**EST 145: Industrial Safety & Material Handling**

# Course Syllabus

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| Instructor(s): | Michael Houdak, CMHE; Joe Gonzalez |
| OFFICE LOCATION | Mike: Technology Building F, Office 1215A  Joe: VocTech Building J, Office 340A |
| OFFICE HOURS | By appointment |
| PHONE NUMBER | Mike: (509) 527-4252; Joe: (509) 527-4492 |
| E-MAIL ADDRESS | [michael.houdak@wwcc.edu;](mailto:michael.houdak@wwcc.edu;)  [joseph.gonzalez@wwcc.edu](file:///C:\Users\814184849\AppData\Local\Microsoft\Windows\Temporary%20Internet%20Files\Content.Outlook\6HSNTGJM\joseph.gonzalez@wwcc.edu) |

# COURSE INFORMATION

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| IDENTIFIER | EST 145 (item#: 0981) | | |
| TITLE | **Industrial Safety & Material Handling** | | |
| TEXTBOOK | **No textbook. Handouts will be provided via Canvas LMS**  **Amatrol**: [www.learnamatrol.com](http://www.learnamatrol.com) –and-- **Vivid Learning** | | |
| CREDITS | 5 | | |
| HOURS PER WEEK | 6 | LECTURE: 4 | LAB: 2 |
| FORMAT | Lecture/Demonstration/Lab/Web Enhanced | | |
| LOCATION | Bldg. H – EST Shop (Rm. 400) & Classroom 401 | | |
| DAY/TIME | Tuesday, Thursday, 1:30 pm – 4:20 pm | | |
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# COURSE DESCRIPTION

Course includes training in OSHA 10 construction and general industry modules. Techniques for safely lifting and moving loads of various shapes, sizes, and types will be provided, including appropriate tooling and knot tying for construction and industrial rigging situations. Course provides computer and hands-on based training in crane operation, hand & radio signals, aerial lifts, and the safe operation of forklifts.

# course outline

* **OHSA 10** **Construction** and **General Industry Safety Training** (Vivid)
  + Safety 101
  + Machine Guarding
  + Hand Safety
  + Hand and Power Tool Safety
  + Electrical Safety
  + Lock and Tag (LOTO)
  + Personal Protective Equipment (PPE)
  + Stairways and Ladder Safety
  + Trenching and Excavations
  + Scaffold Safety
  + Fall Protection
  + Overhead and Gantry Crane Safety
  + Slips, Trips, and Falls
  + Emergency and Fire Preparedness
  + Portable Fire Extinguisher Safety
  + Hazard Communication and Health Hazards
  + Permit Required Confined Space
  + Bloodborne Pathogens
  + Confined Spaces Entry – Permit Required
* **Material Handling Training** (Amatrol)
  + Fasteners
  + Non-Threaded Fasteners & Locking Devices
  + Introduction to Rigging
  + Slings & Lifts
  + Wire Rope
  + Chain Slings
  + Fiber Rope
  + Industrial Cranes
  + Wire Mesh Slings
  + Synthetic Slings
  + Equipment Movement
* **Forklift Operator Safety Training** (National Safety Compliance)
* **Aerial/Scissor Lift Training** (Genie)
  + Genie Z-30/20N Z-boom Aerial Lift
  + Genie GS-3232 Scissor Lift

# INTENDED LEARNING OUTCOMES

* Demonstrate and adhere to industry standard operating and safety procedures in labs.
* Describe work procedures that ensure the health and safety of personnel in a variety of situations.
* Explain communication skills used in the workplace.
* Demonstrate proper use of Lock Out-Tag Out procedures, Arc Flash personal protection equipment, and confined space entry procedures.
* Demonstrate use of slings, chains, spreader beams, wire and fiber rope, block and tackle, manual hoists, and power-operated hoists.
* Demonstrate correct use of Hazard Communication and Safety Data Sheets.
* Demonstrate effective use of tools, hooks, and eyebolts according to industry standards.
* Demonstrate how to find the center of gravity for various objects.
* Explain an application of each of the seven knots tied while rigging.
* Operate scissor and aerial man lifts in a safe manner to industry specifications.
* Demonstrate safety in rigging labs and proper use of block & tackle, manual hoists, and power operated hoists.
* Complete OSHA-10 Contractor Safety and General Industrial Training
* Obtain Forklift Qualification
* Obtain Genie Aerial/Scissor Lift Qualification

