

Heavy Equipment Operation and Commercial Truck Driver (CDL)

1. Program Description

The Commercial Driver's License (CDL) and Heavy Equipment operator program at Utah State University Eastern has the role of teaching not only the theory practices of commercial truck operation, but is also responsible for state and federal licensure. The department's primary role is to prepare their students to work in an industrial occupation. At the present time, the only program for this licensure offered by the department is a one-semester certificate of proficiency that enables students to enter the work force with requisite entry level skills and licensure after one semester.

The program is located in the Southern Trucking Facility away from main campus. This location provides additional space for truck and heavy equipment storage. Practice areas for both commercial trucks and heavy equipment. A testing lot which is also utilized by the State of Utah Driver's License Division. Class and simulator spaces and much needed office space for faculty. The program offers both physical driving and equipment operation labs for student practice and skill development. Faculty also utilizes simulation labs for students to practice in a different environment. The faculty is keenly interested in providing state of the art training while remaining practical and high quality in every aspect of delivery.

2. Program offerings

Courses offered as part of the certificate program reflect the needs of the industry in collaboration with State and Federal licensure. All courses in the Heavy Equipment Operation and Commercial Truck Driving program have course outlines on file in with the Registrar and Department Chair. Courses are reviewed for demonstrated need; content (meeting objectives); teaching techniques, e.g., hands on field and lab work or classroom and simulation modules, and evaluation methods including cognitive skills, psychomotor skills, outcomes assessment, and use of teacher judgement in coordination with an outside State evaluator with the Driver's License Division at the time of CDL test for licensure.

There are no special admission standard or conditions for students entering the CDL or heavy equipment courses. This program remains atop the State's Department of Workforce Service's preferred programs. Additionally, the program has a rolling entry program for students to enter the program at various times throughout each semester.

Curricula offered in the Heavy Equipment and Commercial Driver's License programs include the following:

HETR 1610 General Maintenance 4 Credit Hours

Students will learn field troubleshooting on a variety of equipment including engines, transmissions, final drives, and electrical/battery systems. Safety training will be emphasized in all aspects of general maintenance.

HETR 1620 Front End Loader Operation 2 Credit Hours

Students will learn theory and practical operation of a front end loader, and related pieces of equipment. Students will demonstrate all phases of operation from pre-shift to post-shift inspections, safety operation, truck loading, rough grading excavation, fueling, lubrication, and field troubleshooting.

HETR 1630 Tractor Loader Backhoe Operation 2 Credits

Students will learn theory and practical operation of tractor loader backhoe. Students will demonstrate competence in trenching, hazardous digging, demolition, truck loading, and grading. Field troubleshooting lubrication, general maintenance, and special emphasis on safety and hazard awareness.

HETR 1640 Hydraulic Excavator Operation 2 Credits

Teaches safe operation and maintenance of hydraulic excavators, including standard and telescoping excavators. Learn basic operation of equipment in performing earthwork activities, such as basic digging techniques, various truck loading exercises, tramming, quick couplers, trench box, and more. Students will become familiar with safety issues and preventative maintenance activities.

HETR 1650 Motor Grader Operation 2 Credits

Students will learn theory and practical operation of a motor grader. Students will demonstrate competence in pre-shift and post-shift inspections, finish grading, road maintenance, snow removal, safety roading, grade stake reading, field troubleshooting, lubrication, and basic maintenance.

HETR 1660 Dozer Operator 2 Credits

Students will learn theory and practical operation of a dozer. Students will demonstrate competence in pre-shift and post-shift inspections. Students will also show competence in safe operation, excavation demolition, slot dozing, road building, push cat and cutting grade, fueling, lubrication, and field troubleshooting.

HETR 1670 Forklift Operation 2 Credits

Course focuses on knowledge necessary to be a certified forklift operator. Content includes pre-operation vehicle-inspection, vehicle capacity and stability, SAFE operating instruction, and maintenance requirements. Students will become familiar with safe load manipulation, stacking and unstacking load, pedestrian traffic where the vehicle will be

operated, and will cover narrow aisles and other restricted places where the vehicle will be operated.

HETR 2750 Advanced Trailing Techniques – 2 Credit Hours

Students demonstrate proficiency with pre-inspection, coupling/uncoupling, and the safe operation of belly dump trailers and doubles.

