

Safety & ergonomics

ONLINE Class

Course Syllabus

Instructor & Class Information

<p>Shawn Trumbo Faculty Professor Machining Technology Manufacturing Engineering Technology</p> <p>HCCS- Central Office JBW# 119 Tel 713-718-2894 (preferred method of contact) alberto.flores@hccs.edu Office Hours: M,T,Th, 12:50 PM to 2:15 PM</p>	<p>COURSE: ENTC 1347 CRN: 24538 TERM: Fall 2020 (12 weeks) CREDIT: 3 Hrs (Lecture 2 hrs + Online 2hrs)</p> <p>PREREQUISITE: MCHN 1320, MCHN 1343, MCHN 1302</p> <p>JBW Building Room Online 0:00AM to 0:00AM</p>
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COURSE DESCRIPTION

Occupational Safety and Health Administration (OSHA) safety guidelines including electrical, chemical, and hazardous material safety. Ergonomic considerations to include repetitive motion, plant layout, and machine design. Industrial safety awareness, accident cost and prevention, and workman's compensation issues.

STUDENT LEARNING OUTCOMES

Students will be able to :

1	Explain OSHA general safety guidelines
2	Understand ergonomic design considerations for the industrial environment
3	Explain industrial safety requirements
4	Understand and apply safety awareness, cost of accidents, and prevention techniques;

5	understand the central issues of workman's compensation.
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COURSE LEARNING OBJECTIVES

Students will :

1	<p>1.1 Introduce OSHA as the Occupational Safety and Health Administration, a government agency.</p> <p>1.2 Recognize struck-by hazards using current OSHA and industry information</p> <p>1.3 regarding worksite illnesses, injuries and/or fatalities.</p> <p>1.4 Briefly explain the rationale for OSHA act.</p> <p>1.5 List those who are exempted from coverage from OSHA.</p>
2	<p>2.1 Explain why so little hard research has been done concerning the economics of ergonomics.</p> <p>2.2 Explain the concept of human factors and how it relates to ergonomics.</p> <p>2.3 Categorize fall caused injuries from minor sprains to death.</p>
3	<p>3.1 Define hazards and know what the employer's responsibilities are regarding protecting workers from workplace hazards.</p> <p>3.2 Sort proper personal protective equipment (PPE) required to perform different industrial tasks.</p> <p>3.3 Explain how to guard against the hazards the hazards associated with robots.</p> <p>3.4 Explain how the design process effects safety.</p>
4	<p>4.1 Explain three stages of human reaction to stress.</p> <p>4.2 Explain three ways in which mental workload can be measured.</p> <p>4.3 Explain the concept of safeguarding.</p> <p>4.4 Define scaffolding accident prevention and introduce OSHA related regulations.</p> <p>4.5 Categorize fall caused injuries from minor sprains to death.</p> <p>4.6 Describe different types of caught-in or -between hazards and demonstrate how to avoid such hazard.</p> <p>4.7 Recognize employer requirements to protect workers from caught-in or -between hazards.</p> <p>4.8 Differentiate ways to control or eliminate specific hazards and exposure to illness or injury.</p> <p>4.9 Identify major electrocution hazards. Recognize employer requirements to protect workers from electrical hazards.</p> <p>4.10 Identify a fall hazard as anything that can cause an employee to lose bodily support and fall.</p> <p>4.11 Describe different types of caught-in or -between hazards and demonstrate how to avoid such hazard.</p>

