

Design of Productive Systems – II

Course: IMSE 472

Semester: Fall 2019

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: **Dan Kniska**

Professor, IMSE Department

Email – dakniska@mix.wvu.edu

Phone – 293-4314

Carla Short

Assistant

Email: carla.short@mail.wvu.edu

Phone: 293-9957

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	Obtaining Strong Performance Approvals
	3	Performance Expectations – Communications
	4	Performance Expectations – Taking Initiative
	5	Performance Expectations - Professionalism
Managing a Professional Career	6	Career Success Principles
	7	Getting Started
	8	Building Credentials
	9	Overcoming Career Challenges
	10	Financial Asset Building
	11	Investment Decision Making
	12	Health Care Benefits
	13	Other Benefits
	14-15	Income
	16	Home Purchase
	17	Notes for Financial Planning
	18	Employment Agreements
Ethics / Professionalism	19-22	Engineering Ethics
Self-Learning	23	Self-Learning Presentations
Future of Industrial Engineering	24-26	Department Improvements
	27	Changes at WVU
	28	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.

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. Three classes when you are late will count as one missed class.

Peer Advising

You will be assigned an advisee to mentor. Each week, you will receive an email describing what you are to discuss with your advisee. You will submit a description of your efforts with your advisee on a survey. For some students, you will not be assigned an advisee, but will do a series of leadership lessons.

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 Dan Kniska

Date: September 17, 2019