HETR 2760 Dump and Trailing 2 Credit Hours

Students will learn theory and practical operation of a dump truck and drop deck low-boy trailer, the safest way to load and lash each piece of equipment for transport, P.T.O. operation, overhead hazards, safe backing, fueling, lubrication, chain and boomer safety, tire care, and safety.

HETR 2770 Laws and Regulations 4 Credit Hours

Theory course which describes laws and regulations, defensive driving, principles of haulage and operation of equipment, safety procedures, and preparation for examination. This course, along with HETR 2780 and HETR 2790, is intended to prepare students for their Commercial Driver's License (CDL) and employment in the trucking industry. Intended to provide the material and experience necessary to pass the written exam for the class A Commercial Driver's License.

HETR 2780 Maintenance 3 credit hours

Includes lubrication, fluid maintenance, tire and wheel maintenance, electrical maintenance, driving observation, and testing based on knowledge, skills and safety attitude. This course, along with HETR 2770 and HETR 2790, is intended to prepare students for their Commercial Driver's License (CDL) and employment with the trucking industry.

HETR 2790 Behind the Wheel 6 credit hours

Covers on and off highway procedures, driving with and without loads, turning, cornering, backing, braking (gear and pedal), shifting, road speeds, traffic, signals, road signs, pre and post shift inspections. This course, along with HETR 2770 and HETR 2780, is intended to prepare students for their Commercial Driver's License (CDL) and employment in the trucking industry.

Degrees and/or Certificates

The USU Eastern Heavy Equipment and Trucking Department offers a One-Semester certificate of proficiency in Commercial Truck Driver (CDL)

UtahStateUniversityEastern
 Certificate of Completion in General Technology
Commercial Truck Driver (CDL)

Last Name:	First Name:	A#:
Advisor:	Origination Date:	Date of Last Revision:

Required CDL Courses	Credit Hours	Competency I	Competency II	Competency III	Competency IV
<input type="checkbox"/> HETR 2750 – Advanced Trailing Techniques	2	X	X	X	X
<input type="checkbox"/> HETR 2760– Dump and Trailing	2	x	X	X	X
<input type="checkbox"/> HETR 2770– Laws and Regulations	4	X	X	X	X
<input type="checkbox"/> HETR 2780– Maintenance	3	X	X	X	X
<input type="checkbox"/> HETR 2790– Behind the Wheel	6	X	X	X	X
<input type="checkbox"/>					
Required Credit hours:	17				
TOTAL MINIMUM CREDIT HOURS	17				

Competency I – Students will be able to operate Commercial Vehicles with safety, professionalism, and proficiency

Competency II – Students will obtain the ability to operate Commercial vehicles in diverse weather situations and difficult road conditions.

Competency III – Students will obtain requisite hours for state licensure and certification in accordance with Utah/Federal laws.

Competency IV – Students will be able to negotiate the requisite obstacles in all driving

The Department of Aviation and technical education offers this One-Semester certificate of proficiency in Heavy Equipment Operation.

UtahStateUniversityEastern
 Certificate of Completion in General Technology
Heavy Equipment Operator

Last Name:	First Name:	A#:
Advisor:	Origination Date:	Date of Last Revision:

Required CDL Courses	Credit Hours	Competency I	Competency II	Competency III	Competency IV
<input type="checkbox"/> HETR 1610 – General Maintenance	4	X	X	X	X
<input type="checkbox"/> HETR 1620– Front End Loader Operation	2	x	X	X	X
<input type="checkbox"/> HETR 1630– Tractor Loader Backhoe Operation	2	X	X	X	X
<input type="checkbox"/> HETR 1640– Hydraulic Excavator Operation	2	X	X	X	X
<input type="checkbox"/> HETR 1650– Motor Grader Operation	2	X	X	X	X
<input type="checkbox"/> HETR 1660 – Dozer Operator	2	X	X	X	X
<input type="checkbox"/> HETR 1670 – Forklift Operation	2	X	X	X	X
Required Credit hours:	16				
TOTAL MINIMUM CREDIT HOURS	16				

Competency I – Students will be able to operate Heavy Equipment with safety, professionalism, and proficiency

Competency II – Students will obtain the ability to operate Heavy Equipment in diverse weather situations and difficult work conditions with accuracy and precision.

