISTERED NURSE	LICENSED PRACTICAL NURSE

MEDICAL RECORDS TECHNICIAN	MEDICAL LAB TECHNICIAN
PHYSICAL THERAPY ASSISTANT	DENTAL ASSISTANT
VETERINARY TECHNICIAN	SURGICAL TECHNOLOGIST
MECHANICAL ENGINEERING TECHNICIAN	MACHINERY MAINTENANCE TECHNICIAN
AUTOMOTIVE MECHANICS TECHNICIAN	LEGAL SECRETARY

STUDENT ACTIVITY II-A:

"Job Titles in Mid-Level Technologies"

FACILITATOR'S KEY

Industrial and Engineering Technologies

1. Aircraft Mechanic
2. Automotive Mechanics Technician
3. Brick Mason
4. Diesel Engine Specialist
5. Drafter
6. Electrician
7. Electronics Engineering Specialist
8. Mechanical Engineering Technician
9. Machinery Maintenance Technician
10. Tool and Die Maker
11. Welder

Business Technologies

1. Accounting Technician
2. Broadcast Technician
3. Computer Operator
4. Food Service Manager
5. Legal Secretary
6. Word Processing Specialist

Human and Public Service Technologies

1. Detective
2. Firefighter
3. Library Technician
4. Police Officer

Health Services Technologies

1. Dental Assistant
2. Licensed Practical Nurse
3. Medical Lab Technician
4. Medical Records Technician
5. Physical Therapy Assistant
6. Registered Nurse
7. Psychiatric Aide
8. Surgical Technologist
9. Veterinary Technician

GENERAL CHARACTERISTICS OF MID-LEVEL TECHNOLOGY CAREERS

- offer wide range of responsibilities, good salaries, and advancement opportunities
- require H.S. vocational training up to an Associate Degree for entry and/or advancement
- require problem-solving, communications, "teamworking", and technical (job-specific) skills
- often require performance of duties as part of a team
- offer opportunities in more than industrial/ technical fields—many positions exist in health, business, and public service areas
- are becoming more plentiful locally, regionally, and nationally

dT1

"The average person finishing high school today is expected to change jobs 10 times and careers 3 times."

(Education and Work. Career Opportunities News, March/April, 1990, p. 4.)

dT1

"You want to be a WHAT?"

LABORATORY PROCESSING TECHNICIAN

Anderson Memorial Hospital is seeking a Processing Technician to join our Outpatient Diagnostic Laboratory. Successful candidates should posess a MA, CLT, or MLT degree with computer experience helpful. Will consider in-
...ti-
...ls

PHLEBOTOMIST

Mon-Fri, 8 AM - 5 PM. Excellent hourly rates. Good benefits. Call 250-1002 for appt.

CLEMSON UNIVERSITY HISTOLOGY TECHNOLOGIST

Qualifications: High School Graduation and two (2) years experience as a Histology Technician; or an associate degree in Histology (preferred) and (6) months experience in Histologic Techniques. Supervisory experience preferred. Experience with processing plastics would be helpful. Salary:State Pay Grade 26 $18,177 - $27,266 ...

STERILE PROCESSING TECHNICIAN

Anderson Memorial Hospital is seeking a STERILE PROCESSING TECHNICIAN to fill a full-time position. Prefer experienced surgical technician and or knowledge of surgical instrumentation. We offer a competitive salary and benefits package. For more information, please contact:

Linda Brown

Anderson Memorial Hospital

SLEEP TECH

Anderson Memorial Hospital is seeking a Sleep Technician to join our Sleep Disorder Center. Position would administrator sleep, diagnostic studies utilizing computerized equipment. Qualified candidates will posess a minimum of one year of Allied Health/Medical experience and willingness to train; RRT or CRTT preferred, but not required. Hours part-time from 9:00 PM - 7:00AM, 2 nights weekly.

Please send resume to or contact:

Virginia Suggs

CT TECHNOLOGIST

The opportunity to join our CAT SCAN Department is available now for second shift. Requirements include the following:

- Two years of college
- Two years of experience in Radi-
ology. Special Procedures, Other
...s, Ultrasound, or Physical

...n experience is required

...ry and benefits package
...pply in person, to Medical
...t 15 Medical Drive,
...reet Ext or call 8033-
...for more information
...arden Street Ext) or c
...taker at (803) 765-4:
...ormation.

