

## FDST 200 FOOD SCI & TECH ONLINE

**SEMESTER:** 3-week May-Memester

### CATALOG

**DESCRIPTION:** Up-to-date basics of food science and technology, including; food industry outlook, degrees and careers, food chemistry, food processing and engineering, food microbiology and food safety, food biotechnology, and sensory evaluation of foods.

**FORMAT:** May-Memester, 3-week, 3 CR, online class fulfilling GEF Area 2A as well as GEC objectives 2C and 4. FDST 200 online is available through WVU Ecampus. The course consists of 12 self-paced, online Learning Modules. The modules supplement reading assignments from the required textbook (see page 6) as well as graded Online Discussions and written Short Opinions (assignments). Although Exams have to be completed before semester ends and do not have due dates, Online Discussions and Short Opinions have to be submitted by due dates.

**INSTRUCTOR:** Dr. J (Dr. Jacek Jaczynski)  
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**OFFICE HOURS:** anytime, preferably by appointment if you are in Morgantown

**MATERIALS:**

- 1) Required textbook: Amy Brown. 2011. Understanding Food: Principles and Preparation, 4<sup>th</sup> Edition. Wadsworth Cengage Learning: Belmont (CA).
- 2) 12 self-paced, online Learning Modules. Besides textual info, the modules include animations, short videos, and interactive tutorials that enhance learning from the required textbook and allow more efficient comprehension of some concepts. The modules supplement reading assignments from the required textbook (see page 6).

**PRE-REQUISITES:** None

### COURSE OBJECTIVES

This course is designed for undergraduate students. The primary objective is to introduce basic principles of food science and technology. General objectives:

- ✦ Stimulation of basic scientific inquiry.
- ✦ Effective application of quantitative and scientific knowledge.
- ✦ Ability to apply knowledge, methods, and principles of inquiry to contemporary problems, ideas, and/or values.

## GRADING

There will be four Term Exams, one Optional Make-up Exam, and one Final Exam. All of the Exams will be online, self-gradable, and timed for 45-60 minutes. Students will have two attempts for each Exam and the better score will be recorded. Exams will be based primarily on true-false, matching, and multiple-choice questions. The Exams, Online Discussions, and written Short Opinions (50-100 words) are briefly described under “General Policies”.

The final grade will be determined on the basis of the following points:

Item	Points
Four online Term Exams at 100 pts each	400
Online Final Exam	100
Three Online Discussions at 50 pts each	150
Three Short Opinions (50-100 words) at 50 pts each	150
<b>TOTAL</b>	<b>800</b>

The total points that you have earned throughout the semester will be converted to percentage. The percentage will be the basis for final grades. For example, if your total points at the end of the semester are 820, then 820 out of 950 is 86%. The numerical letter grade equivalents are: **A** ≥90%; **B** 80-89%; **C** 70-79%; **D** 60-69%; **F** ≤59%. The percentage will be rounded. For example, 79.5% will be a B and 79.4% will be a C, respectively. Requests for corrections relative to the grading of individual exams must be presented to the instructor within 24 hours after the receipt of the exam.

## GENERAL POLICIES

Four Term Exams: Each Term Exam will cover three online Learning Modules (and corresponding book chapters, see page 6) and will be composed mainly of true-false, matching, and multiple-choice questions. Students will be allowed to have two attempts to take each Term Exam and the better score will be recorded. Term Exams will be on-line, self-gradable, and timed for 45-60 minutes.

Optional Make-up Exam: The Optional Make-up will be cumulative, i.e., it will cover all 12 Learning Modules (and corresponding book chapters, see page 6). The Optional Make-up will be composed mainly of true-false, matching, and multiple-choice questions. This Optional Make-up Exam will allow students to replace the lowest score from the four Term Exams. However, the Make-up will not replace the Final Exam. If the score from the Optional Make-up Exam is lower than the lowest score from the four Term Exams, then the score from the Make-up Exam will be forfeited. The Make-up Exam should be taken at the end of the semester before the Final Exam and after the Term Exams. Students will be allowed to have two attempts to take the Make-up Exam and the better score will be recorded. The Make-up Exam will be online, self-gradable and timed for 60 minutes. The Make-up Exam is completely optional which means that students do not have to take it and there is no penalty whatsoever for not taking it. However, I encourage everyone to take this opportunity as your grade can ONLY be improved. Taking the Optional Make-up is a “winwin”; even if your score from the Make-up is not that great, you get a real chance to practice taking your Final Exam.

