

Course Overview & the Syllabus

AGSC 5540: Food Policies and Regulations

8-19-2021

Tennessee State University, Nashville, TN

Aliyar Cyrus Fouladkhah, PhD, MPH, CPH

Faculty Director, Public Health Microbiology Laboratory



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Presentation Content

Part I: *Students' introduction and about the Instructor*

If you would like, could you please share:

-Your name, major

-Career plans for the future

Part II: *Course Syllabus*

Part III: *Overview of the talks*

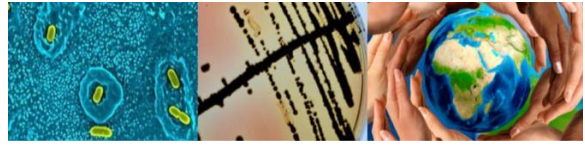


United States Department of Agriculture
National Institute of Food and Agriculture

Thank you for support of certifications



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Part I: Brief Introduction to my Program

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- Microbiology and Food Safety, PhD
- Applied Statistics and Data Analysis, Graduate Certificate
- Food Science & Human Nutrition, MS

Microbac



Yale SCHOOL OF PUBLIC HEALTH

- Biostatistics and Epidemiology, Advanced Professional MPH
- Food and Drug Regulatory Affairs, Graduate Certificate
- Climate Change and Health, Graduate Certificate

CPH Certified in Public Health

sas Certified Base Programmer for SAS[®]9

CFS Certified Food Scientist.

Advanced Professional MPH Program



Website: <https://publichealth.yale.edu/advanced/>
Video: <https://www.youtube.com/watch?v=IGVN9Jfolt8>

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Public Health Microbiology Laboratory Tennessee State University

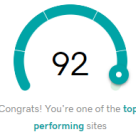


PBI Pressure BioSciences Inc.

Website: <https://publichealthmicrobiology.education/>



PROSPECTIVE STUDENTS, EDUCATORS, AND STAKEHOLDERS



Website performance: 4/22/2020

*Pending account setting and internal administrative approval.
** Sub-awardee of Southern Center Main Awards.

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Public Health Microbiology Laboratory Current Members

Current Graduate Students (Primary Advisor/Degree Chair: A. Fouladkhah):

- Sadiye Aras (2018-), Graduate Research Assistant, (PhD candidate, Biological Sciences c. Food Microbiology)
- Jyothi George (2019-), Graduate Research Assistant (PhD student, Biological Sciences c. Food Microbiology)
- Sabrina Wadood (2020-), Graduate Research Assistant (MS student, c. Food Microbiology)

Current Dean Scholar/Undergraduate Students:

- Akiliyah Sumlin* (2018-), *Dean Scholar/Undergraduate Research Assistant*.
- Simen Asefaw (2019-), *Undergraduate student (adviser for senior project)*
- Kennedy Miller (2020-), *Undergraduate student (adviser for senior project)*

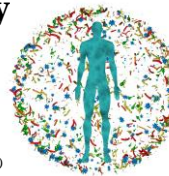
Current Research Technician, Associates, and Interns (Primary Supervisor: A. Fouladkhah):

- Mr. Shahid Chowdhury*, Research Technician (2016-present)
- Dr. Niamul Kabir, PhD, Post-doctoral Research Associate (2018-2021).
- Ms. Amir Kashipazha, MS, Data Visualization Intern and Web Editor (2018-present).
- Dr. Naraghi, PhD, MSPH, Visiting Scholar (2020-present).

Current Graduate Student Committee:

- Shreya Singh Hamal, PhD candidate, Biological Sciences con. Food Microbiology (Committee member).
- Yun Tian, PhD student, Biological Sciences con. Genomics & Immunology (Committee member).
- Zedonia Williams, MS student, M.S. degree in Food and Animal Sciences (Committee member).

* Supported by office of the Dean



Recent Graduates

Abimbola Allison, PhD
Tyler Keene, MS
Monica Henry-Smith, MS



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Available at: <https://publichealthmicrobiology.education/annual-competitions>

Annual State-Wide Competitions For Food Safety Modernization Act, Food Safety and Infectious Disease Students

- **NEW! Concept Note for AGSC 5540 Students**
- **Networking and Stakeholder Engagement**
- **Competition**
- **Regulatory Compliance Booth**
- **Tour of HPP Facilities**
- **Categories:**
- *Graduate Poster and Oral*
- *Undergraduate Poster*
- *Emerging Leader (Post Doc and recent graduates) [Added in 2020]*
- **2017-2020: 31 funded award (extramural grants of A. Fouladkhah)**
- **Current AFRI Application Pending**



