

Remodeling and Building Maintenance		AC2211/AC2212
<p>This course trains students to maintain commercial, industrial and residential buildings and homes. Instruction is provided in the basic maintenance and repair of air conditioning, heating, plumbing, electrical and other mechanical systems. Topics covered may include identifying and using hand and power tools safely; installing and repairing floor coverings, walls, and ceilings; installing and repairing doors, windows, screens, and cabinets; applying finishes to prepared surfaces; and repairing roofs, masonry, plumbing, and electrical systems.</p>		
<p>COURSE NOTE: This course is taught at the Lawrence College & Career Center. Transportation is provided from Lawrence High School and Lawrence Free State High School.</p>		
CREDIT: 0.5	TYPE: Elective	GRADE: 10-12
STATE COURSE CODE: 17009		COURSE FEE: \$0
Auto for the Novice		AT2111/AT2112
<p>This is an introductory course paired with Welding for the Novice and designed to instruct students in practical car maintenance and basic welding skills. Students will attain the basic skills to own and maintain a vehicle. Students will learn what to consider when buying a car, shopping for car insurance and acquiring a title. Students will also learn to safely use welding tools and explore beginning welding practices. All students will complete the OSHA 10 Hours Safety Training as part of the course.</p>		
<p>COURSE NOTE: This course is taught at the Lawrence College & Career Center. Transportation is provided from Lawrence High School and Lawrence Free State High School.</p>		
<p>COREQUISITE: Welding for the Novice</p>		
CREDIT: 0.5	TYPE: Elective	GRADE: 10-12
STATE COURSE CODE: 40050		COURSE FEE: \$0
Welding for the Novice		MF1011/MF1012
<p>This is an introductory course paired with Auto for the Novice and designed to instruct students in practical car maintenance and basic welding skills. Students will attain the basic skills to own and maintain a vehicle. Students will learn what to consider when buying a car, shopping for car insurance and acquiring a title. Students will also learn to safely use welding tools and explore beginning welding practices. All students will complete the OSHA 10 Hours Safety Training as part of the course.</p>		
<p>COURSE NOTE: This course is taught at the Lawrence College & Career Center. Transportation is provided from Lawrence High School and Lawrence Free State High School.</p>		
<p>COREQUISITE: Auto for the Novice</p>		
CREDIT: 0.5	TYPE: Elective	GRADE: 10-12
STATE COURSE CODE: 132		COURSE FEE: \$0
Design/Build 1 or 2		AC3311/AC3312 AC3321/AC3322
<p>Design/Build 1 & Construction 3 is an opportunity to follow a passionate pursuit from imagination to innovation. This is an advanced research and application course covering specific topics in design and pre-construction, including project-management skills. Students will learn Design Thinking principles and develop an entrepreneurial mindset as they turn ideas into action. Students will learn and use construction skills to build a project of their own design. Students will learn and use construction skills to build a project of their own design. Design/Build 2 & Construction 4 is</p>		

for those students wishing to advance their skills.

COURSE NOTE: This course is taught at the Lawrence College & Career Center. Transportation is provided from Lawrence High School and Lawrence Free State High School.

PREREQUISITE: Drafting 1, Woodworking for the Novice or Remodeling and Building Maintenance

COREQUISITE: Construction 3 or 4

CREDIT: 0.5

TYPE: Elective

GRADE: 11 - 12

STATE COURSE CODE: 21109

COURSE FEE: \$0

Construction 3 or 4

**AC3511/AC3512
AC3521/AC3522**

Construction 3 & 4 prepare the student for entry level employment in the construction field. This course covers floors, walls & ceiling framing, roof framing and windows, doors and stairs. This course is paired with Design/Build 1 and Design/Build 2

COURSE NOTE: This course is taught at the Lawrence College & Career Center. Transportation is provided from Lawrence High School and Lawrence Free State High School.

PREREQUISITE: Drafting 1, Woodworking for the Novice or Remodeling and Building Maintenance

COREQUISITE: Design/Build 1 or Design/Build 2

CREDIT: 0.5

TYPE: Elective

GRADE: 11 - 12

STATE COURSE CODE: 38002

COURSE FEE: \$0

Principles of Engineering 1

SM2421/SM2422

Engineering is using technical knowledge to create solutions to world problems. Through problems that engage and challenge, students will explore a broad range of topics, developing skills in problem solving, research and design while practicing strategies for design process documentation, collaboration and presentation. Students will work closely with business and post-secondary mentors to complete projects tailored to the student's engineering interests, such as chemical, electrical, mechanical, nuclear, civil and environmental, software/computer, architectural, advanced manufacturing and robotics.

