



INTRODUCTION TO THE WORKFORCE (IWP)

TECHNOLOGY EDUCATION

Remember:
The upcoming Spring
2007 Term runs:
4/3/07 — 6/17/07

**INFORMATIONAL
BROCHURE FOR STUDENTS**



For additional information or to enroll,
send a request slip to:

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Career and Technical Education

Frequently asked questions...

1. What is IWP? What is it's purpose?

IWP stands for *Introduction to the Workforce Program*. The IWP program is a Technology Education program and is often referred to as simply *Technology Education*.

The IWP / Technology Education Program is a pre-vocational foundational program designed to teach students a foundation of technology-based learning.

2. How can the IWP / Technology Education program help me?

The IWP / Technology Education program can help you by:

- providing opportunities to develop skills and awareness in a wide range of traditional and contemporary technologies;
- offering opportunities to develop, control, and maintain a variety of technological systems such as energy and power, information and communication, transportation, manufacturing and construction;
- preparing you to recognize, use and prepare technical information to solve problems related to a variety of technological systems;
- encouraging habits useful to a lifelong learner, such as the ability to question, investigate, experiment, and evaluate;
- examining the relationship between technology and other disciplines;
- developing an understanding of the relationships between technology, individuals, and society;
- providing an introduction to technology and its impact on society and the environment;

3. What can I expect from the IWP / Technology Education experience?

Once you enroll in the IWP / Technology Education program, you can expect classes that concentrate on learning that emphasizes hands-on solutions to problem-solving challenges, activities that are laboratory-based and action-oriented, an emphasis on the safe and proper application of the techniques, equipment, and materials in the labs

Students are encouraged to practice cooperative learning and small group interaction. Exploratory activities will include real and simulated situations. Students will be assessed using a broad range of assessment strategies (design portfolios, project work, individual and group work, presentations, performance testing, etc.). Activities will be emphasized that explore the relationship between different technologies and disciplines.

Program Goals

- To establish a workable path for a vocational student to transition into a job in the prison Industries with the fundamental learning skills necessary as well as a work ethic that will sustain them in their future.
- To establish a workable path for a vocational student to transition into advance vocational classes or to continue into a more formal education program.
- To establish a workable path for a vocational student to acquire fundamental learning skills and a pattern of behavior that will afford him the opportunity to chose the direction for his future.
- To provide fundamental learning skills and an atmosphere for behavior that will provide working and learning practices for their future.
- To foster an attitudinal change toward becoming a productive member that will provide a meaningful path into the students future.
- To cultivate the learning skills that may be used in any future endeavors.
- To recognize the responsibilities of a working and living community.



Career and Technical Education Center

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Course Offerings

Term I

UNDERSTANDING TECHNOLOGY

- ▶ Understanding Technology has established a definition of technology and the major components within the technology curriculum. Designing, production, construction, communication, transportation, and bio-related system. The course outlines has some of historical technologies and their growth. It helps the student to recognize their advancement of the past, present, and future.

Term II

COMPUTER AIDED DESIGN

- ▶ Computer Aided Design (CAD) systems are explored. A survey of various systems are discussed as well as the various application of such programs are discussed.

EXPLORING PRODUCTION

- ▶ Exploring Production provides a study of two technological systems-manufacturing and construction. The student is introduced to the efficient use of tools, techniques, resources and production systems used to produce products and structures.

Term III

APPLIED COMMUNICATION

- ▶ A course designed to examine the different methods of communication commonly utilized in today's workplace. Using an applied approach, students will read, discuss and practice the development of several types of communication ranging from letter and memorandum development to PowerPoint presentation. Classes will consist of the lectures, practical exercises (both individual and group) and student presentations. PowerPoint presentations, selected audio and handout material will supplement the course.

ENERGY, POWER, AND TRANSPORTATION

- ▶ The study of Energy, Power, and Transportation promotes the student's awareness of their impact on and necessity for society. This course covers the following subjects: Energy; Forms of Energy; Sources of Energy; Conversion of Energy by Various Devices; Energy & Power; Energy Production and Consumption; Transportation Systems; Specifics of Energy Conversion; Power Transmission; Fossil Fuels; Solar and Wind Energy.