Nam Li, PhD student at UT, presenting her research poster during the Poster Competition session at the IFT Volunteer Section Nashville Meeting

Poster Division	Oral Division
1 st : Kaleb Karim (TSU) (tied), Jennifer Vaila-River (UT) (tied)	1 st : Monica Henry (TSU) (tied), Trent Kerley (UT) (tied)
2 nd : Shreya Singh Hamal (TSU) (tied), Purni Wickramasinghe (UT) (tied)	2 nd : Abimbola Allison (TSU)
3 rd : Jonathan Adhikari (TSU)	3 rd : Shan Hong, UT

Co-Chairs and Judges
Dr. Akbar Fouladkhah
Dr. Samed Kabil
Dr. Shadi Coudray
Dr. Monique McCallister

A. Fouladkhah: Competition Founder and Director

4th (2020) Annual State-Wide Competition for Food Safety Modernization Act, Food Safety, and Food Science Students

Emerging Leaders Category:

First Place (tied): Dr. M. Naraghi, Vanderbilt University of Medical Sciences (Award: \$350)
First Place (tied): Dr. Taylor Borden, Tennessee State University (Award: \$350)
Second Place: Dr. Md Niamul Kabir, Tennessee State University (Award: \$200)
Third Place: Not awarded this year.

Finalists in Oral Competitions for Students:

First Place: Sabrina Wadood, Tennessee State University (Award: \$400)
Second Place: Jyothi George, Tennessee State University (Award: \$300)
Third Place: Sadiye Aras, Tennessee State University (Award: \$200)

Finalists in Poster Competitions for Students:

First Place: Andrea Nieto Velasco, University of Tennessee (Award: \$350)
Second Place: Anika Chowdhury, Middle Tennessee State University (Award: \$250)
Third Place (tied): Shreya Hamal, Tennessee State University (Award: \$150)
Third Place (tied): Akilayah Sumlin, Tennessee State University (Award: \$150)

3rd (2019) Annual State-Wide Competition for Food Safety Modernization Act, Food Safety, and Food Science Students

2019 Graduate Oral Competition Winners

1st Place (tied): Monica Henry, TSU
1st Place (tied): Trent Kerley, UT
2nd Place: Abimbola Allison, TSU
3rd Place: Shan Hong, UT

2019 Graduate Oral Competition Winners

1st Place (tied): Jennifer Vaila-River, UT
1st Place (tied): Kaleb Karim, TSU
2nd Place (tied): Shreya Singh Hamal, TSU
2nd Place (tied): Purni Wickramasinghe, UT
3rd Place: Jayashan Adhikari, TSU

2nd (2018) Annual State-Wide Competition for Food Safety Modernization Act, Food Safety, and Food Science Students

2018 Graduate Competition Winners

1st Place (tied): Monica Henry: Graduate Competition, TSU
1st Place (tied): Grace Shupe: Graduate Competition, UT
2nd Place: Devendra Bhandari: Graduate Competition, TSU
3rd Place: Michelle Heatherly: Graduate Competition, UT



Also Available at: <https://www.ift.org/events/event-listing/2020/sep/4th-annual-statewide-competition-for-food-safety-modernization-act-food-safety-and-food-science-stud>

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Teaching in Tennessee and Internationally



Graduate Course in Food Policy and Regulations

2020 Student Evaluation:

- "...Dr. Fouladkhah is easily the nicest professor I have ever had the pleasure of meeting. He seriously cares about you and how you're doing."
- "'I loved this class it was so interactive and different from any other class I have taken here at TSU!'"

2019 Student Evaluation:

- "Dr. Fouladkhah is an excellent professor. He does the absolute best job of making students feel comfortable making discussion in class and is exceptionally knowledgeable in the area of food sciences. The in class exercises are definitely helpful to make sure the lectures are being retained and assists in requiring little to no studying outside of the class meetings."
- "This course is top notch, one of the best courses I have ever taken, Much gratitude to the lead instructor Dr. Fouladkhah. I learned so much in the class and my knowledge on food policies and regulation has increased a thousandfold."
- "Everything was well organised, I think it is perfect. Nothing else is needed."

2018 Student Evaluation:

- "This man is so amazing. Learned so much in his class thank you Dr. Fouladkhah."
- "He is very helpful and always very encouraging. He helped me planned my studies and even future goals."