COURSE NOTE: This course is taught at the Lawrence College & Career Center. Transportation is provided from Lawrence High School and Lawrence Free State High School.

PREREQUISITES: Computer Programming 1 & 2 or Engineering Design 1 & 2

COREQUISITES: Robotics 1

CREDIT: 0.5

TYPE: Science or Elective

GRADE: 11-12

STATE COURSE CODE: 41320

COURSE FEE: \$0

Principles of Engineering 2

SM2421/SM2422

Engineering is using technical knowledge to create solutions to world problems. Through problems that engage and challenge, students will explore a broad range of topics, developing skills in problem solving, research and design while practicing strategies for design process documentation, collaboration and presentation. Students will work closely with business and post-secondary mentors to complete projects tailored to the student's engineering interests, such as chemical, electrical, mechanical, nuclear, civil and environmental, software/computer, architectural, advanced

manufacturing and robotics.

COURSE NOTE: This course is taught at the Lawrence College & Career Center. Transportation is provided from Lawrence High School and Lawrence Free State High School.

PREREQUISITES: Principles of Engineering 1 and Robotics 1

COREQUISITES: Robotics 2

CREDIT: 0.5

TYPE: Science or Elective

GRADE: 11-12

STATE COURSE CODE: 41320

COURSE FEE: \$0

Robotics 1

SM2311/SM2312

During this class, students will explore the field of robotic design and create robotic devices. Students will work in teams to engineer solutions to mechanical, electrical and computer-based problems. Students will have an opportunity to work with business and industry mentors and learn how robotics are utilized in many business and industry sectors.

COURSE NOTE: This course is taught at the Lawrence College & Career Center. Transportation is provided from Lawrence High School and Lawrence Free State High School.

PREREQUISITES: Computer Programming 1 & 2 or Engineering Design 1 & 2

COREQUISITES: Principles of Engineering 1

CREDIT: 0.5

TYPE: Science or Elective

GRADE: 11-12

STATE COURSE CODE: 21009

COURSE FEE: \$0

Robotics 2

SM2321/SM2322

During this class, students will explore the field of robotic design and create robotic devices. Students will work in teams to engineer solutions to mechanical, electrical and computer-based problems. Students will have an opportunity to work with business and industry mentors and learn how robotics are utilized in many business and industry sectors.

COURSE NOTE: This course is taught at the Lawrence College & Career Center. Transportation is provided from Lawrence High School and Lawrence Free State High School.

PREREQUISITES: Principles of Engineering 1 and Robotics 1

COREQUISITES: Principles of Engineering 2

CREDIT: 0.5

TYPE: Science or Elective

GRADE: 11-12

STATE COURSE CODE: 21009

COURSE FEE: \$0

Automotive Services 1

AT2011/AT2012

The course covers the theory of operation, light repair, troubleshooting and maintenance of the following systems of the automobile; manual/information, basic electrical, cooling, lubrication, fuel, exhaust emissions, tires, and drive lines. A student completing this course should have the skills necessary for entry-level employment in addition to knowledge gained in the maintenance of a personal vehicle.

COURSE NOTE: This course is offered at Peaslee Tech. Transportation is provided from Lawrence Free State High School to Lawrence High School.

