

APPLIED TECHNOLOGY



Philosophy Statement

Our program is designed to help all students whether they plan on attending college or plan on full time employment after high school graduation. It helps students facing a highly technological society achieve a basic understanding of related topics and practice the skills that can be applied to many aspects of daily life including leisure time activities.

Our courses allow students to explore many subject areas so that they can gain the knowledge and experience necessary to make intelligent career decisions. They include a maximum number of laboratory activities that apply the theory learned from various subjects. The activities allow students to use instruments and equipment to produce tangible results that provide personal success and build self-confidence. Students actually see their ideas become reality!

Applied Technology

Course Descriptions

- Courses in this department may be used to fulfill the one-year required credit for graduation in Applied Arts, Fine and Performing Arts or International Languages.
- The Extended Study Option allows students to re-enroll in a course for grade and credit.

Advanced Technical Drawing

Course No.: 5002

Prerequisite: Architectural Design CAD or Engineering Design CAD

Credit: 1.0 / Full Year

Fees: \$20.00

Grades: 10, 11, 12

Other: Extended Study Option

In **Advanced Technical Drawing**, students complete architectural or engineering drawings of professional quality. The drawings not only reinforce the concepts and skills first explored on the introductory level, but also require the students to learn many new concepts and skills. The architectural option includes design presentations, plot, floor, foundation, and electrical plans, interior and exterior elevations, and construction detail drawings. The engineering option includes product design and presentation, pictorial illustration, engineering geometry, precision dimensioning and mechanical assemblies. Students may elect to take this course for honors credit. In addition to regular course expectations, students receiving honors credit will be required to complete a major project outside of class each semester. The topic, scope and depth of the project will be determined through an agreement between the student and teacher and detailed in a written proposal completed during the first week of class.

Architectural Design CAD

Course No.: 5003F, 5004S

Prerequisite: None

Credit: 0.5 / Semesters 1 and 2

Fees: \$10.00

Grades: 9, 10, 11, 12

Other:

Architectural Design CAD provides students with an introduction to the architectural design and drafting process using fundamental concepts and principles. Students will have the opportunity to design and create their own homes by completing many of the drawings required to construct a single family home. Students will be creating both 2D and 3D home plans and views. This course is excellent for any student who has an interest in computers, architecture, interior design, construction or any other related area. No computer experience is required.

Automotive Technology I

Course No.: 5007F, 5008S

Prerequisite: None

Credit: 0.5 / Semesters 1 and 2

Fees:

Grades: 9, 10, 11, 12

Other:

Automotive Technology I provides students with an introduction to the automobile and its systems. Students will develop an understanding of the operating principles of an engine by disassembling and reassembling a small gas engine. Students will learn about suspension, steering, brake, power train, and electrical systems, as well. Students will also be introduced to routine maintenance and minor service operations of the automobile. With the knowledge obtained from this class, students will examine the procedure necessary for purchasing a used vehicle.

Automotive Technology II

Course No.: 5010

Prerequisite: Automotive Technology I

Credit: 1.0 / Full Year

Fees:

Grades: 10, 11, 12

Other: Extended Study Option

Automotive Technology II provides students with a working knowledge of automobile parts and systems. It also enables them to develop personal maintenance and repair skills. Students will also learn how to analyze, troubleshoot and diagnose problems using various diagnostic equipment and test procedures. In addition, students will have the opportunity to learn how to use various welding equipment such as mig, arc, and oxyacetylene. The use of a plasma cutter will be used on various projects. Knowledge and experience gained from this class will prove beneficial to all students regardless of their future ambitions.

Electronics I

Course No.: 5015F, 5016S

Prerequisite: None

Credit: 0.5 / Semesters 1 and 2

Fees:

Grades: 9, 10, 11, 12

Other: Students may receive 2 hours of college credit through the College of Lake County (DC Circuit Fundamentals-ELT 170) with successful completion of this course with a grade of "B" or better.

Electronics I students will be introduced to electricity and electronic components and devices. Through various units, students will explore AC and DC circuits to learn how they relate to the electronics world. They will have the opportunity to solder and de-solder exciting projects including strobe lights, burglar alarms, sirens, laser pointer targets, and battery zappers. Doorbells, three-way lights, and outlets are some of the typical house wiring circuits students will wire and test. Digital multi meters, function generators, oscilloscopes, and power supplies are equipment with which students will become familiar. This course exposes students to numerous experiments and hands-on projects.

