Syllabus

Course No.:	PPT 298
Course Name:	Cooperative Education / Internship
Semester:	Fall 2019
Credits:	1
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:
None

Course Description:
Provides university credit for a sophomore experience in the area of Process Plant Technology, supervised by faculty.

Course Goals and Objectives:
Learning outcomes for the PPT internship are developed individually for each student experience based on the student's interests and the specific opportunity they have. These goals are developed in conjunction with your City College advisor and are documented on the Cooperative Education Student Learning Outcomes form. Some possible outcomes to consider are included at the end of this document.

Course Requirements:
Weekly Email to Instructor & Supervisor:
Every week during your internship you will send me an email with the following information:

- How many hours you worked this week.
- How many total hours you have worked at this internship.
- A summary of what activities you participated in.
- How these activities benefitted your development as a Process Plant Technician and helped you meet your learning objectives.
- Send your email to andrew.sullivan3@msubillings.edu.
- Copy your supervisor on the email and make sure it is a good example of your abilities.

Cell Phones:
Cell phones and cameras are generally not allowed in plant settings. Coordinate with your hosting site on how to manage a cell phone if needed.

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Access, Assistance, and Advocacy:

Your success in a positive, supportive, and enjoyable learning environment is my primary objective and the University's. Please let me know if there are barriers that I can help to address. We have one of the strongest support networks of any university to help. A summary of services is listed below. You can work with them directly or involve me as you prefer.

- 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. Open M:11-2, T:9-12, W:11-2, and Th:1-5. 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, Dawn Githens, at 657-2982. For assistance on the posting of your VA Educational benefits please contact Renee Haefer in the Business Services office at 657-1707.

- Veterans Upward Bound. Assistance for veterans from admission to graduation. 657-2075

Academic Issues and Grading:

1. Grade Scale:

Grade	Percentage	GPA
A	93 - 100	4.0
A-	90 - 93	3.7
B+	87 - 90	3.3
B	83 - 87	3.0
B-	80 - 83	2.7
C+	77 - 80	2.3
C	73 - 77	2.0
C-	70 - 73	1.7

D+	67 - 70	1.3
D	63 - 67	1.0
D-	60 - 63	0.7
F	0 - 60	0.0

2. Final grades will be calculated according to the following scoring criteria.

20%	Completing the "I've found an internship" portion of Career Link before starting work activities at your hosting site.
30%	Remaining in a good working status with your employer. Being fired earns 0% in this category and will result in a failing grade. Negative reports such as missing work, low work interest, laziness, horseplay, alcohol or drug use, sleeping, tardiness, sitting around too much, inappropriate discussion, insubordination, or unsafe work practices will result in a non-passing grade.
50%	Quality weekly status updates in email form sent to your instructor with your supervisor copied. The emails must meet the expectations outlined in the "Course Requirements" section of this syllabus above. Grades will be posted in D2L.

3. Be safe. This is the absolute most important thing from everyone's perspective; the hosting site, MSUB, and most importantly you. A few things to consider:
    1. You are the most important barrier to preventing injury to yourself and others.
    2. Take your time and evaluate <u>every</u> action for traps. Many accidents happen during routine activities like sampling and walking. A few seconds of thought will prevent most injuries.
    3. Always use all safety equipment even if you observe others cheating.
    4. Slipping on wet surfaces causes many injuries. Don't rush or walk where you shouldn't. Go around if there is a safer path. Don't walk on pipe.
    5. Don't pinch your hands. Be prepared for tools to slip. Always wear gloves.
    6. Protect your eyes. Particles and chemicals are a primary hazard.
    7. Utilize your site's first aid if needed. Letting a minor injury get worse is very bad.
    8. A hosting site is not likely to hire someone who gets hurt or doesn't practice good safety. We can't pass people who are not safety oriented.

4. Missing assigned shifts or negative reports from hosting sites will limit our ability to assess a passing grade for the experience. You represent Montana State University Billings, City College, and the Process Plant Technology program while on your internship (and when you get hired). Maintaining an environment where hosting sites favor PPT students is critically important to the continued success of the program. We can't afford to damage our reputation. A few traps to avoid based on behaviors exhibited by less professional Operators are:
    1. Do not read anything at work except company sponsored material like manuals and safety flashes.

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2. Never allow yourself to fall asleep on the job. City College PPT Interns have been fired for this.
3. Minimize time engaged in idle discussion in a shelter.
4. Keep busy. There is always opportunity to clean, and cleaning is appreciated.
5. If you are not allowed to clean and you shadow someone who chooses to spend more time in idle discussion than you prefer, never allow yourself to get drawn into negative discussions about any company or person. Stay positive or silent.

