



Course Descriptions for Concurrent Enrollment Offerings

Taken from 2018-2019 Academic Catalog

AUTOMOTIVE

AUTO 1000 Orientation and Safety, 1 credit

Description: This course covers Occupational Safety and Health Administration (OSHA) safety requirements, along with general shop procedures needed before entering the automotive lab. Orientation will include shop policies, location and utilization of appropriate safety equipment, including but not limited to eye-wash stations, fire extinguisher and exhaust ventilation systems. (Prerequisites: None) (1 credit lecture/0 credits lab)

AUTO 1010 - General Automotive Service, 2 credits

Description: This course explores the careers available in the automotive industry. The purpose and identification of hand tools, special automotive tools, automotive shop, and diagnostic equipment, including tire mounting and balancing equipment, vehicle lifts, jacking equipment, and precision measuring devices will be discussed and demonstrated. Students will be provided the opportunity to demonstrate the safe and accurate use of those tools and equipment. General preventative maintenance and service procedures of the engine, drivetrain, and running gear will be addressed and performed. Automotive service information systems and other resources will be addressed and utilized. (Prerequisites: None) (Co-requisites: AUTO 1000, AUTO 1167, AUTO 2145, and AUTO 2159) (1 credit lecture/1 credit lab)

AUTO 1167 - Vehicle Electronics, 5 credits

Description: This course reviews the fundamentals of electricity and electronics as applied to the automotive industry. Topics addressed include the principles and theory of electricity, electrical terminology, electro-magnetism; including motors and induction, the principles of semi-conductors, basic automotive computer operation, including the operation of sensor, output or control signals, and data communication circuits. Also included in this course is the performance of accurate electrical measurements using a Digital Multi-meter (Volts, Ohms, Amps) and other appropriate tools; diagnosis and performance of electrical wiring repairs; and the understanding electrical system failures and basic diagnostic principles. Reading and

interpreting vehicle service manual or electronic service information electrical wiring schematics will also be covered. (Prerequisites: None) (3 credits lecture/2 credits lab)

AUTO 2159 - Brake Systems & Service, 4 credits

Description: This course covers the operational theory and repair of automotive brakes and braking systems; principles of hydraulics, disc, drum, and parking brake systems; and Anti-lock Brake Systems (ABS) and Traction Control (TC) basics. Lab experiences will provide an opportunity to service a variety of vehicles and systems. (Prerequisites: None; Co-requisites: AUTO 1000, AUTO 1010, AUTO 1167, and AUTO 2145) (2 credits lecture/2 credits lab)

EMERGENCY MEDICAL SERVICES

EMED 1113 Emergency Medical Technician 1, 4 credits

Description: Course content includes materials included in the most current Emergency Medical Services (EMS) Educational Standards appropriate for the Emergency Medical Technician (EMT) and utilizes more current principles as needed. The EMT course is an assessment-based education utilizing cognitive knowledge attained applied to real-life situations. The EMT course provides preparation in prehospital assessment and care for patients of all ages with a variety of medical conditions and traumatic injuries. Major topic areas covered include introduction to EMS, roles and responsibilities of an EMS provider, medical terminology, and pathophysiology of disease. In addition, patient assessment will be introduced. Upon successful completion of this course, students will be eligible to take Emergency Medical Technician- 2, and will be eligible to apply for certification as an Emergency Medical Responder (EMR) in Minnesota and will receive the American Heart Association-Basic Life Support. (Prerequisite: None; Co-requisites: EMED 1114)

EMED 1114 Emergency Medical Technician 2, 5 credits

Description: Course content materials include the most current Emergency Medical Services (EMS) Educational Standards appropriate for the Emergency Medical Technician (EMT) and utilizes more current principles as needed. The EMT course is an assessment-based education utilizing cognitive knowledge attained applied to real-life situations. The EMT course provides preparation in prehospital assessment and care for patients of all ages with a variety of medical and trauma assessment, understanding the kinematics of trauma, functioning in a multiple casualty event, and working with special populations. Upon successful completion of this course, students will be eligible to take the National Registry of Emergency Medical Technician (NREMT) - EMT Basic psychomotor and cognitive exams. (Prerequisites: None; Co-requisites: EMED 1113)

