Tremper Technology
Department Course Offerings

Courses

Automotive Collision 1 *1 credit*	870511 870512	*Prerequisites:* Junior or Senior standing and successful completion of an automotive class with a C or better. *Description:* This course gives students the fundamental skills in auto collision repair, including safety and environmental practices, surface refinishing, painting preparation, and detailing. Students also learn about trim, alignment, glass installation, automotive finishes, corrosion protection, and body filler.
Consumer Auto and Car Care *½ credit*	870210	*Prerequisites:* Sophomore, Junior, or Senior standing *Description:* This course will give students the necessary skills to care for and understand basic automotive systems. Students will gain the ability to perform very basic maintenance on automotive lubrication, cooling, and electrical systems. Students will also become proficient in the use and identification of hand tools in the auto shop environment as well as the proper technique for safely jacking a car and changing tires. This course will introduce the student to situations that commonly occur in the day-to-day operation of motor vehicles as well as in the safe handling and disposal of chemicals found in today's automobile.
Automotive Technology 1 *½ credit*	870310	*Prerequisites:* Sophomore, Junior, or Senior standing *Description:* This course gives students the necessary skills to successfully compete for entry-level positions as a lube technician. Students that successfully complete this course will be able to read and understand Vehicle Identification Numbers (VIN) and understand and perform basic maintenance on automotive lubrication systems, cooling systems, starting systems, and fuel systems. Students will also become competent in basic measurement and safety procedures and the use of a repair of fasteners.
Small Engine Repair and Maintenance *½ credit*	870610	*Prerequisites:* None *Description:* Students interested in small gasoline engines will, upon successful completion of this course, understand the operation and general maintenance of small gasoline engines as well as gain the knowledge to disassemble and reassemble a small gasoline engine.

Manufacturing Process 1 *½ credit*	881010	*Prerequisites:* None *Description:* This course will allow students to learn how to use many tools and machines in the manufacturing of several products. Different manufacturing techniques will be covered, such as jigs, fixtures, and mass production. Students will be exposed to several different types of manufacturing materials, including woods, plastics, and metals. Safety, precision measuring, and blueprint reading are important areas of emphasis in this course.
Manufacturing Process 2 *½ credit*	881110	*Prerequisites:* Successful completion of Manufacturing Process 1 (881010) and/or teacher permission *Description:* This course is designed to allow students to delve deeper into the world of manufacturing. Students will learn advanced techniques of manufacturing, such as milling, turning, and CNC applications. This course will use a project-oriented, hands-on approach to drive student learning. Students will use a variety of materials and learn the properties unique to those materials. There will be an emphasis on quality and pride on each project.
Introduction to Design, Engineering, & Technology *1 credit*	880311 880312	*Prerequisites:* None *Description:* Students begin to explore simple machines and technology systems and processes. The principles of science, math, and technology are explored as to how—both individually and combined—they help people.
Computer-Aided Design: Beginning *1 credit*	860911 860912	*Prerequisites:* None *Description:* Students will attain the basics of the application of computer-aided design (CAD) to the communications and creation of design solutions. This course is articulated with Gateway's Beginning CAD course and is a prerequisite to CAD 2 and CAD Solids.
Introduction to Engineering Design *1 credit*	880511 880512	*Prerequisites:* Successful completion of Algebra (312011 and 312012 or 311011 and 311012 or 311013 and 311014) *Description:* This course teaches problem-solving skills using a design development process. Using an industry-based solid modeling (3D) computer program, students experience the design process involving problem identification, conceptualization, refinement of preliminary ideas, design analysis, development, and implementation, which are implemented through class projects.
Introduction to Engineering Design - Honors *1 credit*	880521 880522	*Prerequisites:* Successful completion of Algebra (312011 and 312012 or 311011 and 311012 or 311013 and 311014) *Description:* This course teaches problem-solving skills using a design development process. Using an industry-based solid modeling (3D) computer program, students experience the design process involving problem identification, conceptualization, refinement of preliminary ideas, design analysis, development, and implementation, which are

		implemented through class projects. If the student maintains a grade of a B or higher and achieves a 70 percent competency on the Project Lead the Way National Assessment, honors credit will be applied to his/her transcript.
Principles of Engineering *1 credit*	880411 880412	*Prerequisites:* Successful completion of Algebra (312011 and 312012 or 311011 and 311012 or 311013 and 311014) and Introduction to Engineering Design (880511 or 880512 or 880521 or 880522) and concurrent enrollment in Geometry (321011 and 321012 or 322021 and 322022) *Description:* his course, taken concurrently with Geometry, will help students understand the field of engineering/engineering technology through various presentations and projects. Students will explore various types of engineering systems, careers, materials, and design processes that will help them learn how engineers and technicians use math, science, and technology in an engineering problem-solving process that helps them to become a responsible, involved citizen. Using projects as a learning vehicle, students are expected to work cooperatively on complex and open-ended tasks as well as follow directions in step-by-step learning. This course can satisfy one Kenosha Unified School District science credit (482111 and 482112).
Principles of Engineering - Honors *1 credit*	880421 880422	*Prerequisites:* Successful completion of Algebra (312011 and 312012 or 311011 and 311012 or 311013 and 311014) and Introduction to Engineering Design (880511 or 880512 or 880521 or 880522) and concurrent enrollment in Geometry (321011 and 321012 or 322021 and 322022) *Description:* This course, taken concurrently with Geometry, will help students understand the field of engineering/engineering technology through various presentations and projects. Students will explore various types of engineering systems, careers, materials, and design processes that will help them learn how engineers and technicians use math, science, and technology in an engineering problem-solving process that helps them to become a responsible, involved citizen. Using projects as a learning vehicle, students are Kenosha Unified School District 37 High School Course Catalog 2014-15 expected to work cooperatively on complex and open-ended tasks as well as to follow directions in step-by-step learning. If the student maintains a grade of a B or higher and achieves 70 percent competency of the Project Lead the Way National Assessment, honors credit will be applied to his/her transcript. This course can satisfy one Kenosha Unified School District science credit (482111 and 432112).
Construction Systems 1	860411 860412	*Prerequisites:* None

1 credit		*Description:* This 18-week course is designed to introduce students to the fundamental skills and vocabulary used in the building trades. This introductory course provides the students with a hands-on opportunity to explore the construction field. This course uses two week-long BuildingSkills labs that introduce students to many phases of residential construction. Units on safety, construction math, and measurement will expose students to some of the fundamental skills used in construction and woodworking. This course allows organized, self-motivated, responsible students to capitalize on the important skills of successful trades people while preparing for more advanced construction courses.
Construction Systems 2 *1 credit*	860511 860512	*Prerequisites:* C or better in Construction Systems 1 (860411 and 860412) *Description:* This 18-week course is designed to further develop the students' fundamentals of construction systems. This course gives the students a hands-on opportunity to explore the construction field. The class will use their skills to design and build a custom project. As students are creating the project, they will delve deeper into the theory behind components. The final portion of the course will further the students' exposure by completing a prescribed project.