Final Exam: The Final Exam will be cumulative, i.e., it will cover all 12 learning modules (and corresponding book chapters, see page 6). Final Exam will be composed mainly of true-false, matching, and multiple-choice questions. Students will be allowed to have two attempts to take the Final Exam and the better score will be recorded. The Final Exam will be online, self-gradable and timed for 60 minutes.

Three Online Discussions: These Online Discussions will allow students to post meaningful contributions on specific and current hot/controversial topics in food sci & tech. Due dates and more details will be announced during the online course. To give you heads up, during these discussions we will talk about such topics as meat glue, electronic nose, high-fructose corn syrup, and more. At the end of the syllabus you will find a rubric for grading your meaningful contributions to our Online Discussions.

Three Short Opinions: These very short written opinions (50-100 words) will allow students to express their mind based on what they have investigated on their own about specific and current hot/controversial topics in food sci & tech. Due dates and more details will be announced during the online course. To give you heads up, the Short Opinions will focus on for example nutrigenomics/nutraceuticals, surimi (intrigued?), and more.

The syllabus is for the convenience of the student and does not constitute a contract between the student, instructor and the University. Grade corrections on examinations will be made at the discretion of the instructor. Students may appeal the grade earned in the course as outlined in the undergraduate catalog.

**COVID-19 Statement.** “WVU is committed to maintaining a safe learning environment for all students, faculty, and staff. Should campus operations change because of health concerns related to the COVID-19 pandemic, it is possible that this course will move to a fully online delivery format. If that occurs, students will be advised of technical and/or equipment requirements, including remote proctoring software.

In a face-to-face environment, our commitment to safety requires students, staff, and instructors to observe the social distancing and personal protective equipment(PPE) guidelines set by the University at all times. While in class, students will sit in assigned seats when applicable and wear the required PPE. Should a student forget to bring the required PPE, PPE will be available in the building for students to acquire. Students who fail to comply will be dismissed from the classroom for the class period and may be referred to the Office of Student Conduct for further sanctions.

If a student becomes sick or is required to quarantine during the semester, they should notify the instructor. The student should work with the instructor to develop a plan to receive the necessary course content, activities, and assessments to complete the course learning outcomes.”

**Administrative Control** of courses in the Division of Animal and Nutritional Sciences is the responsibility of Dr. Peter Schaeffer, Interim Director of Animal and Nutritional Sciences Division Rm #2403, Ag. Sci. Bldg., Tel: 293 2231 x4420.

**Academic Integrity.** Students are expected to set high ethical standards for themselves and others. These standards include acknowledging the research contributions of others in your discussions and presentations; reporting all research results including negative results; and maintaining scientific objectivity. Presenting other’s ideas as your own, even if you change the wording, is plagiarism.

**Social Justice.** “West Virginia University is committed to social justice. I concur with that commitment and expect to maintain a positive learning environment based upon open communication, mutual respect, and nondiscrimination. 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 class. Please advise me and make appropriate arrangement with Disability Services (293-6700).”

## **SUGGESTED SCHEDULE**

FDST 200 online, just like any other online class, offers great benefits and at the same time there are some risks. Although students have great flexibility in terms of learning at their own individualized pace, in my opinion self-discipline is required to successfully complete an online class. Below I provide you with a streamlined schedule that will allow you to succeed in FDST 200 online. I strongly encourage you to stick to this schedule and stay on the top of your game – plan carefully!!!

