

Design of Productive Systems – II

Course:	IMSE 472
Semester:	Spring 2015
Number of credit hours:	3
Description:	The integration of industrial engineering principles in the design of productive systems. Emphasis is on the analysis of different systems for productivity management.
Prerequisite:	IMSE 471
Course Material:	Instructional materials will be provided to support various topics covered in the course.
Instructor:	Jack Byrd, Jr., PhD., PE Professor, IMSE Department Email – jabyrd@mix.wvu.edu Phone – 293-3612 x 1 Amanda Keener Assistant Email: jabyrd@mix.wvu.edu Phone: 293-3612 x 1

Course Goals:

1. To provide students with an experience which will test their ability to practice Industrial Engineering.
2. To prepare students for a professional engineering career.
3. To help students understand the ethical standards that are expected of an engineer.
4. To help students develop the ability to learn on their own.

Student Learning Objectives:

Upon completing the course, the student will be able to

1. Improve upon professional practice skills that were identified in the first semester internship.
2. Complete a professional project and achieve the necessary results.
3. Anticipate and manage the challenges that young professionals typically face.
4. Recognize and properly resolve ethical dilemmas.
5. Develop self-learning skills.

Course Contribution to Professional Component:

Engineering Design – 100%

Course Relationship to Program Educational Outcomes: The course relates strongly to the following education outcomes

1. The course enables students to develop a solution strategy for an actual design problem and then execute this strategy to achieve desired results (Outcome 1)
2. The course asks students to integrate their knowledge of engineering science and design to provide a solution to an actual organizational problem (Outcome 2)
3. The course places students in internships where they must work with others to gather information, develop alternatives. (Outcome 4)
4. The course assesses the student's ability to design an effective solution for an actual organization problem. (Outcome 5)
5. The course requires students to acquire knowledge that is necessary to solve the organizational problem assigned to them. (Outcome 7)
6. The course helps students understand ethical standards and how to act appropriately in ethical dilemmas. (Outcome 6)
7. The course helps students learn on their own and acquire knowledge and skills not presented in a course. (Outcome 7)

Course Topics:

	Class Period	Topic
Course Organization	1	Course organization
	2	Expectations – Communications
	3	Expectations – Taking Initiative
	4	Expectations - Professionalism
	5	Defining Career Success
Managing a Professional Career	6	Getting Started
	7	Building Credentials
	8	Overcoming Career Challenges
	9-15	Developing a Financial Plan
	16	Career Progression / Pay Expectations
	17	Finding the Next Job
	18	Ensuring Career Success
Ethics / Professionalism	19-22	Engineering Ethics
	23	Business Ethics
Self Learning	24-25	Self Learning Demonstrations
Future of Industrial Engineering	26	Trends in Industrial Engineering
Department Assessment	27-28	Department Assessment
	29,30	Looking Ahead

Grading Elements, Weighting and Scale

The grade in IMSE 472 will be dependent upon whether the student completed a project during the prior summer.

- 40% Organization Evaluation—This is an evaluation filled out by the company (sample attached). *
- 20% Faculty Mentor Evaluation—This is an evaluation by the faculty mentor (see mentor evaluation criteria below). *
- 10% Written/Special Assignments—There will be a number of written and other special assignments, which will be graded. This will include quizzes.
- 10% Peer Advising —This grade is based on the evaluation of your advisee.
- 10% Self-Learning Assessment – This grade is based on how well students learned new material and presented this to classmates.
- 10% Community Service – This grade is based upon the contributions you make to those with needs.

* If you completed a project in the Summer and received a grade equivalent of C or less on this component, you can raise your grade by working with your professor.

Grading Scale

90 - 100%	A
80 - 89%	B
70 - 79%	C
60 - 69%	D
< 60%	F

Faculty Advisor Evaluation

1. Quality of the project
2. Difficulty of the project
3. Project initiatives shown
4. Impact of the project on the organization
5. Professionalism shown
6. Project management
7. Communications with faculty advisor

With the exception of the written assignments, students will receive minimal feedback on their work until final grades are determined. This grading approach is designed to simulate the performance evaluation system will encounter in a professional career.

Class Attendance Policy

Class attendance is mandatory. There will be a deduction of one percentage point from the final grade for each missed class after two missed classes.

Statement of Social Justice

West Virginia University is committed to social justice. I concur with that commitment. I expect to foster a nurturing learning environment that is based upon open communication, mutual respect and non-discrimination. Our University does not discriminate on the basis of race, sex, age, disability, veteran status, religion, sexual orientation, color or national origin. Any suggestions as to how to further such a positive and open environment in this class will be appreciated and given serious consideration.

If you are a person with a disability and anticipate needing any type of accommodation in order to participate in this, you must make appropriate arrangements through Disability Services (293-6700). They will identify the nature of the accommodation your disability requires.

Prepared by Jack Byrd, Jr., PhD., PE

Date: December 17, 2014