Diesel Service Tech (DST)

DST 104. Intro to Diesel Engines. 3 Credits.
Construction, operation, and repair of diesel engines; logical steps of procedure for engine reconditioning; installing and timing of fuel injection components. Emphasis will be placed on diesel engine component reconditioning, engine tune-ups, and use of special diagnostic tools. To be take concurrently with DST 114.

DST 114. Intro to Diesel Engines Lab. 3 Credits.
This course will give the student hands-on experience rebuilding diesel engines and components. The student will learn manufacturer's procedures on engine rebuilding and special tool usage. To be taken concurrently with DST 104.
Course Fees: $21.50

DST 115. Intro to Diesel Fuel Systems. 5 Credits.
This lecture/lab course will introduce students to the diesel fuel injection system. Topics covered will include fuel characteristics and testing, fuel sub-system and components, mechanical diesel fuel systems (inline pumps, rotary distributor pumps, mechanical unit injectors) and electronically controlled diesel fuel systems (EUI, HEUI, High Pressure Common Rail). Lab exercises will relate to lecture material, and will include fuel subsystem components, disassembly/reassembly of fuel pumps, fuel testing, injector testing, removal/installation of fuel pumps and injectors. Safety, correct industry procedures, correct tool usage, and diagnosis of common fuel-related problems will be emphasized.
Course Fees: $10.25

DST 191. Special Topics. 3 Credits.
Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

DST 192. Independent Study. 3 Credits.
Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

DST 198. Cooperative Education. 1-12 Credits.
A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

DST 204. Intro to Hydraulics Pneumatics. 2 Credits.
Theory and application of hydraulics and pneumatics used in automotive, agriculture, heavy equipment, and construction industries; to be taken concurrently with DST 214.

DST 214. Intro to Hydr Pneumatics Lab. 2 Credits.
Application of hydraulics and pneumatics. Students will demonstrate hydraulic principles on live work stations. The will work with, tear down, and assemble equipment. They will also work on open and closed center systems, fixed and variable displacement pumps, linear and rotary actuators, pressure and flow controls, and directional valves. To be taken concurrently with DST 204.
Course Fees: $15.75

DST 216. Heavy Duty Power Trains. 4 Credits.
This course will give the students hands-on experience working on heavy duty power train components. Emphasis will be placed on calculating gear ratios and power flow on industry's common transmissions, final drives, and clutches. The student will measure drive line angles and diagnose vibration complaints.
Course Fees: $15.75

DST 219. Heavy Duty Chassis. 4 Credits.
A course dealing with braking systems, suspensions, and alignment of medium and heavy duty vehicles. The major emphasis will be on air brakes, methods used to check and adjust alignment, and inspection and repair methods for suspension systems.
Course Fees: $10.25

DST 264. Diesel Engine Diagnosis Repair. 3 Credits.
This course will include engine assembly and engine start-up after assembly. The course will also coordinate set-up, testing, and diagnosis of engine problems using test instruments and engine dynometer. To be taken concurrently with DST 274. Prerequisites: DST 104 and DST 114.

DST 273. Diesel Shop Practices. 4 Credits.
A course emphasizing actual shop operations: Long- and short-term jobs covering all aspects of a vehicle. It also includes vehicle maintenance, shop flat-rate procedures, work order and warranty claim procedures. Prerequisites: DST 264 and DST 274.
Course Fees: $21.50

DST 274. Diag Diesel Engine Repair Lab. 3 Credits.
This course will give the student hands-on experience on diagnosing diesel engines using the proper test equipment. Diesel engine repair and assembly are addressed. To be taken concurrently with DST 264.
Course Fees: $21.50

DST 291. Special Topics. 4 Credits.
Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

DST 292. Independent Study. 3 Credits.
Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

DST 298. Cooperative Education. 1-12 Credits.
A planned and supervised work-learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: two semesters of attendance at Montana State University-Northern, approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail Only.

DST 314. Hydraulics and Pneumatics II. 4 Credits.
Application of hydraulics and pneumatics with emphasis on live work. Troubleshooting and diagnostics of hydraulic systems including testing, adjustment, and repair of components. Prerequisites: DST 204 and DST 214.
Course Fees: $15.75

DST 391. Special Topics. 3 Credits.
Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

DST 392. Independent Study. 3 Credits.
Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

DST 420. Diesel Shop Management. 2 Credits.
This course will cover management of equipment including establishing preventative maintenance programs, cost per hour operation, and investment analysis. Selected computer programs will be used.

DST 434. Current Model Year Technology. 3 Credits.
Current topics to bring Seniors up to date on changes in heavy duty technology, to include current model year. Provides latest information on equipment, systems components, troubleshooting and repair. Course will also review major diesel topics to enhance Senior students experience. Prerequisite: Senior standing.

DST 440. Advanced Fuel Systems. 4 Credits.
A course dealing with the diagnosis and repair of fuel systems using the proper test equipment and test standards. Prerequisites: DST 115 and Senior standing.
Course Fees: $15.75

DST 450. Diag Pwr Shifts and HD Atmtics. 4 Credits.
This is a course in Heavy Duty Power Shifts and Automatic Transmissions 6000 GVW and larger. This course consists of lab and lecture time covering the components, theory of operation; diagnosis; using proper instrumentation and manuals; and repair; with emphasis on troubleshooting and failure analysis. Prerequisites: DST 216 and ATDI 257.
Course Fees: $15.75

DST 491. Special Topics. 3 Credits.
Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.

DST 492. Independent Study. 3 Credits.
Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.

DST 498. Cooperative Education. 1-12 Credits.
A planned and supervised work-learning experience extending the student's learning experience in industry, business, government, or community service agencies related to the University program of study. Prerequisites: Cooperative Education 298 or Junior standing and approval of advisor, Dean of the College of Technical Sciences, and cooperative education coordinator. Pass/Fail only.

DST 592. Independent Study. 4 Credits.
Provides an opportunity for students to engage in directed research and study on an individual basis rather than in a formal class environment.