International Travel Reports Available at:

<https://publichealthmicrobiology.education/international-programs>

2021, Jamaica
TBI November 2021



2020, Haiti (Distant Appointment)
Haiti Government, Fortification with iron, vitamin b12, and zinc



Fortification of Staple Commodities and Microbial Safety Requirements for Human Food Production

USAID F2F assignment: Haiti, Nashville, TN
12-7-2020

Tennessee State University, Nashville, TN

A. Fouladkhah: Faculty Director, Public Health Microbiology Laboratory

2018 & 2020 Guatemala
Food Safety Training for Food Industry Leadership

2017 Santiago, Dominican Republic
USAID Public Health and Microbiology Training Faculty and Staff of ISA University

Celebration of UN 1st Food Safety Day



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Review

Outbreak History, Biofilm Formation, and Preventive Measures for Control of *Cronobacter sakazakii* in Infant Formula and Infant Care Settings

Monica Henry¹ and Aliyar Fouladkhah^{1,2,*}¹ Public Health Microbiology Laboratory, Tennessee State University, Nashville, TN 37209, USA;

mherry3@tnstate.edu

² Cooperative Extension Program, Tennessee State University, Nashville, TN 37209, USA

* Correspondence: a.fouladkhah@tnstate.edu; Tel.: +1-970-690-7392

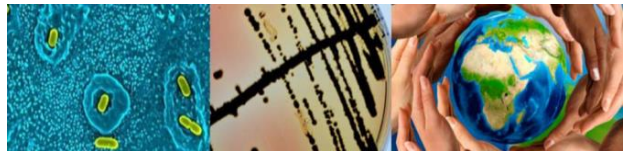
Received: 9 March 2019; Published: 12 March 2019



Cronobacter sakazakii from 1980 to 2007, *Cronobacter sakazakii* is an enteric and persists in dry and low-moisture environments, such as infant formula. Although *C. sakazakii* causes disease in all age groups, infections are particularly fatal in infants born premature and those younger than 12 months. *C. sakazakii* has been isolated from various environments such as powdered infant formula, infant formula, and domestic environments, increasing the contamination. The current study discusses the outbreak history of *Cronobacter sakazakii* to produce biofilms on biotic and abiotic surfaces, including infant formula, and moisture environments, articulates the role of *C. sakazakii* in infant formula, and delineates interventions in infant formula manufacturing to minimize the risk of contamination with

powdered infant formula; *Cronobacter* outbreaks; preventive

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Part II: Course Syllabus



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AGSC 5540: Food Policies and Regulations FALL 2021 Syllabus

COVID-19 Updates:

As we are experiencing a national and global respiratory pandemic/endemic, although this course is going to be conducted in a traditional in-person format, we request careful adherence to CDC guidelines to ensure the safety of all students in the class and the teaching team. In case a student elects to participate in the classes remotely, a Zoom link is provided. Additionally, course information will be communicated via email, using the email address(es) that students had provided to TSU, and will be posted on eLearn. In case students have difficulty accessing eLearn, information will be additionally posted on the Public Health Microbiology Website (<https://publichealthmicrobiology.education/>) for ensuring the accessibility of course content by all students. Paper-based copies of the course material will be available for the students in the classroom. Students are expected to provide an active email address to the course instructor and are required to check and reply to course communications via email. Attendance and active participation are important aspects of this course. For those who elect to participate electronically, students are required to be present and visible during the online sessions. Students are welcome to visit or contact the instructor via phone during the office hours or if their question is time-sensitive and cannot wait for the office hour, they are welcome to contact the instructor any other time during the business hours/weekdays via phone or email.

Slides and in-class exercises

Before class: will be emailed to all

After class: Posted on eLearn and PHM lab website:
<https://publichealthmicrobiology.education/>

After class: Student would need to email their exercise or turn them in.

In rare cases, if there is connection failure, just please wait for me I have multiple computers in lab and will do my best to get connect ASAP.

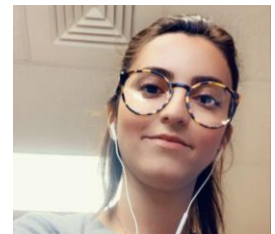
Guests are welcome to the class, but I would need please to know at the beginning of the class or earlier **by email** to greet them and include them in class conversations.

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AGSC 5540: Food Policies and Regulations FALL 2021 Syllabus

Course Instructor/Director:

Dr. Aliyar Fouladkhah, PhD, MS, MPH, MACE, CFS, CPH
Associate Professor/ Faculty Director of Public Health Microbiology Laboratory
Suite 111A. Lawson Hall Research Complex, Telephone: (970) 690-7392 | afouladk@tnstate.edu



*Dr. Minoo Bagheri.
Visiting Scholar, Public
Health Microbiology;
VUMC Researcher*

Teaching Fellows:

Minoo Bagheri, PhD, MSPH. Visiting Scholar, Public Health Microbiology Laboratory, Vanderbilt University of Medical Sciences.
Sabrina Wadood, MS student, Public Health Microbiology Laboratory, Lawson Hall Room 112. Email: swadood@tnstate.edu