PREREQUISITE: Intro to Design, Production and Repair or Auto for the Novice

COREQUISITE: Automotive Service 2

CREDIT: 0.5	TYPE: Elective	GRADE: 11-12
STATE COURSE CODE: 40150		COURSE FEE: \$0
Automotive Services 2 (AUTO 125)		AT2021/AT2022
<p>Automotive Service II is a college course provided to USD 497 juniors and seniors by Johnson County Community College (JCCC) at Lawrence High School through the College Now program. Students will receive 3 hours of college credit through JCCC for AUTO 125 - Introduction to Automotive Shop Practices. Students who choose to take the course will need to also apply for admission to JCCC and enroll in the course through JCCC. Counselors and college representatives will assist in this process. There is no tuition cost and books are provided.</p> <p>This course is the first course in the JCCC Automotive Technology program. Upon successful completion of this course, the student should be able to develop shop safety habits and become proficient in tire, battery, cooling system, lubrication service and minor electrical diagnosis. Emphasis will be placed on learning basic skills needed to enter advanced automotive classes.</p>		
COURSE NOTE: This course is offered at Peaslee Tech. Transportation is provided from Lawrence Free State High School to Lawrence High School.		
PREREQUISITE: Intro to Design, Production and Repair or Auto for the Novice		
COREQUISITE: Automotive Service 1		
CREDIT: 0.5	TYPE: Elective	GRADE: 11-12
STATE COURSE CODE: 40150	DUAL	COURSE FEE: \$0
Automotive Services 3		AT3011/AT3012
<p>This advanced course is designed to train students toward a career in the automotive service industry, or assist those who want to know how to work on their own cars. The class meets two hours per day, with students spending about 75% of their class time working on actual customer cards. Students in this class learn how to do tune ups, fuel service, valve jobs, brake jobs, engineer repairs and may other service jobs. Students must furnish their own coveralls, safety glasses and basic hand tools.</p>		
COURSE NOTE: This course is offered at Peaslee Tech. Transportation is provided from Lawrence Free State High School to Lawrence High School.		
PREREQUISITE: Automotive Service 1 & 2		
COREQUISITE: Automotive Service 4		
CREDIT: 0.5	TYPE: Elective	GRADE: 12
STATE COURSE CODE: 40152		COURSE FEE: \$0
Automotive Services 4 (AUTO 129, AUTO 131 or AUTO 156)		AT3021/AT3022
<p>Automotive Service 4 is a college course provided to USD 497 juniors and seniors by Johnson County Community College (JCCC) at Peaslee Tech through the College Now program. Students enrolled in the fall will receive 4 hours of college credit through JCCC for AUTO 129 - Brakes I and AUTO 131 - Brakes II. Students enrolled in the spring will receive 3 hours of college credit through JCCC for AUTO 156 - Electrical. Students who choose to take the course will need to apply for admission to JCCC and enroll in the course through JCCC. Counselors and college representatives will assist in this process. There is no tuition cost and books are provided.</p> <p>Fall</p> <p>Students will perform system pressure and travel calculations utilizing Pascal's Law, complete service work orders, determine appropriate system pressure tests utilizing service specifications, determine brake system concerns and necessary actions, diagnose poor stopping, pulling or dragging concerns caused by malfunctions in the hydraulic system, determine how to inspect, fabricate and/or replace brake lines and hoses, determine the service specifications pertaining to the removal, cleaning and refinishing procedures on brake drums, apply drum brake repair and</p>		

replacement procedures, diagnose poor stopping, noise, vibration, pulling, grabbing, dragging or pedal pulsation concerns on disc-brake vehicles, determine disc brake repair and replacement procedures, determine how to accomplish caliper piston retractions, diagnose wheel bearing noise, wheel shimmy and vibration concerns, and determine how to remove, inspect and replace bearing and hub assemblies through a variety of classroom and lab/shop learning and assessment activities. (AUTO 129)

Students will determine necessary brake system correction, conduct system pressure tests utilizing service specifications, perform diagnosis and correction for poor stopping, pulling or dragging concerns caused by malfunctions in the hydraulic system, conduct inspection, fabrication and/or replacement of brake lines and hoses, diagnose poor stopping noise vibration, pulling, grabbing, dragging or pedal pulsation concerns, perform service specifications pertaining to the removal, cleaning and refinishing procedures on brake drums, perform drum brake repair and replacement procedures, diagnose poor stopping noise vibration, pulling, grabbing, dragging or pedal pulsation concerns, perform disc brake repair and replacement procedures, machine rotor according to service specifications, perform caliper piston retraction where applicable, inspect and test power assist systems, determine necessary action on wheel bearing noise, wheel shimmy and vibration concern diagnoses, and perform the removal, inspection and replacement of bearing and hub assemblies. (AUTO 131)

Spring

Students will complete service work orders; describe the relationship between voltage, ohms and amperage; perform basic electrical circuit repairs; identify electrical system faults; identify basic wiring diagram symbols, components, and legend information; perform basic electrical circuit measurements using a DVOM; describe basic circuit characteristics of series, parallel and series parallel circuits through a variety of classroom and shop learning and assessment activities. (AUTO 156)

COURSE NOTE: This course is offered at Peaslee Tech. Transportation is provided from Lawrence Free State High School to Lawrence High School.

