

**Western Dakota Tech  
800 Mickelson Drive  
Rapid City, SD 57703-4018**

### **Master Syllabus**

**Course Number:** TTT 211  
**Course Name:** Heavy Duty Drivetrains  
**Credits:** 4  
**Contact Hours:** 1 Lecture, 6 Lab

**Course Description:** This course introduces the basic principles of transmissions, differentials, and drivetrains. Students will understand the operation of all drivetrain components and the procedure for disassembly, repair, and the reassembling of each component. Included are how to perform failure analysis and how to troubleshoot drivetrain problems. Additional areas included are automatic transmissions, agriculture transmissions, and power shift transmissions.

**Prerequisites:** None

**Textbooks:** <http://bookstore.wdt.edu>

**Materials:** Required personal tools from program tool list, coveralls, safety shoes, and safety glasses

**Student Learning Outcomes:**

- Explain power flow of a heavy duty vehicle manual transmission/transaxle
- Analyze the parts of a heavy duty vehicle drivetrain
- Assemble drivetrain components on a heavy duty vehicle

**Assessment:** The core abilities of analytical skills, communication skills, technology skills, teamwork techniques, social skills, and employability will be assessed throughout this course.

**ADA Accommodations:** Students Rights to Assistance or Accommodations: Western Dakota Technical Institute (hereinafter WDT) does not discriminate on the basis of disability. If you have a disability as defined by federal or state law, including a temporary disability related to pregnancy and/or parenting as a result of a medical necessity due to childbirth, WDT will provide reasonable accommodations including but not limited to architectural access, aids and services necessary for effective communication, and modification of its policies and procedures. Students with a

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disability who are requesting an accommodation should contact your instructor and the Student Success Director who serves as the disability coordinator as early as possible in the semester.

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