MICROBIOLOGIST TECHNICIAN

Candidate will have a A.S/B.S. in Biological Sciences with course work or experience in Microbiology. Candidate will work independently on microbilogical evaluations to depermine potential effectiveness of bioremediation, prepare and carry out degradation studies, order supplies and duties as necessary.

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Radiologic Technologists

If you're a Radiologic Technologis... and like the idea of beginning a succes... career with one of the largest hospital... systems in the Southeast, we have an... opportunity for you to become a part... the Greenville Hospital System.

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...our Greenville Mc...
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108 Liberty Drive
Clemson, SC 29631

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...tion package. To include automo-
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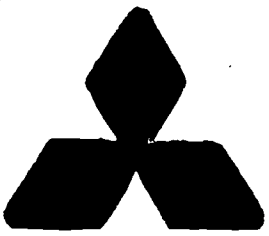
...696, Sta. B, G'ville, SC 29604.



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Wafer Fabrication Process Technicians

Requires an AAS Degree in one of the following fields:

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COMPUTER ENGINEERING TECHNOLOGY
MICROELECTRONIC TECHNOLOGY
MECHANICAL ENGINEERING TECHNOLOGY
ROBOTICS
ELECTRONICS
ELECTRICAL ENGINEERING TECHNOLOGY

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MITSUBISHI SEMICONDUCTOR
AMERICA, INC.
Human Resources Department
Attention: Department A
Three Diamond Lane
Durham, NC 27704

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INTRODUCTION TO CAREERS - A MATCHING QUIZ

DIRECTIONS: Listed below are job titles and salary figures taken from local newspaper ads, company job descriptions and S.C. Employment Security Commission figures. For each career/position listed in the left column, match the appropriate salary and educational level from the column on the right.

POSITION	EDUCATION/SALARY
_____ 1. Junior Quality Assurance Engineer	(a) Assoc. Deg./$26,000
_____ 2. Automotive Technician	(b) Voc. Cert. to 1 Year Coll./$20,000
_____ 3. Carpenter	(c) Assoc. Deg./$25,200
_____ 4. Speech Pathologist	(d) H.S. grad. to some college/$19,500
_____ 5. Registered Nurse	(e) Assoc. Deg./$30,000
_____ 6. Electronics Technician	(f) Voc. cert. to Assoc. Deg./$25,500
_____ 7. Psychological Social Worker	(g) Assoc. Deg. or Bachelor's/$33,200
_____ 8. Criminal Investigator	(h) Assoc. Deg./$17,500
_____ 9. Medical Lab Technician	(i) Master's Deg./$21,400
_____ 10. Microwave Field Technician	(j) Bachelor's/$23,500
_____ 11. Word Processing Supervisor	(k) Voc. cert. or OJT/$30,700
_____ 12. Clinical Dietician	(1) Bachelor's or Master's/$21,500
_____ 13. Licensed Practical Nurse	(m) Assoc. Deg./$17,500
_____ 14. Accounting Technician II	(n) Assoc. Deg./$16,234
_____ 15. Convenience Store Manager	(o) Assoc. Deg./$27,500
	(p) Bachelor's/$40,000

NOTE: The job titles and salary figures listed above are JUST SAMPLES. Considerable variation exists in job titles, education required and salary information depending upon the company/agency, the applicant's experience and other factors. The salary figures used here are averages or mid-point figures when the original source showed a salary range.

INTRODUCTION TO CAREERS - A MATCHING QUIZ

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C	1. Junior Quality Assurance Engineer	(a) Assoc. Deg./$26,000
F	2. Automotive Technician	(b) Voc. Cert. to 1 Year Coll./$20,000
K	3. Carpenter	(c) Assoc. Deg./$25,200
L	4. Speech Pathologist	(d) H.S. grad. to some college/$19,500
G	5. Registered Nurse	(e) Assoc. Deg./$30,000
O	6. Electronics Technician	(f) Voc. cert. to Assoc. Deg./$25,500
I	7. Psychological Social Worker	(g) Assoc. Deg. or Bachelor's/$33,200
		(h) Assoc. Deg./$17,500
A	8. Criminal Investigator	(i) Master's Deg./$21,400
N	9. Medical Lab Technician	(j) Bachelor's/$23,500
E	10. Microwave Field Technician	(k) Voc. cert. or OJT/$30,700
M	11. Word Processing Supervisor	(l) Bachelor's or Master's/$21,500
J	12. Clinical Dietician	(m) Assoc. Deg./$17,500
B	13. Licensed Practical Nurse	(n) Assoc. Deg./$16,234
H	14. Accounting Technician II	(o) Assoc. Deg./$27,500
D	15. Convenience Store Manager	(p) Bachelor's/$40,000