PREREQUISITE: Automotive Service 1 & 2

COREQUISITE: Automotive Service 3

CREDIT: 0.5

TYPE: Elective

GRADE: 12

STATE COURSE CODE: 40152

DUAL

COURSE FEE: \$0

Welding 1

MF2011/MF2012

This basic course is offered to students with little or no welding experience. The first nine weeks are devoted to welding safety, cutting skills and welding techniques. The remainder of the course is focused on arc safety and welding using various kinds of electrodes. Some of these skills are flat welds, butt welds, fillet welds and lap welds using various kinds of electrodes and welding rods. Students will furnish their own protective clothing (coveralls), good used clothing is okay. Students will be required to wear safety glasses.

COURSE NOTE: This course is offered at Peaslee Tech. Transportation is provided from Lawrence Free State High School to Lawrence High School.

PREREQUISITE: Intro to Design, Production and Repair or Welding for the Novice

COREQUISITE: Welding 2

CREDIT: 0.5

TYPE: Elective

GRADE: 11-12

STATE COURSE CODE: 39207

COURSE FEE: \$0

Welding 2

MF2021/MF2022

Advanced welding techniques in MIG, TIG, plasma arc, oxy acetylene brazing and cutting will be covered in this course, as well as layout and fabrication techniques that apply to individual student projects. Upon completion of this course, students should have the necessary skills for successful job entry into welding and maintenance technician positions. Students will furnish their own protective clothing (coveralls), good used clothing is okay. Students will be required to wear safety glasses.

COURSE NOTE: This course is offered at Peaslee Tech. Transportation is provided from Lawrence Free State High School to Lawrence High School.

PREREQUISITE: Intro to Design, Production and Repair or Welding for the Novice

COREQUISITE: Welding 1

CREDIT: 0.5

TYPE: Elective

GRADE: 12

STATE COURSE CODE: 39207

COURSE FEE: \$0

Advanced Welding 1

MF3111/MF3112

An application level course designed to instruct students in the knowledge and skills needed for solving fabrication problems, to weld joints in the V & OH positions, and perform Plasma cutting.

COURSE NOTE: This course is offered at Peaslee Tech. Transportation is provided from Lawrence Free State High School to Lawrence High School.

PREREQUISITE: Welding 1 and Welding 2

COREQUISITE: Advanced Welding 2

CREDIT: 0.5

TYPE: Elective

GRADE: 11-12

STATE COURSE CODE: 39208

COURSE FEE: \$0

Advanced Welding 2

MF3121/MF3122

An application level course designed to instruct students in the knowledge and skills needed for solving fabrication problems, to weld joints in the V & OH positions, and perform Plasma cutting.

COURSE NOTE: This course is offered at Peaslee Tech. Transportation is provided from Lawrence Free State High School to Lawrence High School.

PREREQUISITE: Welding 1 and Welding 2

COREQUISITE: Advanced Welding 1

CREDIT: 0.5

TYPE: Elective

GRADE: 11-12

STATE COURSE CODE: 39208

COURSE FEE: \$0

Engineering Design and Development 1

SM3211/SM3212

In Engineering Design and Development students will identify an issue and then research, design, and test a solution, ultimately presenting their solution to a panel of engineers. Students apply the professional skills they have developed to document a design process to standards.

COURSE NOTE: This course is taught at the Lawrence College & Career Center. Transportation is provided from Lawrence High School and Lawrence Free State High School.

PREREQUISITE: Engineering Design 1 & 2 or Principles of Engineering 1 & 2

COREQUISITE: Engineering Design and Development 2

CREDIT: 0.5

TYPE: Elective

GRADE: 11-12

STATE COURSE CODE: 21007

COURSE FEE: \$0

Engineering Design and Development 2

SM3221/SM3222

In Engineering Design and Development students will identify an issue and then research, design, and test a solution, ultimately presenting their solution to a panel of engineers. Students apply the professional skills they have developed to document a design process to standards.

COURSE NOTE: This course is taught at the Lawrence College & Career Center. Transportation is provided from Lawrence High School and Lawrence Free State High School.

PREREQUISITE: Engineering Design 1 & 2 or Principles of Engineering 1 & 2

COREQUISITE: Engineering Design and Development 1

CREDIT: 0.5

TYPE: Elective

GRADE: 11-12

STATE COURSE CODE: 21007

COURSE FEE: \$0