Technical Problem Solving Syllabus

FST 5730 Spring 2021

Course Information

- **Course times and location:** Tuesdays and Thursdays, 2:20 p.m.-3:40 p.m. in Zoom and 114 Parker
- **Credit hours** 3
- **Mode of delivery:** Hybrid

Instructor

- **Name:** Dr. Emmanuel Hatzakis
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- **Phone Number:** 614-688-2731
- **Office location:** 233 Parker Food Science and Technology Building
- **Office hours:** janovick.3@buckeyemail.osu.edu
- **Preferred means of communication:**
  - My preferred method of communication for questions is **email.**

Co-Instructor

- Dr. Rafael Jimenez-Flores
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THE OHIO STATE UNIVERSITY

College of Food, Agricultural, and Environmental Sciences
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Teaching Assistant

- **Name:** Jennifer Janovick
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Course Prerequisites

5600 or 5710, and 5536 or 4536, and 5400 or 5410 or 5420 or 5430 or AnimSci 4500, and Sr standing; or Grad standing.

Course Description

The purpose of this course is to help students develop the skills required to address problems in the practical application of food industry. The assigned problems will be short term, where students have four weeks to provide solutions, as well as long term, where students have ten weeks to provide solutions. At the end of the course, students should be able to apply critical thinking and combine/integrate knowledge from previous courses to address issues and challenges in the food industry. Basic concepts of food science will also be discussed in the class when required.

The course is open to undergraduate and graduate students. Although the assessment is similar, the graduate students have a more leading role and they are evaluated based on how they perform as team leaders. Undergraduate students have a more executive role and they are assessed based on how they follow the plans and approach the technical problem.

Learning Outcomes

By the end of this course, students should successfully be able to:

- Learn the principles of problem solving
- Provide an opportunity to practice being a leader
- Improve technical writing skills
- Learn how to find information to solve problems
- Apply critical thinking and previous knowledge to solve real-life problems of the food industry

How This Course Works

Mode of delivery:

This course is hybrid. We have required sessions each week on Tuesdays and Thursdays from 2:20-3:40 p.m. in Zoom and in 114. The remainder of your work will take place in Carmen throughout the week.

Pace of online activities: This course is divided into **weekly modules** that are released one week ahead of time. Students are expected to keep pace with weekly deadlines but may schedule their efforts freely within that time frame.

Credit hours and work expectations: This is a 3 credit-hour course. According to Ohio State bylaws on instruction (go.osu.edu/credit hours), students should expect around 3 hours per week of time spent on direct instruction (instructor content and Carmen activities, for example) in addition to 6 hours of homework (reading and assignment preparation, for example) to receive a grade of [C] average.

Attendance and participation requirements: Research shows regular participation is one of the highest predictors of success. With that in mind, I have the following expectations for everyone's participation:

- Participating in online activities for attendance: **TWICE PER WEEK**
  You are expected to log in to the course in Carmen every week. (During most weeks you will probably log in many times.) If you have a situation that might cause you to miss an entire week of class, discuss it with me as soon as possible.
- Office hours: By appointment
- Participating in discussion forums: **THE PARTICIPATION WILL BE DURING THE ORIGINALLY SCHEDULED TIME FOR THE CLASS.**

Course Materials, Fees and Technologies

Required Materials and/or Technologies

- Hall, D. 1995. Jump Start your Brain. Werner Books. New York, NY

Required Equipment

- **Computer:** current Mac (MacOS) or PC (Windows 10) with high-speed internet connection.

- **Webcam:** built-in or external webcam, fully installed and tested

- **Microphone:** built-in laptop or tablet mic or external microphone

- **Other:** a mobile device (smartphone or tablet) to use for BuckeyePass authentication

If you do not have access to the technology you need to succeed in this class, review options for technology and internet access (go.osu.edu/student-tech-access).

Required Software

Microsoft Office 365: All Ohio State students are now eligible for free Microsoft Office 365. Visit the installing Office 365 (go.osu.edu/office365help) help article for full instructions.

CarmenCanvas Access

You will need to use BuckeyePass (buckeyepass.osu.edu) multi-factor authentication to access your courses in Carmen. To ensure that you are able to connect to Carmen at all times, it is recommended that you do each of the following:

- Register multiple devices in case something happens to your primary device. Visit the BuckeyePass - Adding a Device (go.osu.edu/add-device) help article for step-by-step instructions.

- Request passcodes to keep as a backup authentication option. When you see the Duo login screen on your computer, click **Enter a Passcode** and then click the **Text me new codes** button that appears. This will text you ten passcodes, good for 365 days, that can each be used once.

- Install the Duo Mobile application (go.osu.edu/install-duo) on all of your registered devices for the ability to generate one-time codes in the event that you lose cell, data, or Wi-Fi service.

If none of these options will meet the needs of your situation, you can contact the IT Service Desk at 614-688-4357 (HELP) and IT support staff will work out a solution with you.