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AGSC 5540: Food Policies and Regulations FALL 2021 Syllabus

Your right is 45 hours of instruction, course the same as before pandemic

Class Schedule: Lawson Hall 107B on Thursdays 4:40 to 8:00 pm

Students alternatively could attend the class virtually via:

Zoom link: <https://tennessee.zoom.us/j/92939837434> (passcode: PHMLab)

Office Hours: CARP Building (Lawson Hall), Suite 111.A on Wednesdays 2:00 to 4:00 pm

Students alternatively could attend the office hours virtually via:

Zoom link: <https://tennessee.zoom.us/j/92403525554> (passcode: PHMLab)

Final Exam: Lawson Hall 107B on **Wednesday**, 11/24/2021 5:00 to 7:00 pm

Students alternatively could attend the final exam virtually via:

Zoom link: <https://tennessee.zoom.us/j/93127460458> (passcode: PHMLab)

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AGSC 5540: Food Policies and Regulations FALL 2021 Syllabus



Suggested Textbooks:

Fouladkhah, A.; Bisha, B. *Advances in Prevention of Foodborne Pathogens of Public Health Concern during Manufacturing*. 1st ed. 2019. MDPI, Basel, Switzerland.

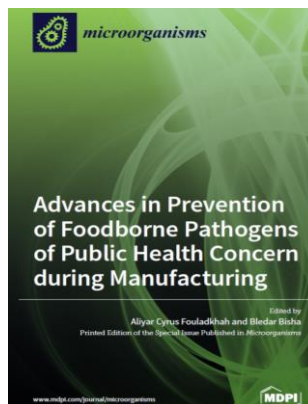
Wilde, P. 2018. *Food Policy in the United States: An Introduction*. Routledge.

Pomeranz, J.L., 2015. *Food Law for Public Health*. Oxford University Press.

Heinzerling, L, 2017. *Food Law: Cases and Materials*. Georgetown Law center.

Fortin, N.D., 2016. *Food regulation: law, science, policy, and practice*. John Wiley & Sons.

IAFP. 2011. *Procedures to Investigate Foodborne Illness*. Sixth Edition, Springer.



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AGSC 5540: Food Policies and Regulations FALL 2021 Syllabus

• Evaluation:

• Term Paper	30 %*
• Attendance and Class Activities	25 %**
• Mid-term Exams	25 %
• Class Assignments	10 %
• Final Exam (optional)	10 %
• Total	100 %

To be emailed after
class to instructor at
afouladk@tnstate.edu

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AGSC 5540: Food Policies and Regulations FALL 2021 Syllabus

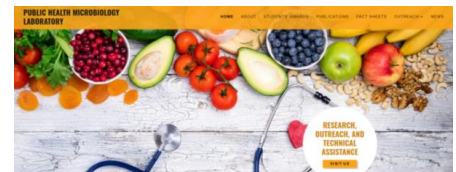


• Term Paper

Option 1. Standard Course Paper. This would need to be original writing of the student by using at least 10 peer-reviewed articles.

Option 2. Food for Public Health Series Factsheet. This would need to be original writing of the student by using at least 10 peer-reviewed articles, further developed, and edited to be suitable for publication as a factsheet. You can access the factsheet of your peers from last year at: <https://publichealthmicrobiology.education/food-for-public-health-1>

Option 3. Full-Length Review Paper. For those who are willing to publish their work and receive up to 50 extra credit points, their review paper should be a critical and evidence-based evaluation of at least 20-50 peer-reviewed articles. Depending on the extent and quality of the review article, students in this category are eligible to receive up to \$1200 *Publication Scholarship* of Public Health Microbiology program to be used towards the open access fees of the publication in the below special issue.



PROSPECTIVE STUDENTS, EDUCATORS, AND STAKEHOLDERS

microorganisms

MDPI

Review
Outbreak History, Biofilm Formation, and Preventive Measures for Control of *Cronobacter sakazakii* in Infant Formula and Infant Care Settings

Maria Henry¹ and Alyse Enslin^{1,2,*}

¹ Public Health Microbiology Laboratory, Tennessee State University, Nashville, TN 37203, USA;

² Infectious Disease Program,

³ Correspondence: aenslin@tnstate.edu or alyse.enslin@tnstate.edu; Tel.: +1 615 486 1792