# Student learning assessments

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| GRADING POLICY Academic Standards: Student final grades will be computed at the completion of each quarter and posted. This course uses the Canvas learning management system (LMS) where the student completes assignments online and has access 24/7 to their scores for each course. Technical courses require a passing grade of C, as anything less conveys that the student has not completed a minimum level of competency that is required by industry. Students will need to retake the course if they fail to achieve at least a 70%. The following is the scoring used by the Energy Systems Technology Department for grading. (NOTE: points will be rounded up for scores of X.5 and above). | | | |
| * Attendance & Participation | | **25%** | Throughout the quarter you will need to actively participate in labs and complete all assignments to receive full credit. |
| * Assignments – Labs & Homework | | **25%** | Full completion of these assignments accounts for 25% of your overall grade. |
| * Quizzes & Tests | | **25%** | Each week a QUIZ will be given on the material covered throughout the week and CANNOT be made up or retaken. Total points earned on all the QUIZZES will account for 25% of your overall grade. |
| * Final Exam | | **25%** | One cumulative final will be given at the end of the quarter covering all pertinent information from lectures, assignments and quizzes and will account for 25% of your overall grade. |
| GRADES | **Percentage** | **GPA** | **Notes** |
| * A | **94 – 100%** | **4.0** | Outstanding Achievement |
| * A- | **90 – 93%** | **3.6** | Outstanding Achievement |
| * B+ | **87 – 89%** | **3.4** | High Achievement |
| * B | **80 – 86%** | **3.0** | High Achievement |
| * C+ | **77 – 79%** | **2.3** | Average Achievement |
| * C | **70 – 76%** | **2.0** | Average Achievement |
| * F | **< 70%** | **0.0** | *No Credit, goes against your GPA, course will need to be retaken.* |

# POLICIES AND PROCEDURES

* **Please treat this course like a job -- show up on-time, be prepared and ready to go, i.e. be professional.**
* Emails or phone calls from instructors should be returned within 12-24 hours. So, make sure your preferred email address is entered into the Canvas settings and check your email once in the morning and the evening each day during the work week.
* *Cell phones must be off or on vibrate and only used for emergencies. If cell phones are used for non-emergencies during class, then you well get points docked from your next HW assignment.*

# Attendance and participation is mandatory for this program

1. Two (2) excused absences are allowed per course per quarter.

* An excused absence occurs when you send an explanation for your absence via text, email, or phone call at least one hour before class starts. An excused absence receives no attendance/participation points for the day, but will NOT receive any final grade penalty deduction at the end of the quarter.
* An unexcused absence receives no attendance/participation points for the day, and will result in a 3% overall grade reduction penalty per occurrence calculated at the end of the quarter.

1. Coming to class late (i.e. tardy) or repetitive early departures bring about consequences.

* Leaving early (1-15 minutes) without prior approval from the course instructor will receive a 25% attendance/participation point deduction from your daily participation points.
* A tardy or leaving early (> 15 minutes) will be counted as an absence resulting in no attendance/participation points for the day, and a 1% deduction of your overall grade for the course calculated at the end of the quarter.

***Attendance and participation can account for as much as 40% of your overall grade for an individual course. Missing courses is strongly discouraged.***

**NOTE: The instructor has discretion to forgive and absence on a by case basis, and any missed labs must be made up within one week, a scheduled make-up time must be made with the instructor and be initiated by the student. It is each student’s responsibility to stay on track, communicate, and get caught up as needed.**

# WORK ASSIGNMENT SUBMITTAL INSTRUCTIONS

**HW assignments are due by** listed date and time. Late work will only be accepted under very special circumstances, will require prior approval, and will not be given full credit.