HEALTH / NURSING ASSISTANT

HLTH 1103 Nursing Assistant/Home Health Aide, 5 credits

Description: This course introduces concepts of basic human needs, basic nursing and personal care skills, mental health and social needs, restorative services, resident's rights, and home health. The skills are performed in a supervised laboratory and long term care clinical setting. The course is the MN State approved curriculum and meets the requirements of the Minnesota

Department of Health. Upon completion of the competency evaluation, students can be employed in either a long term care facility, hospital, or assisted living facility. Minnesota Department of Health: Reimbursable Expenses Nursing assistants who pay for the cost of their training and testing prior to employment are eligible for reimbursement. The nursing assistant has 1 year from completion of the test to turn in receipts requesting reimbursement. The facility has 90 days to reimburse the nursing assistant. If the nursing assistant does not remain employed as a nursing assistant for 90 days, the nursing home is under no obligation to reimburse the nursing assistant. The first nursing home the nursing assistant stays at for at least 90 days would then be responsible to reimburse the nursing assistant if it has been 1 year or less since completion of the test. Only certified nursing homes or boarding care homes are required to reimburse a nursing assistant. (Prerequisites: None) (3 credits lecture/2 credits lab)

MACHINE TRADES

MACH 1101 Milling, 4 credits

Description: This course covers basic milling machine, drill press, and band saw operation, safety, machine controls, machine setup, common milling operations such as cutting tools geometry, conventional milling machine principles, machining feeds and speeds calculation. The operation of drill presses and drilling tools such as countersinking, counter boring, tapping, reaming is also addressed. (Prerequisites: None) (Co-requisites: MACH 1106)

MACH 1106 Lathe, 3 credits

Description: This course covers basic lathe operation, safety, machine controls, machine setup, common lathe operation such as cutting tools geometry, grinding tools, facing, turning, knurling, boring, external threading, internal threading, grooving, and recessing. Machine feeds and speeds calculation are covered. (Prerequisites: None) (Co-requisites: MACH 1101)

MACH 1132 Blueprint Reading I/CAD, 3 credits

Description: This course includes the basic interpreting and drawing of 2D Engineering drawing principles. Topics include one-, two- and three-view drawings, dimensioning, tolerance, symbols, sketching, incline surfaces, circular features, sectional views, surface texture, and auxiliary views. (Prerequisites: None)

WELDING

WELD 1002 Math for Welders, 1 credit

Description: Math skills are essential for welder who read blueprints, layouts, fit-up, fabricate or design welded structures. This course will review the basic math concepts required to be a successful welder. Topics covered will include addition, subtraction, multiplication and division of whole numbers, fractions and decimals. Direct measurement, computed measurement and stretch-outs are also included. (Prerequisites: None)

WELD 1004 Oxy-Fuel Applications, 1 credit

Description: This course focuses on the hand skills, safety and knowledge needed to be proficient with oxy-fuel brazing and oxy-fuel cutting processes. Also covered are: Oxy- fuel

track cutting, carbon arc gouging, plasma cutting and gouging. (Prerequisites: None, Co-requisites: WELD 1006)

WELD 1006 Oxy-Fuel Processes, 1 credit

Description: This course focuses on Oxy-Fuel safety and background knowledge needed to be proficient with oxy-fuel brazing and oxy-fuel cutting processes. (Prerequisites: None; Co-requisites: WELD 1004)

WELD 1008 Blueprint Reading I, 2 credits

Description: This course covers basic lines, basic views, title block information, notes and specifications, dimensions, structural shapes, auxiliary views, section views, detailed and assembly prints, and welding symbols blueprint information. Application of blueprint reading will be applied to weld fabrication projects which include use of Gas Metal Arc Welding (GMAW), Shielded Metal Arc Welding (SMAW), Gas Tungsten Arc Welding (GTAW), and Oxy-Fuel cutting and brazing. (Prerequisites: None; Co-requisites: WELD 1014, WELD 1016, and WELD 1018)