Received: 18 January 2020; Accepted: 9 March 2020; Published: 12 March 2020

Abstract: Previously known as Enterobacter sakazakii from 1980 to 2007, *Cronobacter sakazakii* is an opportunistic bacterium that survives and grows in dry and low-moisture environments, such as powdered infant formula. Although *C. sakazakii* causes disease in all age groups, infections caused by this pathogen are particularly fatal in infants born premature and those younger than two months. The pathogen has been isolated from various environments such as powdered infant formula, manufacturing facilities, healthcare settings, and domestic environments, increasing the potential of infection through cross-contamination. The current study discusses the outbreak history of *C. sakazakii* and the ability of the microorganism to produce biofilms on biotic and abiotic surfaces. The study further discusses the role of the pathogen in low-moisture environments, identifies preventive measures for healthcare providers and nursing parents, and delineates interventions that could be utilized in infant formula manufacturing to minimize the risk of contamination with *Cronobacter sakazakii*.

Keywords: *Cronobacter sakazakii*; powdered infant formula; *Cronobacter* outbreaks; preventive measures; infant care settings

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Term Paper Example

Papers will be analyzed for similarity index

Option 1: Brief Term Paper

10 pages double Space



Food For Thought: The Complexity of Obesity with the Black Community

Lauren Odum

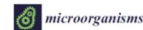
Studies show that two-thirds of African Americans 20 years of age or older are obese or overweight. The purpose of this paper is to outline why obesity is such a prevalent issue within the black community, and actions that can be taken to reduce these staggering statistics. Topics explored will include effects of being overweight, lack of access to healthy, affordable food and adequate health care, along with the cultural standards within the black community that perpetuate this epidemic. The goal of this research is to shed light on an often-overlooked topic and provide possible long-term solutions.

Option 2: An Outreach Article

10-20 pages double Space
To be converted to 3-page outreach article



Option 3: Review Paper



Outbreak History, Biofilm Formation, and Preventive Measures for Control of *Cronobacter sakazakii* in Infant Formula and Infant Care Settings

Monica Henry¹ and Aliyar Fouladkhah^{1,2,*}

¹ Public Health Microbiology Laboratory, Tennessee State University, Nashville, TN 37208, USA; mhenry@tnstate.edu

² Cooperative Extension Program, Tennessee State University, Nashville, TN 37208, USA

* Correspondence: afouladkhah@tnstate.edu or aliya.fouladkhah@tnstate.edu; Tel.: +1-615-486-5782

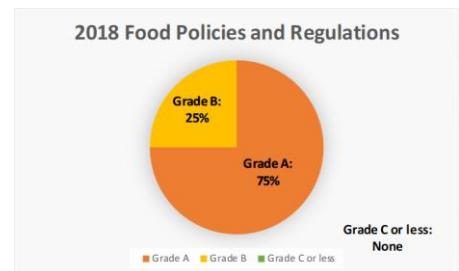
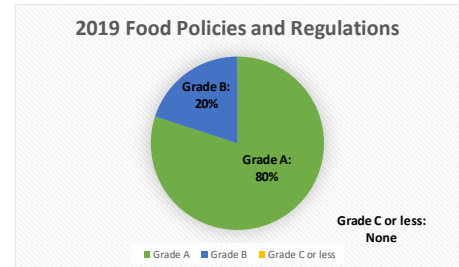
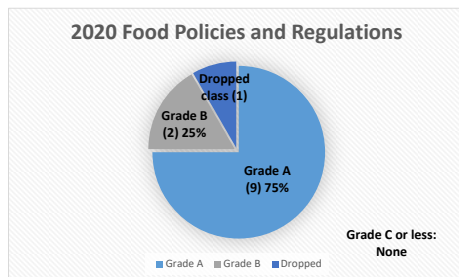
Received: 15 January 2019; Accepted: 9 March 2019; Published: 12 March 2019



Abstract: Previously known as *Enterobacter sakazakii* from 1980 to 2007, *Cronobacter sakazakii* is an opportunistic bacterium that survives and persists in dry and low-moisture environments, such as powdered infant formula. Although *C. sakazakii* causes disease in all age groups, infections caused by this pathogen are particularly fatal in infants born premature and those younger than two months. The pathogen has been isolated from various environments such as powdered infant formula manufacturing facilities, healthcare settings, and domestic environments, increasing the chance of infection through cross-contamination. The current study discusses the outbreak history of *C. sakazakii* and the ability of the microorganism to produce biofilms on biotic and abiotic surfaces. The study further discusses the fate of the pathogen in low-moisture environments, articulates preventive measures for healthcare providers and nursing parents, and delineates interventions that could be utilized in infant formula manufacturing to minimize the risk of contamination with *Cronobacter sakazakii*.

