Technology Education

TECHNOLOGY EDUCATION 8

This is a half a semester course which provides the opportunity to learn the safe uses of a variety of hand and machine tools. The course will also cover the processes involved in working with a number of different materials such as wood, plastics, metals, fabrics, etc. In addition, students will build functional electronic components, use computers in the design process and design their own solutions to a variety of technological problems.

DRAFTING 9

(Technical Design) Students will explore basic drafting that will demonstrate architectural, mechanical and computer aided design (CAD) and model construction.

ELECTRONICS 9

This course covers basic electronic concepts, including circuits, schematics, electronic test equipment and measurement. Students will construct electronic projects such as strobe lights, electronic games, toys, alarms, timers, motion detectors and amplifiers. Additional costs may be incurred for program options.

WOODWORKING 9

This course develops a basic knowledge of many aspects of woodworking including design, joinery and finishing. Workplace health and safety will be emphasized. Additional costs may be incurred if students choose to purchase their own wood for individualized projects.

TECHNOLOGY EDUCATION 10: DRAFTING & DESIGN

During this introductory year, students will explore how to create basic drawings on the computer using the Vectorworks application programs. Some hand drawings will be required. The curriculum is designed to provide learning opportunities for male and female students with a wide range of abilities. Areas covered are basic shapes, orthographic projection, dimensioning and pictorial views. Students will be given designing and construction problems in these areas. They will be required to work cooperatively and to communicate their ideas to others.

TECHNOLOGY EDUCATION 10: ELECTRONICS

This course covers basic electronic concepts in both analog and digital circuits. Students will construct a variety of project designs and will be encouraged to apply circuit design to a chosen application. An introduction to programming micro-controllers and robots using Easy ‘C’ and other programming languages are included. Students will also learn the standards and conventions of electronic engineering and learn acceptable attitudes and ethics required in industry.

TECHNOLOGY EDUCATION 10: WOODWORKING

This course provides the opportunity to learn the safe uses of a wide variety of hand and machine woodworking tools. It will also cover some basic knowledge of wood and wood products as well as basic finishing techniques. Students will complete at least three projects during the year. Two will be assigned and one (or more) will be of the student's choice, if appropriate to the course level. Areas covered are: machine tools (stationary and portable), hand tools, project organization and procedures, recognition and characteristics of common wood and wood products (plywood, particle board, etc.), joinery techniques and furniture construction methods, abrasives, fasteners, gluing, clamping and assembly methods.

DRAFTING & DESIGN 11

The Drafting and Design curriculum provides students with challenging opportunities to develop their skills through a practical, hands-on learning environment using project-based activities. During this senior year, students will explore how to create basic drawings on the computer using the Vectorworks application programs. Some hand drawings will be required. Areas covered are basic shapes, orthographic projection, dimensioning, pictorial views, developments, sections, architectural, and mechanical drawings. Students will be given designing and construction problems in these areas. Students will be required to work cooperatively and to communicate their ideas to others.

The curriculum is designed to provide learning opportunities for male and female students with a wide range of abilities. This course is a pre-requisite to Drafting and Design 12.

ELECTRONICS 11

The first component of this course will focus on the design and function of analog circuits and their application in projects such as amplifiers, power supplies, and frequency filters. Projects will be designed and built using this technology.

CARPENTRY & JOINERY 11

This course provides the opportunity to learn the safe uses of a wide variety of hand and machine woodworking tools. It will also cover some basic knowledge of wood and wood products as well as basic finishing techniques. Students will be expected to finish the following required projects: a bedside table, secret box, curved box, and lamp table with drawer. Once the assigned projects are finished, students may build a project of their choice if it falls within their skill level. Areas covered are: machine tools (stationary and portable), hand tools, measuring and layout tools, project organization and procedures, recognition and characteristics of common wood and engineered wood products (plywood, particle board, etc.,), joinery techniques and furniture construction methods, abrasives, fasteners, gluing, clamping and assembly methods.

DRAFTING & DESIGN 12

The Drafting and Design curriculum provides students with challenging opportunities to develop their ability at a higher level through a practical, hands-on learning environment using project-based activities. During this senior year students will explore how to create basic drawings on the computer using the Vectorworks application programs. Some hand drawings will be required. Areas covered are basic shapes, orthographic projection, dimensioning, pictorial views, developments, sections, auxiliary views, architectural, site plans and mechanical drawings. Students will build on the concepts learned in Drafting 11 and apply these design principles and processes to more advanced situations. Those students that enjoyed Drafting in a previous year can continue working on more challenging activities. Students will continue with computer work, drawing shapes and designing work.

ELECTRONICS 12

The second component of Electronics will focus on a variety of digital electronic concepts, such as logic gates, memory, and counters. Projects will be designed and built using this technology. Employment opportunities in this field will be presented, as well as post-secondary options.

CARPENTRY & JOINERY 12

This course provides the opportunity to learn the safe uses of a wide variety of hand and machine woodworking tools. It is expected that students will produce the following projects: coffee table, Tambour door bread box, and a medicine cabinet. These projects will form the basis upon which student learning will be assessed. The comprehensive nature of the projects will allow students to experience a sense of accomplishment and to demonstrate skills acquired in relation to a range of learning objectives. Areas covered are: machine tools (stationary and portable), measuring and layout tools, project organization and procedures, recognition and characteristics of common wood and engineered wood products (plywood, particle board, etc.,), joinery techniques and furniture construction methods, stile and rail door construction, hardware, fasteners (including European style) and adhesives.

CARPENTRY & JOINERY 12: FURNITURE

In this course, students will produce at a minimum an Adirondack chair, and a bathroom cabinet. These projects will form the basis upon which student learning will be assessed. The comprehensive nature of the project will allow the student to experience a sense of accomplishment and to demonstrate skills acquired in relation to a range of learning objectives. Areas covered are: project organization and procedures, recognition and characteristics of common wood and engineered wood products (plywood, particle board, etc.), face frame and flush face cabinet construction, dovetail and mortise and tendon joints, form and function considerations in furniture design, and various edge to edge joins including biscuits, spines and dowels.