

# Applied Practical Applications in Agriculture and Food Systems (11:020:215) Spring 2017 Syllabus

**Monday: 2:15-3:35pm: Hickman (HCK) 118**

**Email: [errickson.bill@gmail.com](mailto:errickson.bill@gmail.com)**

**Instructor: Bill Errickson**

**Office Hours: Monday: 3:45-4:45pm (by appointment)**

## **Course Description:**

The physical world around us is comprised of features with dimensions. These features share measurable dimension units that professional agriculture and food managers encounter daily. The ability to use dimensional analysis (aka factor analysis) to convert between units and solve problems in crop landscape, livestock, and food systems is critical for success and forms the basis of this course. Quantitative problem solving must be mastered to be successful, accurate, efficient, and safe working in agricultural and food enterprises.

## **Learning Objectives:**

- Develop proficiency in everyday problem solving skills useful in the agriculture and food systems workplace.
- Gain new abilities to accurately, confidently, and quickly identify variables, set up problems, and perform calculations essential in agri-business, farming, and related endeavors.
- Contribute to increased environmental safety in relation to food, chemicals, and other workplace materials.
- Understand calculations related to greenhouse gas emissions and energy usage associated with food production.

## **Course Materials:**

**Mathematical Applications in Agriculture (2<sup>nd</sup> Edition)**. Nina H. Mitchell. 2012. ISBN-13: 978-1-1113-1066-0, ISBN-10: 1-1113-1066-1

\*Additional readings, videos, and supporting documents will be posted on Sakai

## **General Notes**

As an adult learner, you must assume responsibility for attending lecture classes and laboratories. It is to your benefit to be present at each class session. Exams cover material from the lecture, handouts, and assigned readings. Therefore, I urge you to attend all lecture sessions. Remember that you are responsible for everything that happens in class, whether you are present or not.

Homework assignments handed in after the due date will not be accepted and will result in a grade of 0 for that assignment. A physician's note or other official documentation is required to make up an exam or other assignment. If class is canceled on the day of a scheduled exam, the exam will be given during the following lecture period.

Please arrive on time, turn off iPods, remove headphones and silence phones during lecture. Electronic devices may be used for class activities *as directed by the instructor*; otherwise, they must be put away. Except for emergencies, please take care of personal business before (not during) class, and plan to stay for the entire period.

**Assessment:**

Homework Problems: 10 assignments @ 20 points each	200 points
Exam 1	100 points
Exam 2	100 points
<b>Total</b>	<b>400 points</b>

**Grading Scale:**

<b>A = 90-100</b>	<b>C = 70-76</b>
<b>B+ = 87-89</b>	<b>D = 60-69</b>
<b>B = 80-86</b>	<b>F = 0-59</b>
<b>C+ = 77-79</b>	

**Schedule (Tentative):**

Week		Topic	Chapter	Description
1	Jan 23	Introduction, Math Basics	1	Fractions, Decimals, Ratios, Proportions, Percentages
2	Jan 30	Measurements	2	Length, Area, Volume, Weight
3	Feb 6	Special Topics	3	Accuracy, Scale, Slope, Graphs, Statistics
4	Feb 13	Soil Fertility		Soil Tests, Cover Crops, C:N Ratios, Compost
5	Feb 20	Crop Production	4, 5, 6	Field Layout, Irrigation, Pests/Pesticides
6	Feb 27	Crop Production	4, 5, 6	Harvest, Storage, Transport
7	Mar 6	<b>Exam 1</b>		
	Mar 13	<b>Spring Break No Class</b>		
8	Mar 20	Gardening	11	Seedlings, Crop Timing, Rotations, Markets
9	Mar 27	Gardening	11	Nursery, Greenhouses, Urban gardening
10	Apr 3	Landscaping	12	Bed Design, Estimating Materials
11	Apr 10	<b>Field Trip</b>		
12	Apr 17	Animals	13, 14	Feed, Manure, Stocking Densities
13	Apr 24	Animals	15, 16	Cattle, Swine, Poultry, Horses, Goats, Sheep
14	May 1	Food Miles, Sustainability		Efficiency, Energy Usage, Inputs vs Outputs
15	May 8	<b>Final Exam</b>		

**Academic Integrity:**

Each and every year, numerous Rutgers students are suspended, expelled, or receive failing grades due to violations of academic integrity. Many of the students who are caught cheating were not aware of the consequences or even aware that their actions constituted cheating at all. For your own protection please read the university's Academic Integrity Policy. <http://academicintegrity.rutgers.edu/integrity.shtml>

**Accessibility:**

Rutgers University welcomes students with disabilities into all of the University's educational programs. In order to receive consideration for reasonable accommodations, a student with a disability must contact the appropriate disability services office at the campus where you are officially enrolled, participate in an intake interview, and provide documentation: <https://ods.rutgers.edu/students/documentation-guidelines>. If the documentation supports your request for reasonable accommodations, your campus's disability services office will provide you with a Letter of Accommodations. Please share this letter with your instructors and discuss the accommodations with them as early in your courses as possible. To begin this process, please complete the Registration form on the ODS web site at: <https://ods.rutgers.edu/students/registration-form>.