	<p>4.12 Identify a fall hazard as anything that can cause an employee to lose bodily support and fall.</p> <p>4.13 Describe possible injury risks if a portable ladder is not safely positioned.</p> <p>4.14 Categorize fall caused injuries from minor sprains to death.</p> <p>4.15 Recognize employer requirements to protect workers from caught-in or -between hazards.</p> <p>4.16 Describe and identify types of struck-by hazards and explain how to take protection actions.</p> <p>4.17 Describe the purpose of lockout /tagout procedures.</p> <p>4.18 Identify major electrocution hazards.</p> <p>4.19 Recognize employer requirements to protect workers from electrical hazards.</p> <p>4.20 Identify a fall hazard as anything that can cause an employee to lose bodily support and fall.</p> <p>4.21 Describe different types of caught-in or -between hazards and demonstrate how to avoid such hazards.</p> <p>4.22 Identify major electrocution hazards.</p> <p>4.23 Recognize employer requirements to protect workers from electrical hazards.</p> <p>4.24 Establish reaction plans, such as evacuation routes and fire control, to follow when hazards occur.</p> <p>4.25 Explain the rationale for investigating accidents.</p> <p>4.26 Explain the difference between an accident report and an accident analysis report.</p>
5	<p>5.1 Explain NIOSHA (National Institute for Occupational Safety and Health) functions.</p> <p>5.2 Explain how to achieve the following certification for certified occupational health nurse-safety manager.</p> <p>5.3 List four objectives for workmen’s compensation.</p> <p>5.4 Explain the concepts of AOE and COE.</p>

Course outline

Week Date	Lectures-Class/Online Activities	Assignments
1	Class Orientation: -Syllabus-Online learning Resources: Eagle Online 2- Syllabus Chapter 1,2, Complete Topics & Quizzes	Review Class Syllabus, Plan, and Eagle Online
2	Complete Chapter 3,4 Topics & Quizzes	Complete EO2 Topics & Quizzes
3	Complete Chapter 4,5	Complete EO2 Topics & Quizzes
4	Complete Chapters 6,7 Topics & Quizzes	Complete EO2 Topics & Quizzes

5	Complete Chapters 8,9 Topics & Quizzes REVIEW FOR MIDTERM	Complete EO2 Topics & Quizzes
6	Complete Chapters 10,11 Topics & Quizzes MIDTERM	Complete EO2 Topics & Quizzes
7	Complete Chapters 12,13 Topics & Quizzes	Complete EO2 Topics & Quizzes
8	Complete Chapters 14,15 Topics & Quizzes	Complete EO2 Topics & Quizzes
9	Complete Chapters 16,17 Topics & Quizzes	Complete EO2 Topics & Quizzes
10	Complete Chapters 18,19 Topics & Quizzes	Complete EO2 Topics & Quizzes
11	Complete Chapters 20 Topics & Quizzes Review for Final	Complete EO2 Topics & Quizzes
12	FINAL EXAM	Complete EO2 Topics & Quizzes
13		
14		
15		
16		

Instructional Methods

Student Assignments

Attendance, Class Participation	5%
EO2 Quizzes & Assignments	15%
In Class QI and QII	15%
Midterm Exam	25%
Final Exam	40%

Student Assessments

Assignments have been developed that will enhance your learning.

To better understand a topic, you will be given assignments on key information that you will need to remember for your success.

To complete and pass this course you will be required to successfully complete the following on time:

- 1.-All class study-cases.
- 2.-All class and Online Quizzes and assignments
- 3.-Midterm Exam.
- 4.-Final Exam.

Instructor's Requirements

Instructor's main goal is to convey skills and knowledge necessary to prepare the student to excel in today's manufacturing environment by using the most productive instructional methods practiced by HCC. These are some of his responsibilities:

- 1.-Provide the grading scale and detailed grading formula explaining how student grades are to be derived.
- 2.-Facilitate an effective learning environment through class activities, discussions, and lectures.
- 3.-Description of any special projects or assignments.
- 4.-Inform students of attendance, withdrawal, tardiness and make up policies.
- 5.-Provide the course outline and class calendar which will include a description of any special projects or assignments.
- 6.-Arrange to meet with individual students before and after class as required.

The student is expected to employ the best effort in learning, assimilating and applying the information presented by the instructor.

By understanding and applying new knowledge in a continuous base the student will insure success in the learning process.

Mandatory emphasis must be invested in practicing and following all safety rules and procedures implemented by the Instructor.