There are 3 weeks in which we will cover 12 learning modules and specific chapters from the required textbook (see page 6). Go over 4 learning modules + specific textbook chapters per 1 week. There are four Term Exams, Final Exam, and Optional Make-up. Take one Term Exam every three learning modules. Take Final Exam and Optional Make-up during the last week of

this semester. And of course, do not forget to turn in your three Short Opinions (one opinion each week) and contribute to our three Online Discussions (one discussion each week).

WEEK	MODULE NUMBER AND TOPIC	SUB-MODULE TOPIC
1	M1 – Let’s Get It Started: Intro to Food Sci & Tech	Life Necessity at Individual Human-, Nation-, and Global-level
		Is This a Joke? Really, Science in Food? Prove It
		OK – Agreed, There Is Science in Food, but How Do You Actually Do It?
		Some Fun Facts About Food History
2	M2 – The Art of Dairy Processing Gave Rise to Today’s Food Science and Technology	Hands Down for Ancient Societies
		Secret Revealed – Why Does Santa Like Milk (and Cookies)? Nutrient Composition of Cow’s Milk
		The-Power-of-Cheese and Isoelectric Point of Milk Proteins
		Don’t We All Scream for Ice Cream – The Power of Frozen Foam and Field Trip to Ben & Jerry’s
	M3 – The Perfect Package Has Arrived – The Incredible, Edible Egg	What’s Inside the Package – Nutrient Composition of Hen’s Egg
		Let’s Dismantle the Egg – Egg Processing
		The Improved Egg is Born?
		Words of Caution – <i>Salmonella</i>
	<b>TERM EXAM 1</b>	
	M4 – Muscle Foods: Beef, Pork, Poultry, and Seafood	Muscle Tissue and Meat Products
		Red Meats: Beef, Pork, and Sheep
		Poultry and Seafood
		Words of Caution – Microbial Safety of Muscle Foods Including Seafood
	M5 – Plant-Derived Foods – Fruit & Veggies Including Their Processing	What’s Edible Out of Plants?
		What’s All the Fuss About Plant Nutrients?
		Example of Vegetable Processing – Soy Protein Concentrates
		OJ and Apple Juice vs. <i>E. coli</i> and <i>Salmonella</i> – Examples of Fruit Processing for Juice and Its Mandatory Pasteurization
	M6 – Grain-Derivatives – Flours, Breads, Cereals, and Pastas	“The Staff of Life” – Grains and Flours – World’s Major Food Crop and Ingredient, Respectively
		Let’s Talk Dough – Bread
		Do Not Skip Breakfast – Cereal
		Who Doesn’t Like Pasta – Types of Pasta and How It’s Made Plus Something Extra
	<b>TERM EXAM 2</b>	
	M7 – Food = Nutrients = Health; Human Nutrition for Food Scientists and Technologists	Food – #1 Life Necessity for Humans
		What Happens to Pizza as It Disappears in Your Mouth? – Overview of Human Gastrointestinal Tract
		Digestion/Absorption in Pictures and Animations
		Nutrient Transport/Metabolism in Pictures and Animations
	M8 – Yum-Yum – Food Taste, Flavor, Aroma, Color, Texture and Their Chemistry	Sensory Attributes and Food Perception
		Fire Up Your Taste Buds – Taste vs. Flavor vs. Aroma – What’s Different Between Them?
		Eating and Buying With Your Eyes
		Just Bite In – Food Texture

3	M9 – Are We What We Eat? – Chemistry of Food and Body Composition	Water – #1 Food and Body Component
		Carbs in Food – Our Basic Fuel
		Food Fats – Good or Bad?
		Protein-Rich Food – Essential Body Builders
	<b>TERM EXAM 3</b>	
	M10 – Eater Beware of FBI – 5,000 People Will Die in the U.S. This Year Due To FoodBorne Illness (FBI)	Room-For-Improvement – Never Enough of Food Safety
		Types of FBI (FoodBorne Illness) and Pathogens vs. Spoilage Microorganisms
		Meet-the-Culprits – FoodBorne Pathogens in Videos and Animations
		Preventing FBI (FoodBorne Illness)
	M11 – Emerging Technologies for Food Preservation	Why Preserve?
		Minimally Processed Foods
		Emerging Thermal Preservation Technologies
		Emerging Non-Thermal Preservation Technologies
	M12 – What's In It For Me? – Careers in Food Sci & Tech and Human Nutrition	Three Categories For a Foodie
		Nutrition Science and Dietetics – Jobs, Jobs, Jobs...
		Food Sci & Tech or Food Service – Jobs, Jobs, Jobs....
		Grad School for Foodies
	<b>TERM EXAM 4</b>	
	<b>OPTIONAL MAKE-UP EXAM</b>	
	<b>FINAL EXAM</b>	