Keywords: *Cronobacter sakazakii*; powdered infant formula; *Cronobacter* outbreaks; preventive measures; infant care setting

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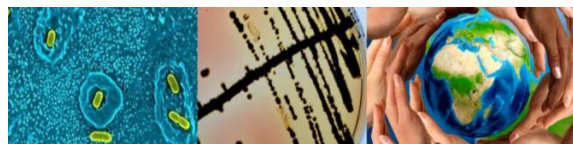


AGSC 5540: Food Policies and Regulations

FALL 2021 Syllabus: Grades

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Extra Point Events



Extra Points:

Accumulated extra credit points will be divided by 100 and will be added to your final grade. For example, if you accumulate 250 extra points during the semester and your final grade is 88, 2.5 points will be added to your final grade, and it will be reported as 90.5 *i.e.* an A. The top-scoring student in the class will receive a certificate from the course instructor, indicating that he/she has completed the course with honors as the top-scoring student in the class.

Top-Scoring Student: Certificate indicating the student completed the course with honors+ Copy of the book

T Number	Grade	Mid term	Extra Points	Final Grade	Posted Mid-Term	HACEP Optional Assignment (+/-)	Table for paper Optional Assignment	Grade	Extra Point Grade	Extra Point
T00091171	98	4	102	A	YES	NO	NO	n/a*	n/a*	10
T00011766	96	5	101	A	YES	NO	NO	Y	n/a*	100
T00011542	96	4	100	A	YES	NO	NO	Y	Y	100
T00070067	98	2	100	A	NO	NO	NO	Y	Y	100
T00020051	97	3	100	A	YES	NO	NO	Y	Y	100
T00047070	93	7	100	A	NO	NO	NO	Y	Y	100
T00015011	94	5	99	A	YES	NO	NO	Y	Y	100
T00016043	93	5	98	A	NO	NO	NO	Y	Y	100
T00047084	92	2	94	A	YES	YES	YES	Y	Y	100
T00043432	89	4	93	A	NO	NO	NO	Y	Y	100
T00011344	87	3	90	A	NO	NO	NO	Y	Y	100
T00015085	66	14	80	B	NO	NO	NO	Y	Y	100

Term	paper	Attendance*	Mid-term	Assignment	Final	Bonus	FINAL GRADE	Final Grade
24	22	98	10	N/A	100	0	98.59	
25	24	96	10	100	100	20	97.2	A
24	24	96	10	100	100	0	92.09	A
21	20	98	10	N/A	100	2	90.32	
19	25	97	10	100	100	12	90.17	A
24	23	93	10	100	100	7	90.32	A
24	24	94	10	100	100	14	91.64	A
30	22	93	10	100	100	5	90.3	A
21	19	92	10	100	100	8	81.08	B
27	25	89	10	100	100	6	94.31	A
27	24	87	10	100	100	1	92.78	A
19	25	66	10	100	100	10	90.66	B

Each absence=1; each class citation for misconduct=2
 *has absent forgiven since student was not in the country awaiting her visa

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Annual State-Wide Event

- OPTIONAL:** Oral Presentation Option/Competition
- September 23, 2021
- Extra Credit and
- 1st place: \$300*
- 2nd place: \$200*
- 3rd place: \$100*



Nan LI, PhD student at UT, presenting her research poster during the Poster Competition session at the IFT Volunteer Section Nashville Meeting

*Credit to student account, for SP2021

3rd Annual State-Wide Competition for Food Safety Modernization Act, Food Safety, and Food Science Students Winners			
Poster Division 1 st : Kaleb Karim (TSU) (tied), Jennifer Vuia-Riser (UT) (tied) 2 nd : Shreya Singh Hamal (TSU) (tied), Purni Wickramasinghe (UT) (tied) 3 rd : Jayashan Adhikari (TSU)		Oral Division 1 st : Monica Henry (TSU) (tied), Trent Kerley (UT) (tied) 2 nd : Abimbola Allison (TSU) 3 rd : Shan Hong (UT)	
Co-Chairs and Judges Dr. Aliyar Fouladkhah Dr. Niamul Kabir Mr. Shahid Chowdhury Dr. Monique McCallister			

Available at:

<https://publichealthmicrobiology.education/annual-competitions>

4th (2020) Annual State-Wide Competition for Food Safety Modernization Act, Food Safety, and Food Science Students

Emerging Leaders Category:

First Place (tied): Dr. M. Naraghi, Vanderbilt University of Medical Sciences (Award: \$350)
 First Place (tied): Dr. Taylor Bowden, Tennessee State University (Award: \$350)
 Second Place: Dr. Md Niamul Kabir, Tennessee State University (Award: \$200)
 Third Place: Not awarded this year.

