

Earthmoving Fundamentals

HCON 222 – 5 Credits – April 2011



Class Description:

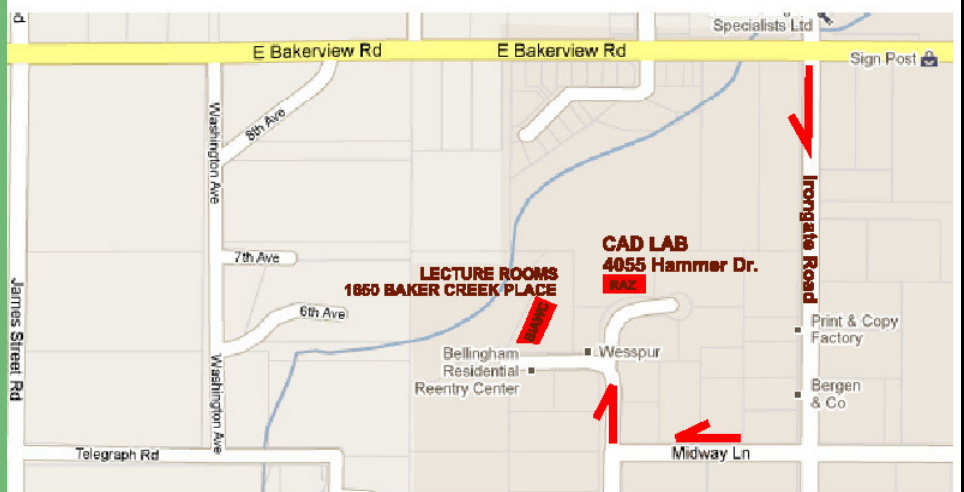
This course provides an introduction to earthmoving production fundamentals of construction equipment. The production of heavy equipment, including excavators, scrapers, trucks, bulldozers, and front end loaders is examined from a production prospective. In addition, earthwork conversions between loose cubic yards, bank cubic yards, and compacted cubic yards is covered.

Location:

WEI CAD Lab:
4055 Hammer Drive, Suite B2
Bellingham, WA 98226

Directions:

East on Bakerview Road
Turn right onto Irongate Road
Turn right onto Midway Lane
Turn right onto Hammer Drive
Park in back of building



Dates and Times:

The class is scheduled to run on **Tuesday and Thursday evenings at 6:00-9:00 PM** from **April 5th to April 28th**. This provides (8) evening classes to cover the course material. Please see the Class Calendar on the third page for course material.

Tuition and Registration:

Tuition must be paid before the class begins. Program enrolled students have seniority for this class and should register online three-weeks before the class begins. Continuing education students may begin registering online two-weeks before the class begins. Students may also send class registrations by mail to the following address:

Washington Engineering Institute
Registration Office
PO Box 483
Custer WA 98240

School Provided Materials:

- **Lecture Notes:** The school provides lecture handouts as needed.

Student Provided Materials:

- **Personal Laptop – Program Enrolled Students:** Program enrolled students are required to have a laptop in order to conduct their program and this class.
- **Caterpillar Performance Handbook - Edition 40:** Students should download the 40th Edition of the Caterpillar Performance Handbook for their laptops. The handbook is Freeware and can be found at various sources on the Internet.

Instructor

Dave C. Bren, PE, MSCE Civil Engineering Technology Instructor

Experience: 15 years of experience in the public and private civil engineering industry. Most recent experience was as the Assistant Public Works Director for the City of Blaine. Mr. Bren established and taught the Civil Engineering Technology program at Bellingham Technical College from 1997-2006 while continuing to consult in the industry.

Registration: Professional Engineer
State of Washington

Education: Master of Science in Civil Engineering
University of Washington

Bachelor of Science in Civil Engineering
University of Washington

Format:

Class Structure: Evenings will typically run in one-hour blocks as follows:

6:00 PM – Class setup and first hour
6:50 PM – Break
7:00 PM – Class
7:50 PM – Break
8:00 PM – Class last hour

Final Exam and Grades:

Continuing education students will receive an **AU** audit grade. Program enrolled students will be graded by attendance (30%) and by 7 assignments (70%). The Instructor holds the sole authority to issue grades and shall issue grades based on a 4.0 schedule as follows.

Grading legend

4.0	A
3.7	A-
3.3	B+
3.0	B
2.7	B-

2.4	C+
2.0	C
1.7	C-
1.3	D+
1.0	D
0.7	D-

AU	Class audited with no grade earned
EXP	Experiential credit granted per policy
EDU	Prior education credit granted per policy
I	Incomplete – Instructor Allows Extra Time to Complete
W	Withdrawn from class

April 2011 – Earthmoving Fundamentals –HCON 222

Monday		Tuesday		Wednesday		Thursday		Friday		Saturday		Sunday	
4		5	Types, Uses, & Purchasing	6		7	Earthwork Volume Conversions	8		9		10	
		6:00-9:00 PM Orientation Equipment Types Equipment Uses Equipment Purchasing				6:00-9:00 PM BCY LCY CCY Shrink and Swell Problem 1							
11		12	Production Equation	13		14	Excavators	15		16		17	
		6:00-9:00 PM Production Equation Basics Class Examples Problem 2				6:00-9:00 PM Production Estimation Class Examples Problem 3							
18		19	Front End Loaders	20		21	Bulldozer/Ripper	22		23		24	
		6:00-9:00 PM Production Estimation Class Examples Problem 4				6:00-9:00 PM Production Estimation Class Examples Problem 5							
25		26	Scrapers	27		28	Haul Trucks	29		30			
		6:00-9:00 PM Production Estimation Class Examples Problem 6				6:00-9:00 PM Production Estimation Class Examples In-Class Problem 7							



PO Box 483
 Custer WA 98240
admin@weiedu.org
 (360) 739-1428

Class Registration Form 2010 v2.0

Returning students with a Student ID do not need to fill out the gray portions of this form.

Name	
Address	
Phone	
Email	

Class Requested	HCON 222 – Earthmoving Fundamentals
Class Month / Date	April 2011

WAC 490-105-160 – State Licensed School Reporting Requirements:

Student ID #		
SSN #		
Date of Birth		
Gender		
Disability	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Race	<input type="checkbox"/> American Indian or Alaska Native <input type="checkbox"/> Asian <input type="checkbox"/> Black/African American <input type="checkbox"/> Hawaiian Native or Pacific Islander <input type="checkbox"/> Hispanic <input type="checkbox"/> White/Caucasian <input type="checkbox"/> Multi-racial <input type="checkbox"/> Other	
Prior Education	<input type="checkbox"/> Less than high school graduation <input type="checkbox"/> GED <input type="checkbox"/> High School Graduate <input type="checkbox"/> Post H.S., no degree or certificate <input type="checkbox"/> Associate Degree <input type="checkbox"/> Bachelor Degree <input type="checkbox"/> Master or Doctorate Degree	GED Year _____ Graduation Year _____ Graduation Year _____ Graduation Year _____ Graduation Year _____
Name of Last School Attended		

Student Signature

Date