**The following requirements must be met to receive credit.**

* On-time or early assignments accepted.
* **Spelling and grammar must be checked and corrected.**
* **Legible handwriting.**
* **Questions and answers should always be numbered accordingly.**
* Assignments accepted on paper, via Canvas, **or via email with HW in an attached document.**  *Cutting and pasting answers into email will not be accepted.*
* ***FOR ALL ATTACHMENTS: Be sure write “your name\_coursenumber\_the specific assignment name/number”* in each attachment’s filename.**
* **Writing your Name and date on the top of each assignment is essential.**
* Multiple pages must be stapled together.

# Energy Systems Technology (EST):

# Classroom, Shop, and Lab Safety Rules

1. Students are required to wear hard-toed boots (i.e. steel or composite) and school issued work shirts tucked into pants (jeans, Carhartt-type work pants, or similar). This is the “EST Dress Code” and will be consistently enforced through the attendance policy\*.
2. Jewelry is not allowed, including necklaces, rings, or wristwatches unless they are properly covered. Wedding bands are ok.
3. Safety FIRST! Ask for help when lifting heavy loads. Use proper lifting techniques at all times.
4. Approved eye protection (goggles, face shields, or safety glasses) must be worn at all times when grinding, hammering, drilling, using chisels, punches or blow guns, charging air conditioning systems -- or any task in which dirt or foreign material may cause injury to a student’s face or eyes.
5. Long hair must be tied back or covered at all times.
6. Maintain a professional atmosphere. No horseplay or running. Tampering with another student’s machine, project, tools, or supplies/parts will not be tolerated.
7. Students are required to obtain complete operating instructions from the instructor prior to operating any equipment.
8. Proper lock-out/tag-out (LOTO) procedures will be followed when working with electricity.
9. Safety guards and grounding lugs on cords should be in place and secured before using any electrical tool or equipment.
10. Jack stands or cribbing should be used under equipment when raised -- and the equipment should be placed on a proper lift point.
11. Know where first aid kits and fire extinguishers are located; inform the instructor immediately of any and all near misses, injuries, and/or emergencies.
12. Know emergency evacuation routes and procedures for each building you attend classes and participate in labs and shop work.
13. Maintain a clean work area. Use proper cleaning fluids when cleaning parts (i.e. non-flammable fluids).
14. Maintain a neat and orderly work area. Air hoses, electrical cords, tools, and equipment must be properly put away, disposed of, and/or stored as appropriate when not in use.
15. Students must demonstrate knowledge of the proper methods of hazardous materials, i.e. grease, oil, antifreeze, or any other liquid spills must be cleaned, stored, and disposed of immediately. Safety Data Sheets will be made available.

# Need help with an Information technology (it) issue or Canvas problem?

Ask me for help in class, message me through Canvas, or come to my office hours. You can also go to the following link to find assistance:

<http://www.wwcc.edu/elearning/technical-requirements-at-elearning/canvas-login-and-support/>

***Please make note I do not accept technology excuses as a reason for late work, and here's why:***

**Canvas and computers:** With this course you have access to Canvas 24/7 for all content and due dates ahead of time, and you can access our course site from anywhere there is an Internet connection! If your personal technology crops up with issues, you can come to campus and use a computer in one of the computer labs or library to get your assignments done. If you live out of the area, try your local public library computers (or have a friend/parent/spouse's computer as a back-up plan).

**Wi-Fi**: Wi-Fi is available for free on campus and at many businesses like Starbucks, Coffee Perk, the public library, and even McDonalds.  If your home Wi-Fi goes down, use one of these free options (WWCC has great Wi-Fi)!

**The Canvas App:** While the Canvas App for your phone is convenient to check grades or read a discussion post, please know that it is not as robust as the full desktop/laptop version, and **some elements of Canvas will not work on your phone.** IMPORTANT: Do not attempt to take quizzes/tests via the mobile app.