Term IV

TECHNOLOGY PRACTICUM

- ▶ An introduction to basic electricity. Electricity/electronics is a vital component in the technological advances of the recent past and the future. Topics covered include: the electron; volts, amperes, ohms; meters, analog/digital meters; Ohm's law; series circuits; parallel circuits; sources of electricity and batteries; semiconductors; and integrated circuits.

Other Electives

CAREER AWARENESS

- ▶ Teaches skills to assist in both searching and obtaining a successful career path. It is designed to encompass the students' total lifestyle-education, occupation, social responsibility, and leisure activities. Rather than charting a career path toward a single, long-term goal, students will explore multiple career paths and their interrelatedness. Through the course work, students who want to enjoy a quality standard of living must be prepared to make wise career transitions and to continuously learn new skills.

APPLIED MATH I-IV*

- ▶ One week per unit is taken, and each week begins with a video portraying a real-life application of the material to be studied. Then students engage in a real-life application and one or two hands-on applications of the skills to be learned. Several word problems are then completed by the student inside and/or outside of class. Topics vary from class to class, as follows:

Applied Math I

- basic calculator functions
- number naming systems
- problem solving
- estimating answers
- English and metric units
- graphs and charts
- dealing with data
- lines and angles

Applied Math II

- shapes in 2 and 3 dimensions
- ratios and proportions
- scaled drawings
- signed numbers and vectors
- scientific notation
- precision, accuracy, and tolerance
- problem-solving involving powers and roots
- problem-solving using formulas

Applied Math III

- linear equation problem-solving
- graphing data
- non-linear equation problem-solving
- statistics & probabilities
- right triangle relationships
- using trigonometric functions
- factoring
- patterns and functions

Applied Math IV

- quadrates
- systems of equation
- inequalities
- geometry in the workplace
- problem-solving with a computer spreadsheet
- problem-solving with computer graphics
- quality assurance and process

C.A.D. Electives

DATACAD I

- ▶ DataCAD I is a hands-on course which focuses on teaching the use of the DataCAD design tool. DataCAD is a windows based architectural design tool which employs pull down menus and toolbar icons to achieve functionality. The menu/toolbar options allow for a wide variety of techniques in creating floor plans and elevations as well as 3D models. The tool interface is user configurable and design file management is accomplished through multi-layer creation. There are many types and brands of CAD tools used in the industry today. The skills learned using DataCAD are directly transferable to other CAD tools.

KEYCREATOR I

- ▶ An 11 week course that begins with the Blueprint Reading Basics text. This text gives a good general introduction to manufacturing print reading and creating. Students are tested on these basics within the first few weeks of the course. Subsequent to the teaching of the basics of reading and creating manufacturing drawings, comes the hands-on portion of the course that focuses on teaching the use of the KeyCreator Computer Aided Design (CAD) tool. While there are many types and brands of CAD tools used in industry today, the skills learned using KeyCreator are directly transferable to these other CAD tools.

DATACAD II

- ▶ DataCAD II assigns the student a project to compete independently over the course of the 11 week semester. Students are to recreate an architectural drawing provided by the instructor. They are to create a dimensioned floor plan and elevations to match the drawing. Students are graded on their ability to use all the functions required to complete a complex project with the software.

KEYCREATOR II

- ▶ KeyCreator II reverts back to using the Blueprint Reading Basics text. Drawings from the book are assigned and represent real world parts; they are more difficult than those completed in KeyCreator I—requiring many advanced tool features. More advanced modeling functions such as extrude, revolve, sweep and loft are often required in combinations to form complex geometries. In addition to assigned drawings, each student must design, draw, and submit a class project of his choice that will account as 20% of the student's final grade.

Special Populations

INTRODUCTION TO TECHNOLOGY (SHU)

- ▶ Survey of the complete course offered in very restrictive circumstances. The course covers three sample chapters from each of the major topics in *Understanding Technology, Exploring Production Processes, and Energy, Power, and Transportation*. This sampling of topics exposes the inmate to technology and permits counseling about additional opportunities that will be available once the student has reentered the general inmate population.