TECHNOLOGY EDUCATION

Exploratory Technology **8302** **Credit 1**

This course is designed for freshman and sophomore students that plan to take advanced technology or vocational courses during their four years at DeForest High School. Exploratory Technology is a skill for life and technological literacy course designed to promote and introduce students to exciting careers in technology while developing safety awareness. Areas studied include technological measurement, materials and processes, problem solving and design, systems, transportation and energy, and impacts of technology. Students will design and build CO^2 prototype vehicles, construct a finished wood project from rough lumber, problem solve and design a storage shed to ½" scale, and develop their research and computer skills to better prepare them for higher level learning.

Gateway Course for Architecture & Construction Career Cluster; Manufacturing Career Cluster; Science, Technology, Engineering and Math Career Cluster; and Transportation Career Cluster.

Prerequisite(s): Freshmen, Sophomore standing

Architectural/Engineering Design & Drafting 8395 **Credit ½**

This course is designed to engage students in drafting principles and practices and is required for CAD (Computer-Aided-Drafting). Students will learn how to use drafting tools to properly design and create various mechanical drawings including orthographic and isometric representations. Students will also complete an architectural unit where they will study and design various sections of residential plan. Upon completion, the students will have designed and drawn a single story house plan with front elevation view.

Prerequisite(s): Sophomore standing. Exploratory Technology recommended

Introduction to CAD (Computer-Aided-Drafting) Architecture Dual Credit **8383** **Credit ½**

Students will have the opportunity to earn 3 credits at Madison College upon successful completion of this course. The curriculum for this course is directly aligned with the college. Major emphasis is placed on learning the basic commands necessary to complete two-dimensional construction drawings for the architectural community. Approximately 50 percent of the course is spent on lecture/demonstrations concerning software commands and procedures, while 50 percent of the course is spent in on developing operating skills. A basic understanding of Windows and file management is covered within the course. The current version of **AutoCAD** is used as the teaching tool.

Prerequisite(s): Sophomore standing, Architectural/Engineering Design and Drafting. Exploratory Technology highly recommended

This is a dual-credit Madison College (MATC) course. Students who successfully complete the course may earn both DAHS and Madison College (MATC) credits.

CADD (Computer-Aided-Design and Drafting) Solid Modeling and 3D Architecture **8380** **Credit ½**

This program introduces students to both solid modeling software (1 quarter) and 3D architecture software (1 quarter) through design. The goal of this course is to introduce and develop Parametric Modeling techniques and concepts for the CAD novice. This is a hands on approach to 3D modeling in both mechanics and architecture. Students will be proficient with programs studied, understand materials and processes, and recognize structural codes for building. Ideas become reality in this course where student design is essential.

Prerequisite(s) Junior or senior standing. Architectural/Engineering Design and Drafting. Intro to CAD Architecture is highly recommended.

Small Engines **8385** **Credit ½**

Rebuilding small gas engines is the focus of this course. Students will learn to trouble-shoot, repair, and overhaul small engines as well as studying theories of operation.

Prerequisite(s): Sophomore, Junior or Senior standing

Basic Home and Auto Maintenance **8388** **Credit ½**

Are you mechanically challenged? Do you want to learn the basics? This is the class for YOU! Home skill units include: dry-wall repair, wiring electrical outlets, refurnishing furniture, painting techniques, measuring and sawing wood, repairing plumbing, and basic household appliance repair. Automotive skills include: oil changes, belt and hose inspection and repair, battery cleaning and testing, brake inspections, tire changing and rotations, and how to purchase a used car.

Prerequisite(s): Junior or Senior standing

IT Essentials **8347** **Credit ½**
Dual Credit Option

IT Essentials is a one-semester course that can be taken for 3 Dual College Credits. It is a certified 3 Credit MATC course in PC Hardware Essentials. The course provides students with the basic core competencies in computing concepts and terminology. Upon the successful completion, students will also earn and receive a CISCO IT Essentials certification. It is a must have course for anyone going into computer related fields of study that require a computer A+ certification. (Possibly the most popular entry-level certification, the **A+ certification** demonstrates expert knowledge of IT technologies.).

Prerequisite(s): Junior or Senior standing and strong math skills (no less than Core Connections Algebra). Principles of Electricity (8351) is highly recommended

This is a dual-credit Madison College course. Students who successfully complete the course may earn three Madison Area Technical College credits.

Principles of Electricity **8351** **Credit ½**

Electricity is a one-semester course that challenges students in electrical theory and principles. This is essential course for today's future engineers and electrical technicians. The course provides students with the basic information and math skills necessary to be successful in the exciting world of electricity and electrical engineering. The semester will focus on electrical problem solving, analysis, synthesis, and assessment to real-life job related scenarios. Labs will focus on mastering skills in electrical wiring and the building/soldering of circuit boards and devices.