Additional responsibilities to follow:

- 1.-Read the assigned chapters in the textbook.
- 2.-Submit assignments and projects on their due dates.
- 3.-Prepare for the exams.
- 4.-Participate in classroom activities.
- 5.-Utilize online-learnings resources.
- 6.-Maintain a good attendance record.

Books, Tools and Supplies

Students are required to purchase and bring to class the required textbooks, tools, notebooks, supplies, and writing instruments as required by the instructor.

Program/Discipline Requirements

Cell Phones-Calculators

All cell phones must be muted, set to vibrate, or turned off during class. Cell phone activity during class is deemed disruptive to the academic process and will not be tolerated. If you need to make or receive an emergency call, please leave the classroom.

If the course allows the use of a calculator during class, lab projects, and exams, the student is responsible to bring his/her calculator. Cell phones are not calculators, and are not allowed to be used for that purpose during class, tests, or exams.

Student ID

Students are required to obtain a Student ID. For additional information, consult the *Student Handbook*.

Parking Rules and Regulations

Students are required to follow HCC's regulations regarding parking and permits. For additional information, visit <http://www.hccs.edu/hccs/about-hcc/police/parking/parking-rules-and-regulations>

Dress Code

Dress code must be appropriate for the class. Students must dress in a way that clothing and accessories do not compromise their safety, and the safety of others. Proper foot wear is required in all laboratories. Absolutely no sandals or other footwear that exposes the feet will be allowed.

Classroom & Laboratory Conduct

Proper behavior is expected in all classes and laboratories. Foul language and horseplay are not allowed. Making or receiving cell phone calls during class are not allowed. Sleeping in class is not allowed.

Course Withdrawal

It is the responsibility of the student to officially withdraw from a course before the official withdrawal deadline. A student who does not withdraw from a course by the deadline will receive an "F" as the final grade. Also note that under Section 51.907 of the Texas Education Code, an institution of higher education may not allow a student to drop more than six courses.

HCC Grading Scale

The HCC grading scale is:

A = 100 – 90	4 points per semester hour
B = 89 – 80	3 points per semester hour
C = 79 – 70	2 points per semester hour
D = 69 – 60	1 point per semester hour
59 and below = F	0 points per semester hour
FX (Failure due to non-attendance)	0 points per semester hour
IP (In Progress)	0 points per semester hour
W (Withdrawn)	0 points per semester hour
I (Incomplete)	0 points per semester hour
AUD (Audit)	0 points per semester hour

IP (In Progress) is given only in certain developmental courses.

The student must re-enroll to receive credit. COM (Completed) is given in non-credit and continuing education courses. To compute grade point average (GPA), divide the total grade points by the total number of semester hours attempted. The grades "IP", "W", "AUD", "COM" and "I" do not affect GPA.

Incompletes

The grade of "I" (Incomplete) is conditional. A student receiving an "I" must arrange with the instructor to complete the course work within six months of the end of the incomplete term. After the deadline, the "I" becomes an "F." Upon completion of the coursework, the grade will be entered as I/grade on the student transcript. All "I"s must be changed to grades prior to graduation.

Instructor Grading Criteria

Attendance, Class Participation	5%
EO2 Quizzes & Assignments	15%
In Class QI and QII	15%
Midterm Exam	25%
<u>Final Exam</u>	<u>40%</u>
Final Grade	100%

Instructional Materials

The Basics of Education Safety 3rd Edition

David L. Goetsch,
ISBN-10: 0134678710

ISBN-13: 978-0-13-4678719

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OPTIONAL

Precision Machining Technology 2nd Edition

Peter J. Hoffman; Eric S. Hopewell; Brian Janes

ISBN 13: 9781305430747

(If you already have the book use **ISBN 13:** 9781305374737)

Delmar-Cengage Learning

HCC Policy Statement:

ADA

Academic Dishonesty

Student attendance

3-peaters

Withdrawal deadline

Access Student Services Policies on their Web site:

