# DTRK2242 - Advanced Engines and Fuel Systems

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| Credits: | 6 (2/4/0) |
| Description: | This course is designed to give students an understanding of the theory, operation, troubleshooting and repair of modern medium- and heavy-duty truck diesel engines. Areas of study include base engine components, intake and exhaust systems, emission control devices, lubrication systems, cooling systems and fuel systems on but not limited to truck diesel engines manufactured by Caterpillar, Cummins, Detroit, Navistar, Mack and Volvo. |
| Prerequisites: | • DSET1132<br>• DSET1136 |
| Corequisites: | |
| Pre/Corequisites*: | |
| Competencies: | 1. Demonstrate safety procedures.<br>2. Utilize service publications for disassembly and reassembly procedures.<br>3. Disassemble complete engine assembly.<br>4. Analyze cylinder block components.<br>5. Utilize service publications to determine the reuse guidelines of internal engine parts.<br>6. Assemble cylinder block components.<br>7. Inspect lube system components.<br>8. Inspect cooling system components.<br>9. Disassemble cylinder head and related parts.<br>10. Analyze cylinder head components.<br>11. Assemble cylinder head components.<br>12. Analyze air inlet and exhaust components.<br>13. Perform engine tune-up procedures.<br>14. Inspect fuel system components.<br>15. Assemble air inlet components.<br>16. Assemble exhaust system components.<br>17. Assemble fuel system components.<br>18. Troubleshoot engines using original equipment manufacturer (OEM) diagnostic software (if applicable).<br>19. Exhibit professionalism. |
| MnTC goal areas: | None |

**Can be taking as a Prerequisite or Corequisite.*

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