Engineering Design CAD

Course No.: 5021F, 5022S

Prerequisite: None

Credit: 0.5 / Semesters 1 and 2

Fees: \$10.00

Grades: 9, 10, 11, 12

Other:

Engineering Design CAD students will complete drawings required to manufacture consumer products. Topics covered include two-dimensional and three-dimensional design, pictorial drawing, multi-view drawing, sectional view drawing, assembly drawing, and dimensioning. Students use a Computer Assisted Drawing (CAD) system

to complete many assignments. No art or computer experience is required. This course is excellent for students interested in engineering, design, manufacturing or any related area.

Graphic Communications I

Course No.: 5027F, 5030S

Prerequisite: None

Credit: 0.5 / Semester 1 and 2

Fees: \$20.00

Grades: 9, 10, 11, 12

Other:

Graphic Communications I provides students with an introduction to graphic design using fundamental concepts. Students will learn the basics of visual design using computer software applications (Adobe Creative Suite). Students will create memo pads, t-shirts, DVD covers, greeting cards, posters, and many other items in this project oriented course. These projects will allow students to continue to apply their skills as they screen print and set up and operate a press. This course is geared toward students who want to design and create their own unique work. No computer experience is required.

Graphic Communications II

Course No.: 5028F, 5029S

Prerequisite: Graphic Communications I

Credit: 0.5 / Semesters 1 and 2

Fees: \$20.00

Grades: 9, 10, 11, 12

Other: Extended Study Option

Graphic Communications II is a hands-on course enabling students to expand their knowledge, skills, and career awareness in desktop publishing, photo-offset lithography, and screen printing. Students will learn how to create computer-generated camera-ready copy for both continuous tone and multi-color images. Students will also learn to apply advanced darkroom, masking, plate making, and litho press and silk screening techniques in the printing of their continuous tone and multi-color images.

Technology Exploration

Course No.: 5051F, 5052S

Prerequisite: None

Credit: 0.5 / Semesters 1 and 2

Fees: \$10.00

Grades: 9, 10, 11, 12

Other: Extended Study Option (one time only)

Technology Exploration focuses on problem solving and critical thinking skills through a hands-on approach. This class will provide the opportunity to interact with different types of technologies offered in the Applied Technology Department. You will examine various principles of engineering while following an engineering design process

to find solutions to assignments. You will also have the opportunity to research new and exciting technologies that are emerging in today's world. Students will be able to create, design, and use critical thinking skills to accomplish the course goals. This course is designed for students who enjoy thinking outside of the box and working with their hands.

Web Page Design

Course No.: 5063F, 5064S

Prerequisite: Keyboarding or Computer Skills and completed or currently taking one class in Computer Applications, Multimedia or Computer Science

Credit: 0.5 / Semesters 1 and 2

Fees: \$10.00

Grades: 10, 11, 12

Other: Extended Study Option

Web Page Design will introduce students to the design concepts and the various languages and tools used for web page construction and design. The students will use design techniques, artwork, photos, mouse-over's, animations, background images, and sound to add punch to their "traffic stopper" personal Home Page and get the attention desired. The students will learn HTML (the universal language of Web-site builders) using programs such as Notepad, Adobe Dreamweaver, and Adobe Flash for authoring. The students will also render pictures for use on their pages using Adobe Photoshop and Adobe Illustrator. Students will also be exposed to the use of digital cameras, scanners, animation software, and sound files to jazz up their sites.

Woodworking I

Course No.: 5071F, 5072S

Prerequisite: None

Credit: 0.5 / Semesters 1 and 2

Fees: \$25.00

Grades: 9, 10, 11, 12

Other:

Woodworking I is a project oriented course that teaches students woodworking techniques, processes, and procedures with an emphasis on tool and equipment safety. Units of instruction include shop and tool safety, equipment set-up, joint construction, cutting, routing, project assembly, and surface preparation and finishing. Typical class projects include the building of a shelf, a night stand, a lamp, a CD cabinet, a clock and a stepstool.