<http://www.hccs.edu/resources-for/currentstudents/student-handbook/>

Accommodations due to a qualified disability

HCC strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including mental health, chronic or temporary medical conditions), please meet with a campus Abilities Counselor as soon as possible in order to establish reasonable accommodations. Reasonable accommodations are established through an interactive process between you, your instructor(s) and Ability Services. It is the policy and practice of HCC to create

inclusive and accessible learning environments consistent with federal and state law. For more information, please go to

<http://www.hccs.edu/support-services/disability-services/>

HCC Policy Statement:

Discrimination, Sexual Harassment, Sexual Misconduct, Pregnancy and Parental Status

HCC prohibits discrimination in its educational programs or activities on the basis of race, color, national origin, age, religion, disability, sex or gender-including pregnancy or parental status, gender identity, gender expression, sexual orientation, Veteran status or genetic information. Furthermore, HCC prohibits all forms of sexual misconduct, including but not limited to, sexual harassment, rape, sexual assault, sexual exploitation, domestic violence, interpersonal violence, dating violence and stalking.

HCC will comply with state and federal laws such Title IX of the Education Amendments of 1972, Title VI and Title VII of the Civil Rights Act, the Americans with Disabilities Act, Section 504 of the Rehabilitation Act of 1973, the Vietnam Era Veterans Readjustment and Rights Act, and other similar laws that prohibit discrimination.

Any student that requires an academic accommodation due to pregnancy and pregnancy related conditions (i.e., pregnancy, childbirth, false pregnancy, termination of pregnancy, conditions arising in connection with pregnancy, and recovery from any of these conditions) or parental status, should consult with an Abilities Services Counselor to initiate an academic accommodation request. An academic accommodation may include, but is not limited to, receiving a grade of an "I" (Incomplete) on a course, an official withdrawal from a course, voluntarily leave of absence from the program with a conditional return, or the opportunity to resume enrollment at a later time without being subjected to a new admission process.

Students may report an incident of discrimination, sexual misconduct, or discrimination based on pregnancy or parental status to the Title IX Coordinator listed below. Individuals may also report incidents online or to any Title IX Contact.

Title IX Coordinator
James David Cross, Director of EEO/Compliance
Office of Institutional Equity
3100 Main, Suite 702
Houston, Texas 77002
713.718.8271
Institutional.equity@hccs.edu
For more information and resources related to HCC's nondiscrimination
policies and Title IX, visit:
<http://www.hccs.edu/departments/institutional-equity/>

Basic Needs

Any student who faces challenges securing their food or housing and believes this may affect their performance in the course is urged to contact the Dean of Students for support. Furthermore, please notify the professor if you are comfortable in doing so. This will enable us to provide any resources that HCC may possess.

Campus Carry

At HCC the safety of our students, staff, and faculty is our first priority. As of August 1, 2017, Houston Community College is subject to the Campus Carry Law (SB11 2015). For more information, visit the HCC Campus Carry web page at <http://www.hccs.edu/departments/police/campus-carry/>

HCC Online and/or Continuing Education Policies

Access HCC Online Policies on their Web site:

All students are responsible for reading and understanding the HCC Online Student Handbook, which contains policies, information about conduct, and other important information. For the HCC Online Student Handbook click on the link below or go to the HCC Online page on the HCC website.

The HCC Online Student Handbook contains policies and procedures unique to the online student. Students should have reviewed the handbook as part of the mandatory orientation. It is the student's responsibility to be familiar with the handbook's contents. The handbook contains valuable information, answers, and resources,

such as HCC Online contacts, policies and procedures (how to drop, attendance requirements, etc.), student services (ADA, financial aid, degree planning, etc.), course information, testing procedures, technical support, and academic calendars. Refer to the HCC Online Student Handbook by visiting this link:
<http://www.hccs.edu/media/houston-community-college/distanceeducation/student-services/HCC-Online-Student-Handbook.pdf>

The instructor reserves the right to make any changes in the syllabus if required.