Goals:

Your Cooperative Education Student Learning Outcomes form requires you to develop four goals and ways to achieve them. Following are some ideas to consider. You should not copy these, but use them for ideas. Your goals should work to your interests.

1. Learn the sites LOTO system, what it does, why, and how to apply it.
   a. List different hazards that a LOTO system addresses and how it addresses them.
   b. Demonstrate effectively locking out different energies using proper procedures.
   c. Critique a LOTO activity and justify your position.

2. Learn the sites gas testing system, what it does, why, and how to apply it.
   a. List the different hazardous materials and conditions addressed with gas testing.
   b. Demonstrate how to perform a gas test.
   c. Interpret gas test results to support a PPE decision for a particular job and appropriate respiration protection.

3. Learn the sites permitting system, what it does, why, and how to apply it.
   a. Explain the circumstances that require different permits.
   b. Analyze a specific task and create a permit to properly authorize the work.
   c. Critique permits based on analysis of the job site and justify position.

4. Attain mastery on the sites basic safety training.
   a. Discuss the components of the basic safety training including hazardous materials, hazard communication, emergency response, work at heights, personal protective equipment, and fire protection equipment.
   b. Demonstrate how this training is applied to a specific job or abnormal event.
   c. Critique a job, response, or incident for proper application of safety practices and justify your position.

5. Attain mastery on a complex unit operation.
   a. Demonstrate creating an accurate Process Flow Diagram of the unit from memory.
   b. Explain how the unit works, in writing, from the feed to the products.
   c. Predict how a change in operating parameter will impact the unit operation.

6. Learn how to properly startup, operate, and shutdown major equipment.
   a. Describe where to locate procedures and list what tasks require signing off a paper procedure vs. performing a routine task recalled from training.
   b. Demonstrate the ability to list from memory the steps to startup and shutdown a pump, turbine, and a compressor.
   c. Explain at a high level the steps to startup a major unit and what the steps accomplish.

7. Learn an Operator's routine responsibilities.
   a. Discuss a typical day shift and night shift including shift handover, communications, meetings, interfaces with other groups, routine tasks, rounds, and typical special tasks.
   b. Demonstrate proper techniques for using ladders, valves, hoses, tank gauging, tracing pipe, heavy lifting, changing filters, conducting a pressure survey, and sampling.
   c. Critique the activities of a busy shift and comment on what went well and what could have been completed with more precision in hindsight.

8. Learn how a Console Supervisor controls the process through the Distributed Control System (DCS).
   a. Describe the type of DCS, how it functions, the different screens used by the Supervisor, and how they input and extract data from the system.
   b. Discuss the alarm system and its strengths and weaknesses. What are the Control Supervisors opinions on how it could be improved? Do you agree?
   c. On a system set up for viewing only, demonstrate extracting process data for an upset or unexpected event, analyze it, and determine the root cause.

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Fall 2019 Andy's Schedule

	Mon	Tue	Wed	Thu	Fri
8:00-9:00	PPT 211-001 Advanced Operations 8:00–9:00 – B036		PPT 211-001 Advanced Operations 8:00–9:00 – B036	PPT 102-101 Intro to PPT Lab 8:00-10:00 – A062	
9:00-10:00	Office Hours	PPT 212-101 Advanced Ops Lab 9:10-11:10 – A062	Office Hours		Office Hours
10:00-11:00	PPT 225-001 Troubleshooting 10:20-11:20 – B036		PPT 225-001 Troubleshooting 10:20-11:20 – B036	Office Hours	
11:00-12:00		PPT 151-001 PPT Safety I 11:30-12:30 – B036	PPT 130-001 Diagrams 11:30-12:30 – B012	PPT 151-001 PPT Safety I 11:30-12:30 – B036	
12:00-1:00					
1:00-2:00	CSCI 181 Web Design 12:40-1:40 – B056	CSCI 181 Web Design 12:40-1:40 – B056	CSCI 181 Web Design 12:40-1:40 – B056	CSCI 181 Web Design 12:40-1:40 – B056	CSCI 181 Web Design 12:40-1:40 – B056
2:00-3:00	PPT 101-001 Intro to Proc Tech 1:50-2:50 – B036	PPT 101-001 Intro to Proc Tech 1:50-2:50 – B036	PPT 101-001 Intro to Proc Tech 1:50-2:50 – B036	PPT 101-001 Intro to Proc Tech 1:50-2:50 – B036	Office Hours
3:00-4:00	PPT 102-100 Intro to PPT Lab 3:00-5:00 – A062	Office Hours	PPT 212-100 Advanced Ops Lab 3:00-5:00 – A062	PPT 102-102 Intro to PPT Lab 3:00-5:00 – A062	
4:00-5:00					

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