NOTE: The job titles and salary figures listed above are JUST SAMPLES. Considerable variation exists in job titles, education required and salary information depending upon the company/agency, the applicant's experience and other factors. The salary figures used here are averages or mid-point figures when the original source showed a salary range.

FASTEST-GROWING OCCUPATIONS: MID-LEVEL TECHNOLOGIES

Listed below are the fastest-growing careers in mid-level technology fields projected for state of South Carolina. These careers typically require some vocational training in high school up to and including an occupational associate degree either to enter the job or to qualify for advancement. Also included are careers which require some formal or specialized training after high school available through employers, proprietary schools or other agencies. Careers are listed in descending order of projected growth.

INDUSTRIAL AND ENGINEERING TECHNOLOGIES

Position	Increase by the Year 2000 (projected)
Machinists	68%
Electrical & Electronic Technicians	61%
Numerical Control Machine Tool Operators	51%
Industrial Machinery Mechanics Technicians	43%
Water & Waste Treatment Plant Operators	41%
Automotive Body, Related Repairers	40%
Drafters	39%
Electricians	38%
Data Processing Equipment Repairers/Technicians	47%
Tool & Die Makers	37%
Heating, A/C, Refrigeration Mechanics	36%
Plumbers, Pipefitters, Steamfitters	36%
Automotive Mechanics	34%

BUSINESS TECHNOLOGIES

Position	Expected Increase by 2000 (projected)
Computer Programmers*	79%
Receptionists, Information Clerks	67%
Property & Real Estate Managers*	63%
Computer Programmer Aides	62%
Medical Secretaries	62%
Brokers & Sales Agents, Real Estate*	52%
Insurance Sales Workers	52%
Bill & Account Collectors	51%
Computer Operators, except peripheral equip.	45%
Insurance Adjusters, Investigators	42%
New Account, Loan, Credit & Adjustment Clerks	42%
Insurance Policy Processing Clerks	40%
General Office Clerks	37%
Loan Officers and Counselors*	35%

HUMAN AND PUBLIC SERVICE TECHNOLOGIES

Position	Expected Increase by 2000 (projected)
Child Care Workers	111%
Legal Assistants, Technicians & Paralegals	106%
Guards	73%
Food Service & Lodging Managers*	69%
Legal Secretaries	64%
Teachers' & Education Assistants	39%
Police Patrol Officers	37%
Teachers, Preschool & Kindergarten*#	36%
Hairdressers and Cosmetologists	35%

HEALTH TECHNOLOGIES

Position	Expected Increase by 2000 (projected)
Medical Assistants	92%
Surgical Technicians	86%
Radiological Technologists & Technicians	78%
Dental Assistant	57%
Registered Nurses*	55%
Dental Hygienist	55%
Licensed Practical Nurse	48%
Emergency Medical Technician	37%

* Persons in these positions may have either an associate or a bachelor's degree.

Persons with appropriate credentials and/or a postsecondary diploma or an associate degree may teach in preschools or private kindergartens in South Carolina.

NOTES: The information in this list compares the 1986 employment figures against projected change by the year 2000. Only mid-level technology occupations showing at least a 33% increase were included in the list. It should also be understood that these are statewide projections. Because there are differences across the state, demand for a particular career area may be very high in the Upstate but lower in other parts of the state which will result in a lower overall percentage for projected growth.

(Source: South Carolina Employment Security Commission. Palmetto Perspective 1990: South Carolina's People and Jobs in the Year 2000. Columbia, SC: Author, 1990. NOTE: This was the latest information available from the state as of June 1992.)