Finalists in Oral Competitions for Students:

First Place: Sahrina Wadood, Tennessee State University (Award: \$400)
 Second Place: Jyothi George, Tennessee State University (Award: \$300)
 Third Place: Sadie Arns, Tennessee State University (Award: \$200)

Finalists in Poster Competitions for Students:

First Place: Andrea Nieto Valdez, University of Tennessee (Award: \$350)
 Second Place: Anika Chowdhury, Middle Tennessee State University (Award: \$250)
 Third Place (tied): Shreya Hamal, Tennessee State University (Award: \$150)
 Third Place (tied): Adilqah Samlin, Tennessee State University (Award: \$150)

3rd (2019) Annual State-Wide Competition for Food Safety Modernization Act, Food Safety, and Food Science Students

2019 Graduate Oral Competition Winners

1st Place (tied): Monica Henry, TSU
 1st Place (tied): Trent Kerley, UT
 2nd Place: Abimbola Allison, TSU
 3rd Place: Shan Hong, UT

2019 Graduate Oral Competition Winners

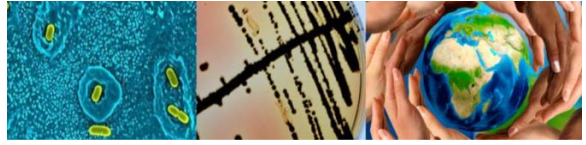
1st Place (tied): Jennifer Vuia-Riser, UT
 1st Place (tied): Kaleb Karim, TSU
 2nd Place (tied): Shreya Singh Hamal, TSU
 2nd Place (tied): Purni Wickramasinghe, UT
 3rd: Place Jayashan Adhikari, TSU

2nd (2018) Annual State-Wide Competition for Food Safety Modernization Act, Food Safety, and Food Science Students

2018 Graduate Competition Winners

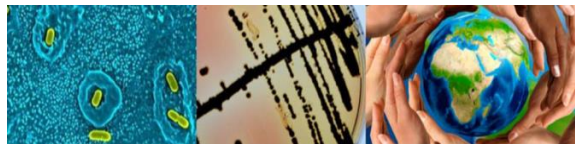
1st Place (tied): Monica Henry, Graduate Competition, TSU
 1st Place (tied): Grace Shape, Graduate Competition, UT
 2nd Place: Devendra Bhandari, Graduate Competition, TSU
 2nd Place: Michelle Heatherly, Graduate Competition, UT

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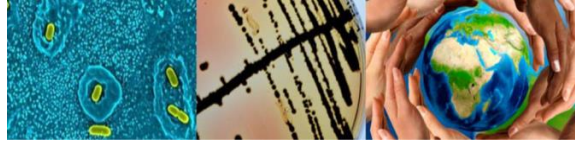
Part III: Overview of the Lectures

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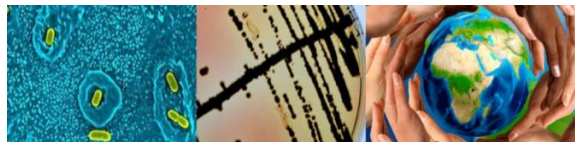
Date	Topic
Week 1 <u>8/19/2021</u>	The Public Health Necessity for Food Regulations I/II Epidemiology of Transboundary Diseases of Importance in the United States <i>Description of Course Assignments and Syllabus</i> <i>Description of Term Paper Assignment</i>
Week 2 <u>8/26/2021</u>	The Public Health Necessity for Food Regulations II/II Foodborne Diseases of Public Health Importance <i>CDC NORS Data Assignment</i> <i>Discussion of Topics of Term Paper</i>

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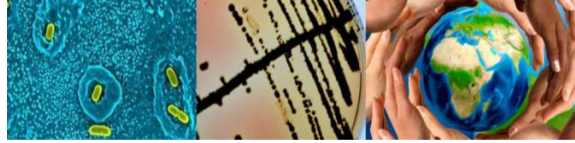
Week 3 <u>9/2/2021</u>	Dietary Guidelines for American I/II Evidence-based Policies for Creating a Healthy Eating Pattern <i>Finalizing the Topics for Term Paper</i> <u>CDC NORS Data Assignment: Due before the start of the class</u>
Week 4 <u>9/9/2021</u>	Dietary Guidelines for American II/II Evidence-based Policies for Creating a Healthy Eating Pattern <u>Topics, Selection of Paper's Options, List of Reference/Literature (only a list), Due for the Term Paper</u>

