

# TRANSPORTATION

## — HEAVY CONSTRUCTION EQUIPMENT TECHNOLOGY —

*\* All students applying for the transportation programs are REQUIRED to attend a Tuesday Campus Visit*

**Delivery:** Daytime Classes (HCEM1271 & 2271 are online courses; all other HCEM courses are in person.)

**Start:** Fall Semester, Full-Time

**AWARDS**

- Heavy Construction Equip. Technology A.A.S. Degree . . . . 72 cr.
- Heavy Construction Equip. Mechanic Diploma . . . . . 64 cr.
- Heavy Construction Equip. Maintenance Certificate . . . . . 29 cr.

**MAJOR DESCRIPTION**

Coursework prepares students to succeed as well-trained, mechanically minded, hard-working technicians with heavy equipment dealers and contractors. Instruction involves classroom theory, live shop demonstrations, and repair of heavy equipment currently used in industry. Making repairs on actual equipment is vital to skill development.

**WORK ENVIRONMENT**

Heavy equipment dealers and earth-moving contractors are top employers. Jobs are also available with mining and logging companies. Most mechanics work in indoor shops, but experienced field service technicians travel to job sites to perform repairs.

**POTENTIAL JOB TITLES**

- Mobile Heavy Equipment Technician
- Construction Equipment Technician
- Field Service Technician
- Dealer Service Technician

**SALARY DATA**

See latest data at [careerwise.minnstate.edu](http://careerwise.minnstate.edu).

- Average Wage: \$34.16/hour
- Top earners: \$40.17/hour

**ACCREDITATION**

This program is accredited by the Associated Equipment Distributors Foundation (AED).

**ADDITIONAL INFORMATION**

Scan the QR code for more program information and specific program costs; this program has additional costs.



**HEAVY CONSTRUCTION EQUIPMENT TECHNOLOGY**  
A.A.S. DEGREE

*All HCEM courses must be taken in the sequence below. Please contact your program advisor with questions.*

**First Year - Fall Semester 17 cr**

HCEM1102	General Shop Mechanics - Introduction . . . . .	3
HCEM1110	Welding and Flame Cutting . . . . .	2
HCEM1132	Heavy Duty Electrical . . . . .	3
HCEM1140	Diesel Engine Overhaul I . . . . .	4
HCEM1150	Applied Failure Analysis . . . . .	2
ENGL1150	Composition I <b>or</b>	
ENGL1200	Technical Writing . . . . .	3

**First Year - Spring Semester 21 cr**

HCEM1234	Heavy Duty Electronics . . . . .	3
HCEM1246	Diesel Engine Overhaul II . . . . .	3
HCEM1250	Brakes . . . . .	2
HCEM1256	Diesel Engine Tune-up . . . . .	3
HCEM1262	Preventative Maintenance . . . . .	2
HCEM1271	CAT Basics Training . . . . .	2
COMS1020	Interpersonal Communication . . . . .	3
PHIL1200	Critical Thinking . . . . .	3

**Second Year - Fall Semester 17 cr**

HCEM2115	Transmissions . . . . .	4
HCEM2135	Hydraulics I . . . . .	3
HCEM2177	Machine Electronics I . . . . .	2
HCEM2238	Hydraulics II . . . . .	3
HCEM2265	Differentials . . . . .	2
BIOL1110	Environmental Science . . . . .	3

**Second Year - Spring Semester 17 cr**

HCEM2145	Hydrostatic Systems . . . . .	3
HCEM2225	Track Drive Systems . . . . .	3
HCEM2256	Steering Systems . . . . .	2
HCEM2260	Machine Electronics II . . . . .	2
HCEM2271	CAT Advanced Training . . . . .	2
HCEM2280	Climate Control . . . . .	2
HIST1450	The History of Minnesota . . . . .	3

**TOTAL PROGRAM REQUIREMENTS 72**

# HEAVY CONSTRUCTION EQUIPMENT MECHANIC DIPLOMA

All HCEM courses must be taken in the sequence below.  
Please contact your program advisor with questions.

**First Year - Fall Semester** **17 cr**

HCEM1102	General Shop Mechanics - Introduction.....	3
HCEM1110	Welding and Flame Cutting.....	2
HCEM1132	Heavy Duty Electrical.....	3
HCEM1140	Diesel Engine Overhaul I.....	4
HCEM1150	Applied Failure Analysis.....	2
ENGL1150	Composition I <b>or</b>	
ENGL1200	Technical Writing.....	3

**First Year - Spring Semester** **21 cr**

HCEM1234	Heavy Duty Electronics.....	3
HCEM1246	Diesel Engine Overhaul II.....	3
HCEM1250	Brakes.....	2
HCEM1256	Diesel Engine Tune-up.....	3
HCEM1262	Preventative Maintenance.....	2
HCEM1271	CAT Basics Training.....	2
COMS1020	Interpersonal Communication.....	3
PHIL1200	Critical Thinking.....	3

**Second Year - Fall Semester** **14 cr**

HCEM2115	Transmissions.....	4
HCEM2135	Hydraulics I.....	3
HCEM2177	Machine Electronics I.....	2
HCEM2238	Hydraulics II.....	3
HCEM2265	Differentials.....	2

**Second Year - Spring Semester** **12 cr**

HCEM2145	Hydrostatic Systems.....	3
HCEM2225	Track Drive Systems.....	3
HCEM2256	Steering Systems.....	2
HCEM2260	Machine Electronics II.....	2
HCEM2280	Climate Control.....	2

**TOTAL PROGRAM REQUIREMENTS 64**

# HEAVY CONSTRUCTION EQUIPMENT MAINTENANCE CERTIFICATE

All HCEM courses must be taken in the sequence below.  
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**First Year - Fall Semester** **14 cr**

HCEM1102	General Shop Mechanics - Introduction.....	3
HCEM1110	Welding and Flame Cutting.....	2
HCEM1132	Heavy Duty Electrical.....	3
HCEM1140	Diesel Engine Overhaul I.....	4
HCEM1150	Applied Failure Analysis.....	2

**First Year - Spring Semester** **15 cr**

HCEM1234	Heavy Duty Electronics.....	3
HCEM1246	Diesel Engine Overhaul II.....	3
HCEM1250	Brakes.....	2
HCEM1256	Diesel Engine Tune-up.....	3
HCEM1262	Preventative Maintenance.....	2
HCEM1271	CAT Basics Training.....	2

**TOTAL PROGRAM REQUIREMENTS 29**



**DAKOTA COUNTY**  
**TECHNICAL COLLEGE**

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**DCTC IS AN AFFIRMATIVE ACTION, EQUAL OPPORTUNITY EMPLOYER/EDUCATOR.**

This information is available in an alternate format by calling 651-423-8469 or TTY/Minnesota Relay at 1-800-627-3529.