Competency III – Students will be able to maintain and provide general service for their equipment.

Competency IV – Students will be able to negotiate the requisite operations and skills requisite with equipment operation.

3. Program consistency with Institutional Mission & Goals

Student evaluations, internal (school) evaluations, Utah State Office of Education Accreditation evaluation, Utah Driver’s License Division test audits, and industry demands confirm the department’s role in maintaining consistency with the college’s mission and goals.

4. Faculty

The CDL program instructor, Leon McElprang, Director of Instruction for Heavy Equipment and Trucking has years of work experience and is the owner and operator of McElprang Livestock. Which has cattle, equipment, and trucks in the region and tri-state area. Leon is a certified tester for the Utah State Division of Public Safety in the Driver’s License Division.

Kyle McArthur is the instructor for Heavy Equipment Operation and has certifications through the State of Utah, L3, and CAT simulators. Kyle studied Animal Science and Pre-Veterinary studies with Snow College and is working through the tenure process.

5. Department Goals

- Further develop a plan to attract students and build enrollment
- Develop a plan to help further job training for inmates in local detention facilities
- Create marketing material to help boost brand awareness
- Continually upgrade competency-based curriculum to help better train the students for the road
- Develop closer relationships with local and national industry partners

Enrollment Data	
	Enrollment
2015	121
2016	96
2017	82
2018	93
2019	88
2020	121
TOTAL:	601

6. Methods of Teaching within the Department

The department uses various successful teaching methods. All course syllabi have been evaluated with special attention on outcomes assessment and licensure. Computer based simulators to provide a more state of the art work environment and meet the needs of students safely. Course work is structured so that students can have a great experience while learning industry safety and skills.

7. Instructor Evaluation

Faculty are evaluated according to school policy by students and faculty. Faculty are required to submit an annual report which states improvements made in their respective programs and list self-improvements as well as community involvement. Additional evaluations are made at special classes and workshops to ensure quality of both teaching and course content. The division chair conducts an annual personal evaluation of the faculty member including an appraisal of teaching load.

8. Students

Students enrolling in this program are as diverse as the reasons for which they enroll. Almost all trade and technical programs require course work in CDL. The department has both traditional and non-traditional students enrolled in its program. In comparison to national trends and economic slowdown for other fields which have encountered difficulty in employing graduates. Many of the department graduates are successful in finding and maintaining employment. Students completing their training and licensure receive compensation well above national averages with recent graduates making over \$90,000 a year after their fifteen week training.

Students have been placed with these companies:

- Werner Trucking
- Nelson Construction
- Savage Trucking
- Barney Trucking
- KJ Trucking
- DCL Trucking
- K9 Trucking
- Swift Transport
- Knight Transport
- Robinson Trucking
- Old Dominion
- Pepsi
- Coca-Cola

This program has a high number of students who accept employment prior to meeting graduation requirements, thus contribution to low graduation rates.

9. Program Support

Construction

HETR 1620 and 1640 are a piece of the Construction program in Blanding.

10. Physical Facilities and Equipment

The program is fortunate to be housed in a facility with the requisite space for heavy equipment operation and feasible access to highway for behind the wheel commercial truck experience. Access to a simulation monitors has greatly enhanced operation demonstrations.

Equipment/space status:

Have: Eight (8) Semi-Trucks
Eight (8) Trailers
CAT M Series Motor Grader
CAT 950 M Wheel Loader
CAT 420 E Tractor/Loader Backhoe
DAT D6N Crawler Dozer
CAT GP 25N Forklift
CAT M Series Motor Grader Simulator
CAT Hydraulic Excavator Simulator
Trucking Simulators

Space: Building and space for test course and practice lot.

11. Professional Development Funds

Professional development funds are adequate. Resources for faculty development opportunities are available through the Academic Provost office by application. Division funding for travel to conventions and workshops is also available.

12. Committee Response

Strengths:

- Best training for their employees
- Students are prepared for industry demands
- “Best Trucking School in the Western United States.” Guy Horn *Werner Trucking*
- Use of both practical experience and simulated tools