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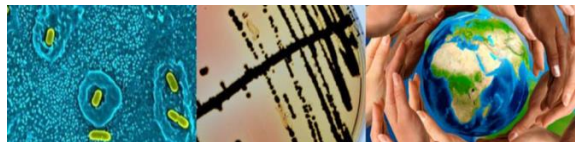
Week 5 <u>9/16/2021</u>	Guidelines for Foodborne Disease Outbreak Response (CIFORE) Investigation of Foodborne Diseases: Policies and Guideline
Week 6 <u>9/23/2021</u>	No Class Fall Break <i>(Attendance Optional) 5th Annual State-Wide Competition of Public Health Microbiology Laboratory, Nashville Tennessee</i> <u>Optional Students Presentations on Term Paper (50 extra credit points)</u>

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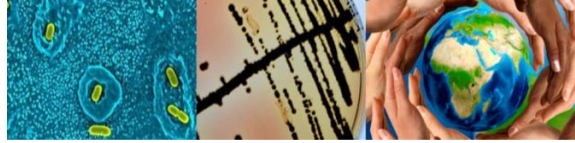
Week 7 <u>9/30/2021</u>	Hazard Analysis and Critical Control Point (HACCP) Principles, and Application in Meat and Juice industries <i>Optional Assignment: Development of a HACCP plan (50 extra credit points)</i> Review for Mid-term Exam
Week 8 <u>10/7/2021</u>	Mid-term Examination Discussion on Review Paper Progress Food Safety Modernization Act Certification I/IV HACCP Plan Assignment Due at the Beginning of the Class Discussion on Review Paper Progress

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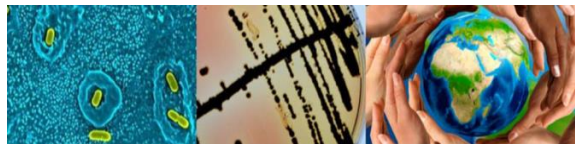
Week 9 <u>10/14/2021</u>	Food Safety Modernization Act Certification II/IV Discussion on Review Paper Progress
Week 10 <u>10/21/2021</u>	Food Safety Modernization Act Certification III/IV First Draft of Term Paper Due Before the Start of the Class
Week 11 <u>10/28/2021</u>	Food Safety Modernization Act Certification IV/IV

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Week 12 <u>11/4/2021</u>	Food and Drug Administration Food Code Produce Safety Rule of Food Safety Modernization Act
Week 13 <u>11/11/2021</u>	Nutrition Fact Labeling FDA's Generally Recognized as Safe (GRAS) List Regulatory Requirements and Recent Changes for Nutrition Information Panel for Food Products and GRAS List- Food Additives and Health Claims Food Fortification with Micronutrients

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Week 14 <u>11/18/2021</u>	Food Safety and Climate Changes Climate Change and Health, Climate Change Adoption, and Risk Communication <i>Final Review Paper Due</i> <i>Review for Final Exam</i>
Week 15 <u>11/24/2021</u> WEDNESDAY	Final Examinations <i>Announcement of Publication Scholarship Recipients, Certificates</i> <i>Review of the Course Content</i>

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Climate Change and Public Health Microbiology

Non-typhoidal *Salmonella enterica* serovars

- **Global death:** 50,000 global death in 2010 (WHO, 2020)
- **Public Health Burden in the U.S.:** >1 million annual cases in 2011 (CDC, 2011)

Climate Change:

- **1 °C increase :** 5 to 10% increases in Salmonellosis (WHO, 2010)
- 2500 to 5000 additional global death
- 50,000 to 100,000 U.S. morbidity

At our current rate:

- >1.5 °C by 2040
- >4.8 °C by 2100



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TSU - ACADEMIC CALENDAR 2021-2022	
FALL SEMESTER 2021	
Aug 6	Faculty contracts begin
Aug 6	Faculty report for fall semester activities
Aug 9	Faculty/ Staff Institute
Aug 11-12	Residence Halls Open (New Students)
Aug 13	Residence Halls Open (Returning Students)
Aug 16	Classes Begin
Aug 16- Aug 20	Late registration/Schedule Adjustment
Sept 6	Holiday-Labor Day
Sept 16	Recognition of Constitution Day
Sept 20-22	Student Study Days- No Activities Scheduled
Sept 23-24	Fall Break
Sept 27 – Oct 1	Mid-term Examination Week-all classes meet as scheduled
Oct 8	Last day to withdraw from a course and/or the University
Oct 13	Founders Day
Oct 24-30	Homecoming
Oct 25 – Jan 21	Registration for Spring 2022
Nov 11	Veterans' Day
Nov 19	Last Day of Classes
Nov 22-24	Final Exams
November 27	COMMENCEMENT
November 29	Faculty must have posted all grades via "MyTSU"
Dec 5	Records Office releases all posted grades via "MyTSU"
Dec 24 – Jan 2	Holiday Break – University Closed

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