Woodworking II

Course No.: 5073F, 5074S

Prerequisite: Woodworking I

Credit: 0.5 / Semesters 1 and 2

Fees: \$25.00

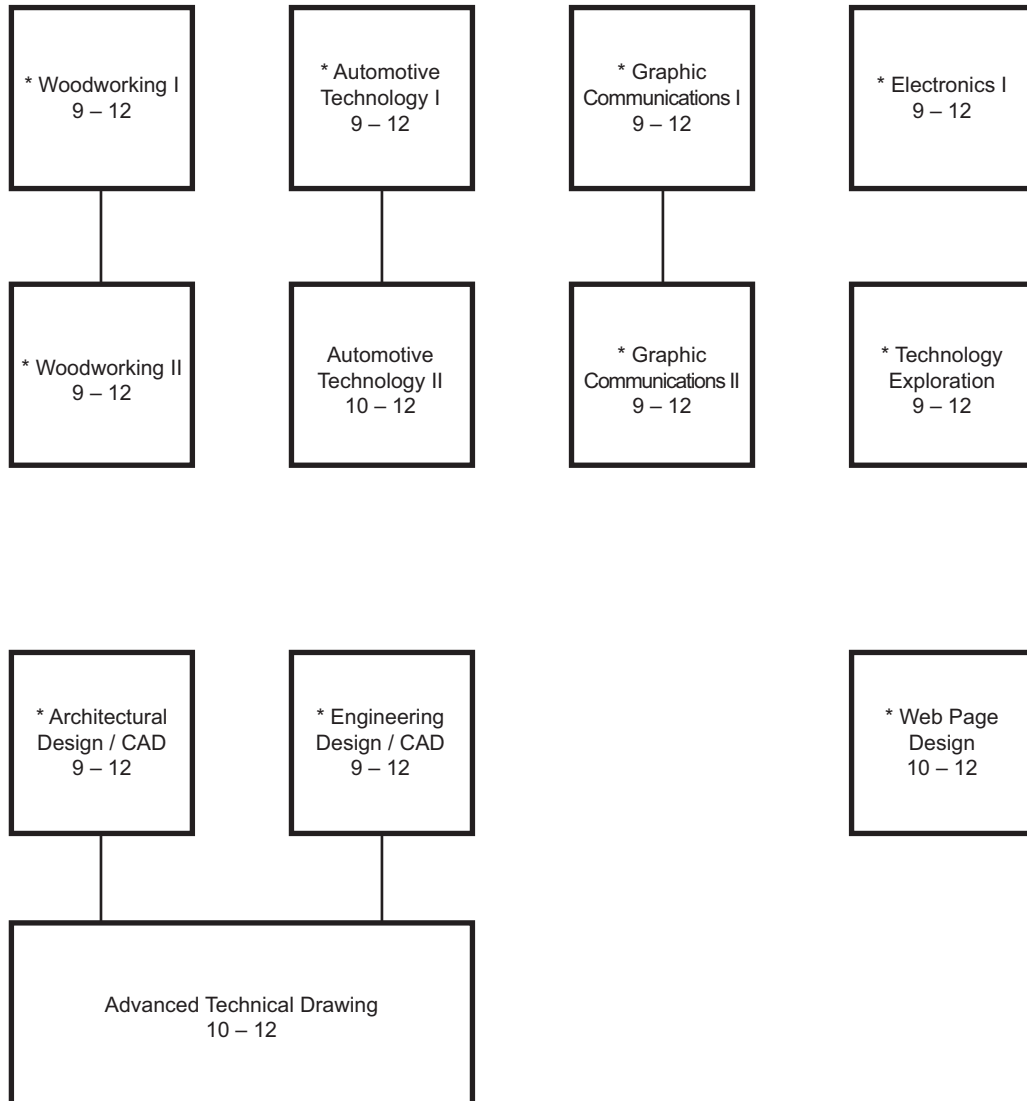
Grades: 9, 10, 11, 12

Other: Extended Study Option

Woodworking II furthers the student's knowledge and experiences in woodworking technology through the selection, planning, and construction of advanced cabinet and furniture projects typically ranging from intricate jewelry boxes and clocks to night tables, coffee tables, and desktop organizers. Instruction will focus on project planning, procedures and cost estimating, advanced cutting, shaping and routing, joint construction and assembly, and finishing techniques. Students will also learn about special machine set-ups and operations as well as equipment maintenance.

Applied Technology Department

Course Sequences



* Semester course