June, 1992

AVERAGE SALARIES FOR MID-LEVEL TECHNOLOGY CAREERS

Listed below are just a few examples of AVERAGE salaries for mid-level technology careers* in the Upstate South Carolina MSA (Metropolitan Statistical Area) region or for the state as a whole. Again, the salaries listed are AVERAGE figures—some people earn considerably more depending upon their experience and the particular company with which they are employed. While the original salary figures reported by the S.C. Employment Security Commission were in hourly rates, they have been converted here to annual rates and rounded to even numbers.

INDUSTRIAL/ENGINEERING TECHNOLOGIES

Position	Average Annual Salary
Aircraft Mechanics+	28,000
Automotive Body and Related Repairers	22,000
Automotive Mechanics Technicians	22,000
Brick Masons	26,000
Bus/Truck Mechanics & Diesel Engine Specialists	29,000
Carpenters	19,000
Chemical Technicians/Technologists	24,000
Civil Engineering Technicians	31,000
Data Processing Equipment Repairers	29,000
Drafters	24,000
Electrical and Engineering Technicians	28,000
Electricians	27,000
Heating, Air Conditioning and Refrigeration Mechanics and Installers	21,000
Machine Tool Operators (Metal/Plastic)	27,000
Mechanical Engineering Technicians	34,000
Machinery Maintenance Mechanics	26,000
Machinists	22,000
Nuclear Technicians/Technologists+	28,000
Numerical Control Machine Tool Operators (Metal/Plastic)	26,000
Programmers (Numerical, Tool, Process Control)	30,000
Supervisors (First-Line), Mechanics	35,000
Surveying and Mapping Technicians	30,000
Tool and Die Makers	28,000
Welders and Cutters	23,000

BUSINESS TECHNOLOGIES

Position	Average Annual Salary
Accounting Technicians	16,000
Announcers+	14,000
Billing, Posting, Calculating Machine Operators	15,000
Bookkeeping, Accounting and Auditing Clerks	18,000
Broadcast Technicians+	17,000
Brokerage Clerks	17,000
Combination Food Preparation & Service Workers	11,000
Cooks, Institution or Cafeteria	11,000
Cooks, Restaurants	10,000
Computer Programmers@	33,000
Computer Operators, except peripheral equipment	21,000
Data Entry Keyers, except composing	16,000
Dispatchers, except police, fire and ambulance	24,000
Food Service and Lodging Managers@	19,000
Hairdressers, Hairstylists and Cosmetologists	15,000
Insurance Policy Processing Clerks	18,000
New Accounts Clerks	16,000
Payroll and Timekeeping Clerks	19,000
Personnel Clerks, except payroll	19,000
Production, Planning and Expediting Clerks	29,000
Real Estate Brokers+@	75,000
Receptionists and Information Clerks	15,000
Sales Supervisors, First-Line	22,000
Secretaries	19,000
Stenographers	21,000
Supervisors, Administrative Support Occupations	30,000
Travel Agents+	17,000
Typists, Word Processing Equipment	20,000

HUMAN AND PUBLIC SERVICE TECHNOLOGIES

Position	Average Annual Salary
Biological, Agricultural and Food Technicians+	16,000
Child Care Workers	11,000
Detectives and Investigators, except public@	17,000
Firefighters%	20,000
Funeral Directors and Morticians@	27,000
Guards, Security+	16,000
Human Services Workers+	14,000
Library Technicians%	19,000
Occupational Therapy Assistants%	18,000
Paralegal Personnel	26,000
Police Officers	21,000
Pre-School Teachers+@	13,000
Psychiatric Aides+	11,000
Social Service Aides%	22,000

HEALTH TECHNOLOGIES

Position	Average Annual Salary
Dental Assistants	17,000
Dental Hygienists	33,000
Emergency Medical Technicians+	13,000
Licensed Practical Nurses	20,000
Medical Assistants	19,000
Medical and Clinical Laboratory Technicians	24,000
Medical Records Technicians	18,000
Nursing Aides, Orderlies, and Attendants	10,000
Pharmacy Technicians	21,000
Physical and Corrective Therapy Assistants	22,000
Precision Dental Laboratory Technicians+	25,000
Radiological Technicians	18,000
Registered Nurses@	27,000
Surgical Technologists and Technicians+	20,000
Veterinary Technicians%	21,000

CURRENT SALARIES FOR OTHER OCCUPATIONS

Listed below are AVERAGE salaries for selected occupations other than mid-level technologies. These career fields and salary figures are provided for comparison purposes.