The 12 online Learning Modules supplement the text in the required textbook. In the table below you have a list of specific chapters from the textbook and which online Learning Module they correspond to. The exam questions will be derived only from the online Learning Modules and the textbook chapters listed below in the table.

Required textbook: Amy Brown. 2011. Understanding Food: Principles and Preparation, 4<sup>th</sup> Edition. Wadsworth Cengage Learning: Belmont (CA).

Module Number	Page Numbers
M1	None – Yahoo!
M2	Chapter 10 – pages 210-231 Chapter 11 – pages 232-248
M3	Chapter 12 – pages 249-269
M4	Chapter 7 – pages 140-171 Chapter 8 – pages 172-187 Chapter 9 – pages 188-209
M5	Chapter 13 – pages 270-297 Chapter 14 – pages 298-326

M6	Chapter 16 – pages 345-366 Chapter 17 – pages 367-390
M7	None – Yahoo!
M8	Chapter 1 – pages 1-22 Chapter 2 – pages 23-30
M9	Chapter 3 – pages 31-63
M10	Chapter 4 – pages 64-98
M11	Chapter 28 – pages 574-590
M12	Chapter 30 – pages 609-625

Five criteria will be used to grade the meaningful contributions/participation to/in Online

ON-LINE DISCUSSIONS	6	5	4	3	2
<b>Focus</b>	Post directly addresses and thoroughly answers discussion prompt.	Post addresses and/or answers discussion prompt.	The topic/subject of post is somewhat vague, only partially answers discussion prompt.	The topic/subject of post is unclear or confusing and fails to answer discussion prompt.	Post is entirely illegible or otherwise unscorable: including blank responses, restatements of the prompt, responses that are off-topic or incoherent.
<b>Content</b>	Posts are welldeveloped and deeply insightful. The post considers both the text or question itself and its broader significance.	Posts contain well developed ideas that strongly contribute to the discussion. The post may consider the broader significance of	Posts go beyond a summary of the text or cursory answer to the question, but could be better developed.	Ideas are poorly developed. Posts may be little more than summary of the text or question.	Post is entirely illegible or otherwise unscorable: including blank responses, restatements of the prompt, responses that are off-topic or incoherent.

		the text or question.			
<b>Organization</b>	Organizational structure establishes relationship between ideas.	Organizational structure establishes relationships between ideas, although minor lapses may be present.	Organizational structure establishes some relationship between some of the ideas. The structure is minimally complete.	Organizational structure does not establish connection between ideas. The overall structure is incomplete or confusing.	Post is entirely illegible or otherwise unscorable: including blank responses, restatements of the prompt, responses that are off-topic or incoherent.
<b>Professional Language and Presentation</b>	Professional vocabulary and writing style used consistently, punctual (before due date)	Professional vocabulary and writing style used frequently, punctual (on or before due date)	Professional vocabulary and writing style used occasionally, punctual (on or before due date)	Professional vocabulary and writing style not used, late (posted after due date)	Post is entirely illegible or otherwise unscorable: including blank responses, restatements of the prompt, responses that are off-topic or incoherent.
<b>Learning Community Contribution</b>	Consistently provides leadership in the community by engaging with peers' posts.	Frequently directs the discussion and interacts freely with other peers' posts.	Often participates in the learning community by responding to peers' posts.	Little effort is made to participate in the development of the community	No effort is made to participate in the development of the community

Discussions (6 – the highest grade, 2 – the lowest grade).