

Syllabus

Course Numbers:	PPT 161
Course Name:	Process Plant Safety II
Semester:	Spring 2021
Credits:	2
Class Meetings:	B036: TR 12:40-1:40
Instructor:	Andrew D. Sullivan
Phone:	247-3047
Email:	Andrew.Sullivan3@msubillings.edu
Faculty Website:	http://www.msubillings.edu/cotfaculty/sullivan/
Office:	A061 – Tech Building
Office Hours:	See attached schedule

Required Texts and Material:

There are no required textbooks to purchase. Required materials will be posted on D2L.

Course Description:

Provides the student with detailed instruction in the field of safety and health within the Process industry. In this course, the student will complete an in-depth study in the use of gas detection equipment, the use of the permitting system including lock out/tag out, the use of OSHA logs, the use of advanced safety equipment, and study the importance of industrial hygiene in an industrial setting.

Course Goals and Objectives:

Upon completion of this course, students will be able to:

1. Apply process safety principles to activities and work tasks to produce a safe working environment.
2. Analyze workplace scenarios, recognize hazards, and develop mitigation plans to ensure a safe environment for oneself, other workers, and the community.
3. Describe and discuss safety issues relevant to process plant industries and the operator's role in maintaining a safe workplace. Focus areas include gas detection, work permitting, lockout/tagout (LOTO), industrial hygiene, and hazardous materials.

Academic Issues and Grading:

1. Late work is not accepted.
2. Final lecture grades will be calculated per the following scoring criteria:

Tests (average of 3 evenly split)	80%
Assignments	20%

3. Grade Scale:

Grade	Percentage	GPA		Grade	Percentage	GPA
A	93 - 100	4.0		C	73 - 77	2.0
A-	90 - 93	3.7		C-	70 - 73	1.7
B+	87 - 90	3.3		D+	67 - 70	1.3



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B	83 - 87	3.0		D	63 - 67	1.0
B-	80 - 83	2.7		D-	60 - 63	0.7
C+	77 - 80	2.3		F	0 - 60	0.0

Course Outline:

The following plan is a guideline that will be adjusted to meet the needs of the class.

Week	Day	Class	Plan
1	Thu 01/14/21	1	LOTO & Equipment Prep - Instruments
2	Tue 01/19/21	2	LOTO & Equipment Prep - Pumps
	Thu 01/21/21	3	LOTO & Equipment Prep - Exchangers
3	Tue 01/26/21	4	Hazard Classification
	Thu 01/28/21	5	LOTO & Equipment Prep - Conoco Tanks
4	Tue 02/02/21	6	LOTO & Equipment Prep - Debutanizer
	Thu 02/04/21	7	Gas Detection Equipment
5	Tue 02/09/21	8	Gas Detection Equipment - Hands On
	Thu 02/11/21	9	Test #1
6	Tue 02/16/21	10	Process Safety Management (PSM)
	Thu 02/18/21	11	Operating Procedures
7	Tue 02/23/21	12	Incident Investigation / Hot Work Hazard Awareness
	Thu 02/25/21	13	Investigation Practice with CSB Incidents
8	Tue 03/02/21	14	Rules to Live By (API)
	Thu 03/04/21	15	Energy Isolation & Blind Lists
9	Tue 03/09/21	16	Vertical Heat Exchanger Preparation
	Thu 03/11/21	17	More complex energy isolation and blinding
10	Tue 03/16/21	18	Test #2
	Thu 03/18/21	19	Furnace Overview
11	Tue 03/23/21	20	Furnace Hazards and Startup Procedures
	Thu 03/25/21	21	How Furnace Draft Works
12	Tue 03/30/21	22	How Furnace Draft Works
	Thu 04/01/21	23	Furnace Flooding and Response
13	Tue 04/06/21	24	Cold Work Permitting
	Thu 04/08/21	25	Hot Work Permitting
14	Tue 04/13/21	26	Entry Permits / Ventilation Plans
	Thu 04/15/21	27	Entry Permits / Ventilation Plans
15	Tue 04/20/21		Final Exam 2:00-4:00 pm

Safety:

Some hazards can't be eliminated in a process plant or academic setting and must be managed to prevent serious injury. A discussion of hazards and how to mitigate them will be part of lectures, labs, and other activities and will include safety equipment checks, personal protective equipment requirements, and training. Student responsibilities include:

- Be fully engaged so you understand the hazards and are prepared to manage them.
- Be in a suitable physical and mental state to perform safely and determine if you are prepared to engage in an activity.
- Wear all required PPE. Safety glasses are always required in the lab. No open-toe shoes are allowed in the lab.
- Perform safely and professionally. Horseplay gets people hurt.
- Follow all rules and procedures.

Failure to follow safety rules may result in a written warning, a failing grade for the assignment or course, or loss of laboratory / activity privileges to protect other students. MSUB is not responsible for injury resulting from failure to follow rules or procedures.

Access, Assistance, and Advocacy:

A summary of services to help you succeed in a positive, supportive, and enjoyable learning environment is listed below.

- [Academic Support Center](#). The City College branch is open M-F 9-5. Resources include tutoring and a writing center. Drop-in and by appointment. 247-3022.
- [Disability Support Services \(DSS\)](#). MSU Billings is committed to providing equal access. Please meet with me to discuss ways to ensure your full participation if you anticipate barriers. DSS will help us (247-3029, Tech Building A011).
- [TRIO/Student Support Services](#). Support for low income, first generation, and disabled students enrolled in a 4 year program (or 2+2 at City College). 657-2162
- [Native American Achievement Center](#). Advocacy and assistance for American Indian students. 657-2144
- [Student Health Services](#). Student Health Services provides medical care, mental health counseling, wellness services and education, and violence advocacy and prevention services. Located above the Academic Support Center at City College. Students can use Health Services even if they waive the student health insurance plan. 657-2153
- [Veterans Services](#). For assistance activating your VA Educational Benefits, getting access to VA assistance for tutors, or even joining the veteran student organization, contact the VA Representative in the Military and Veterans Success Center at 657-2982. For assistance on the posting of your VA Educational benefits please contact the Business Services office at 657-1707.
- [Veterans Upward Bound](#). Assistance for veterans from admission to graduation. 657-2075

Class and Lab Policies:

- We will follow all rules and guidance set by the University.
- Academic or personal misconduct will be managed per the procedures outlined in the [MSU Billings Student Policies & Procedures Handbook](#).
- Phones, computers, and tablets are not allowed in class.
- Food and drinks are not allowed in classrooms or labs.
- Disruptive behaviors will result in final grade reductions up to 10% per occurrence.

Andy Sullivan's Spring 2021 Calendar

	Monday	Tuesday	Wednesday	Thursday	Friday
8:00-9:00	PPT 211	PPT 212	PPT 211		
9:10-10:10	Office Hours		Office Hours		PPT 176
10:20-11:20	PPT 225	Office Hours	PPT 225		
11:30-12:30	Lunch	Lunch	Lunch	Lunch	Lunch
12:40-1:40	PPT 120	PPT 161	PPT 120	PPT 161	PPT 176
1:50-2:50	PPT 175	PPT 175	PPT 175	PPT 175	
3:00-4:00	PPT 212			Office Hours	
4:10-5:10					