PROFESSIONAL LEVEL (Bachelor's Degree or Higher)

Accountants, Auditors & Other Financial Specialists	31,000
Aircraft Pilots and Flight Engineers+	34,000
Architects, except landscape and marine	40,000
Electrical and Electronic Engineers+	39,000
Medical and Clinical Laboratory Technologists	24,000
Operations and Systems Researchers & Analysts	32,000
Pharmacists	46,000
Physical Therapists+	37,000
Recreational Therapists+	13,000
Social Workers, Medical and Psychiatric	26,000
Systems Analysts, Electronic Data Processing	34,000
Teachers, Secondary	35,000
Writers and Editors	26,000

SEMI-SKILLED (On-the-job Training)

Bus Drivers	9,000
Cashiers	11,000
Cooks, Fast Food	9,000
Highway Maintenance Workers+	22,000
Janitors and Cleaners, except maids	13,000
Motion Picture Projectionists+	11,000
Salespersons, retail	13,000
Service Station Attendants	10,000
Tire Repairers and Changers+	14,000
Vehicle and Equipment Cleaners	12,000
Waiters/Waitresses	6,000

* Mid-level technology careers are those that typically require some high school vocational training up to and including an occupational Associate Degree either to enter the job field or to qualify for advancement.

Annual salaries are calculated by taking the hourly rate and multiplying by 2080 hours per year.

+ These figures are AVERAGES for the state of South Carolina. Salaries for the Upstate region were not available.

@ Persons in these positions may have either an associate or a bachelor's degree.

% Local figures unavailable from the Employment Security Commission so salaries reported were taken from statewide reports. (Source: South Carolina Occupational Information System, COIN Educational Products, 1991.)

(Source: S.C. Employment Security Commission, Labor Market Information Division. The South Carolina Wage Survey. Columbia, SC: Author, 1991; and local Employment Security Commission offices, 1992. Information contained in The South Carolina Wage Survey is based upon results of questionnaires sent to nearly 3000 employers across the state between February 1991 and June 1991.)

June, 1992

Appendix C

Planning Forms

Student Career Awareness Program

Planning Form A: Large Group Brainstorm

Now that you have reviewed one consortium-produced student career awareness program, consider you group's ideas and objectives. Use these questions to brainstorm:

1. Why do you feel that this program is needed? What specific needs do you see that the program will meet?

2. Who will be the participants in the program? Other counselors? Teachers? Parents? Students? Students and parents together?

3. What age students do you visualize reaching? Why?

4. Who will be presenting/administering the program?

5. What benefits do you want your program participants to gain?

6. What major topics do you think need to be covered in this program?

7. Keeping in mind the major topics that you have decided to cover, how long do you want the program to last? For example, do you visualize a two-hour workshop? A one-semester course? Somewhere in between?

8. What would be the most useful "package" to present to facilitators? A binder divided into units like the one you have reviewed? Something less detailed for a shorter presentation?

Student Career Awareness Program

Planning Form B: Small Group Document/Brainstorm

In your breakout group, document the decisions made in the large group brainstorming session; then discuss the format that would most effectively present your program as you visualize it.

Document:

1. Our student career awareness program will target the following participant group(s):

2. Our rationale/statement of purpose for this program:

3. The major topics we will cover in the program will be the following:

Brainstorm:

4. What kinds of materials do you wish to include (e.g. student worksheets, transparencies, handouts, etc.)?

5. How will you divide your presentation? Into topics? Units? How many? What will you name them?

Planning Form B: Small Group Document/Brainstorm

6. Under the major topic assigned to your group,_____, list the subtopics that you will cover:

Student Career Awareness Program

Planning Form C: Large Group Brainstorm/Document

Use this form to finalize your decisions about format and packaging.

1. Our program will be structured for a _____ time period.

2. It will be facilitated by_____.

3. Each facilitator will receive the following package:

Student Career Awareness Program

Planning Form D: Large Group "Sweating the Details"

Although you may or may not be able to assign all of these responsibilities right now, they are details that you will need to consider. Use this list as a checklist as you go throught the development process.

Activity	Person Responsible	Timeframe	Support needed?
Oversee project			
Do research			
Write units			
Design activities			
Design facilitator handbook			
Key in text			
Design graphics			
Arrange for printing and packaging			
Arrange for/do dissemination			
Arrange for/do training			