Prerequisite(s): Junior or Senior standing and strong math skills (no less than Core Connections Algebra). Sophomore standing if space allows.

Welding I **8156** **Credit ½**

Correct and safe use of shielded metal arc welders, wire feed welders, oxyacetylene welders, plasma arc cutters and oxy-fuel cutting equipment is the focus of welding I. Students will learn the fundamental theories of welding and cutting while demonstrating various weld skills. This course is beneficial to careers in welding, pipefitting, mechanics, construction and plumbing.

Prerequisite(s): Junior or Senior standing and Sophomores if space allows

Welding II **8157** **Credit ½**
Dual Credit Option

This course builds on the skills learned in Welding I and concentrates on more advanced welding techniques and theory. GTAW welding of aluminum and stainless steel will be taught as well as metallurgy and position welding with SMAW, wire feed and oxyacetylene. Students will also gain skills in metal working on the lathe and milling machines, through a steel hammer project. Students have the option of gaining 2-credits through Madison College (MATC) in shielded metal arc welding.

Prerequisite(s): Grade of B or better in Welding I or consent of instructor

This is a dual-credit Madison College (MATC) course. Students who successfully complete the course may earn both DAHS and Madison College (MATC) credits.

Exploratory Construction **8378** **Credit 1**

This is an exploratory course that reinforces basic construction skills and construction/shop safety. The use of both hand and power tools are reintroduced and mastered to a beginning level of competency. American Builders and Contractors curriculum is used and the students complete the Core Curriculum course by the years end. Students will complete three major projects throughout the year to show mastery of tool use, design, safe operational practices, and basic construction skills.

Prerequisite(s): Exploratory Technology – Junior Standing – Algebra I

Agri-Business Management **8154** **Credit 1**
Agriculture/Technical Ed Internship **8503** **Credit 2**

This course works directly with the agriculture and technical internship program. It provides students with information of the fundamentals of getting a job, keeping a job and business management. Units explored: controlling credit and debt, taxes, job applications, resumes, record keeping, budgeting, career preparation, college application and more. An emphasis on career and further education preparation is a major aspect of the course.

Students in this class may apply to enter the Agriculture and Technical Education Internship program in a position related to the agriculture and/or technology industry. This program allows students the opportunity to develop skills through on-the-job training while earning 2 credits. Agriculture and Technical positions include but are not limited to the following: production agriculture, agriculture service, agriculture sales and marketing, veterinary science (small and large), construction, mechanics, electrical, plumbing, and more!

Prerequisite(s): Senior standing **and** a C or above in 1 or more offered agriculture and/or technical education courses.

Media Productions I **8353** **Credit ½**

This course is designed for students who are interested in and enjoy working with photography, video production, image manipulation, and graphics. Students will learn about and use Digital and SLR cameras to capture images. Students will also record footage using Digital Video Camcorders and High Definition Cameras. Students will learn how to import both photos and footage to computers, then edit the material with high-end programs and then export for viewing. When completed students will have produced digital images, digital video, vector art images, and raster based images using video and graphics editing software. The semester will be divided into three large units including photography, graphic design, and video production.

Gateway Course for Arts/AV Technology & Communication *(Audio & Video Technology & Film Pathway)*

Prerequisite(s): Sophomore, Junior, Senior standing.

Media Productions II **8359** **Credit ½**

This course will build and expand on concepts and techniques learned in Media Productions I. Students will study electronic design, illustration, photo retouch and publishing utilizing pc computers and peripherals. Software applications utilized include raster programs adobe Photoshop, and vector programs Adobe Illustrator. Students will be introduced to video animation and advanced video recording and editing techniques. Students will also work together to successfully plan, record, edit and produce school related video projects such as the senior video, drama performances, and sporting events.

Prerequisite(s): Junior or Senior Standing with a grade of B or better in Media Productions I or instructor's consent.

Drama Tech **8303** **Credit 1**

This course is designed to assist the drama club with theatre productions. Students will plan, design, build and maintain sets for high school and middle school plays. Students will be introduced to stagecraft, stage lighting, and stage sound systems. Students will also develop leadership and management skills by being team leaders in charge of small groups and set crews.

Prerequisite(s): Sophomore standing & Exploratory Technology

Students who wish to continue in the studies and practice of Drama Technology are encouraged to take Drama Tech independent study. Student must have received a B or better in Drama Technology.

Recommendations: Exploratory Technology, 2D Art, 3D Art