**Always On:** Canvas will not lock you out if you forget your password - you can [reset it](http://www.wwcc.edu/elearning/technical-requirements-at-elearning/forgot-your-password/) at any time. Plus, there has only been one Canvas outage in three years that lasted longer than a few minutes. That is great reliability! NOTE: If your courses suddenly go missing, you should**check with the Registrar** to make sure there isn't a registration issue.

# In Case of Bad Weather, Class Cancellation, or College Closure:

***If there is bad weather and the class is cancelled or the college is closed, check your email for a message update from me. You are also expected to check the course home page for assignments. If there is a cancellation or closure, there will be an assignment that you will be expected to complete and submit by the next class. Feel free to e-mail me with any questions. Sign-up for emergency text and email alerts from WWCC!***

Non-attendance Due to Military Service: Any member of the Washington National Guard or any other military reserve or guard component currently enrolled as a student at WWCC will be given all the rights stated in RCW 28B.10.270. **Absences due to military duty or veteran status will be excused. This includes, but is not limited to, the following:**

* Mandatory monthly drill instruction, such as duty completed by National Guard members and military reservists (typically this involves a one-day absence in order to extend weekend training).
* Service-related medical appointments where failure to appear might result in a loss of benefits.

**Documentation:** Students are strongly encouraged to inform each of their instructors of their known and anticipated absences as far in advance as possible, preferably at the start of the term. A copy of the drill schedule must be presented to each instructor at least one week in advance of the absence unless last-minute schedule changes make this notice impossible. The student must meet with their instructor(s) to make arrangements to complete all course material before they leave or as soon as they return. All course material administered during the absence will need to be made up within a reasonable time as determined by the instructor(s). In the event there are considerable absences or extended periods of military duty (e.g. being called to active duty), it may be most appropriate for the student to withdraw. Upon request of the institution, the person shall provide verification of service. Successful completion of the courses remains the sole responsibility of the student. **Students are responsible for keeping their course instructor(s) informed of all military absences.**

Tobacco Free Campus Policy: Walla Walla Community College prohibits smoking or other tobacco use, including the use of electronic cigarettes, distribution or sale of tobacco, including any smoking device, or carrying of any lighted smoking instrument within the perimeter of college property.  This includes all college premises, sidewalks, parking lots, landscaped areas, sports fields; college owned, rented or leased buildings on campus; and college owned, rented, or leased vehicles.

Accommodations for Students with Disabilities:WWCC complies with Section 504 of the Rehabilitation Act and the Americans with Disabilities Act (ADA) of 1990 as amended in 2008. Information regarding student accommodations may be obtained by contacting Bobbie Sue Arias, Ph.D., Coordinator of Disability Support Services, Walla Walla Community College, 500 Tausick Way, Walla Walla, WA 99362. Walla Walla campus: (509) 527-4262, [bobbiesue.arias@wwcc.edu](mailto:bobbisue.arias@wwcc.edu); or Clarkston campus: Janet Danley, Ed.D.:  (509) 758-1703, [janet.danley@wwcc.edu](mailto:janet.danley@wwcc.edu)

Equal Opportunity Statement:Walla Walla Community College District No. 20 (WWCC) is committed to provide equal opportunity and nondiscrimination for all educational and employment applicants as well as for its students and employed staff, without regard to race, color, creed, national origin, sex, sexual orientation, including gender expression/identity, genetic information, marital status, age (over 40), the presence of any sensory, mental, or physical disability, the use of trained guide dog or service animal by a person with a disability, or status as a Vietnam and/or disabled veteran, National Guard member or reservist in accordance with the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, the Federal Rehabilitation of 1973, the Americans with Disabilities Act of 1990 and any other applicable Federal and Washington State laws against discrimination. Overall Affirmative Action/Equal Opportunity and Title IX program responsibility is assigned to **Sherry Hartford**, Vice President of Human Resources (509) 527-4382. The College’s Section 504 Officer is **Jose E. da Silva, Ph.D.**, Vice President of Student Affairs (509) 527-4300.  The College’s TDD number is (509) 527-4412.