Technology Skills Needed for This Course

- Basic computer and web-browsing skills
- Navigating CarmenCanvas (go.osu.edu/canvasstudent)
- CarmenZoom virtual meetings (go.osu.edu/zoom-meetings)
- Recording a slide presentation with audio narration and recording, editing and uploading video (go.osu.edu/video-assignment-guide)

Technology Support

For help with your password, university email, CarmenCanvas, or any other technology issues, questions or requests, contact the IT Service Desk, which offers 24-hour support, seven days a week.

- **Self Service and Chat**: go.osu.edu/it
- **Phone:** 614-688-4357 (HELP)
- **Email:** servicedesk@osu.edu

Grading and Faculty Response

How Your Grade is Calculated

Assignment Category	Points
Short term project 1 report/presentation	20%
Short term project 2 report/presentation	20%
Long term project report/presentation	40%
Overall communication with instructors, TA and involved companies	20%

See Course Schedule for due dates.

Descriptions of Major Course Assignments

Short term projects: Projects related to real life problems of food industry that need to be completed in less than four weeks. They generally require literature search and lab work as well as efficient communication with people form industry.

Long term projects: Similar to short terms projects but with a higher degree of complexity. They need to be completed in less than ten weeks.

The main graded elements for short term and long term projects are the reports and the presentations. All the information regarding how to prepare them will be provided in the class in a separate lecture.

Overall communication with instructors, TAs and involved companies: Short term and long term projects require efficient collaboration and communication between the members of the teams, as well as between individual students with TAs and companies. Using a scale from 1 to 5 (1, min; 5 max) students will be evaluated for their performance on topics such as: how well they are prepared for the meetings with companies and how proactive they are in terms of designing their experiments (order ingredients on time, book instrumental time well in advance, give early notices to TA and facility managers for using equipment, etc).

Academic integrity and collaboration: [Example: Your written assignments, including discussion posts, should be your own original work. In formal assignments, you should follow [MLA/APA/Chicago etc.] style to cite the ideas and words of your research sources. You are encouraged to ask a trusted person to proofread your assignments before you turn them in but no one else should revise or rewrite your work.]

Late Assignments

Please refer to Carmen for due dates. Due dates are set to help you stay on pace and to allow timely feedback that will help you complete subsequent assignments.
Late submissions will not be accepted. Please refer to Carmen for due dates.

Instructor Feedback and Response Time

I am providing the following list to give you an idea of my intended availability throughout the course. Remember that you can call 614-688-4357 (HELP) at any time if you have a technical problem.

- **Preferred contact method:** If you have a question, please contact me first through my Ohio State email address. I will reply to emails within **24 hours on days when class is in session at the university**.

- **Class announcements:** I will send all important class-wide messages through the Announcements tool in CarmenCanvas. Please check your notification preferences (go.osu.edu/canvas-notifications) to ensure you receive these messages.

- **Discussion board:** I will check and reply to messages in the discussion boards once mid-week and once at the end of the week.

- **Grading and feedback:** For assignments submitted before the due date, I will try to provide feedback and grades within **seven days**. Assignments submitted after the due date may have reduced feedback and grades may take longer to be posted.]

Grading Scale

93–100: A
90–92.9: A-
87–89.9: B+
83–86.9: B
80–82.9: B-
77–79.9: C+
73–76.9: C
70–72.9: C-
67–69.9: D+
60–66.9: D
Below 60: E

Other Course Policies

Discussion and Communication Guidelines

The following are my expectations for how we should communicate as a class. Above all, please remember to be respectful and thoughtful.

- **Writing style**: While there is no need to participate in class discussions as if you were writing a research paper, you should remember to write using good grammar, spelling, and punctuation. A more conversational tone is fine for non-academic topics.

- **Tone and civility**: Let's maintain a supportive learning community where everyone feels safe and where people can disagree amicably. Remember that sarcasm doesn't always come across online. I will provide specific guidance for discussions on controversial or personal topics.

- **Citing your sources**: When we have academic discussions, please cite your sources to back up what you say. For the textbook or other course materials, list at least the title and page numbers. For online sources, include a link.

- **Backing up your work**: Consider composing your academic posts in a word processor, where you can save your work, and then copying into the Carmen discussion.

- **Synchronous sessions**: During our Zoom sessions I ask you to use your real name and a clear photo of your face in your Carmen profile. During our full-group lecture time, you may turn your camera off if you choose. When in breakout rooms or other small-group discussions, having cameras and mics on as often as possible will help you get the most out of activities. You are always welcome to use the free, Ohio State themed virtual backgrounds (www.osu.edu/downloads/zoom-backgrounds.html). Remember that Zoom and the Zoom chat are our classroom space where respectful interactions are expected.]

Academic Integrity Policy

See Descriptions of Major Course Assignments for specific guidelines about collaboration and academic integrity in the context of this online class.

Ohio State's Academic Integrity Policy

Academic integrity is essential to maintaining an environment that fosters excellence in teaching, research, and other educational and scholarly activities. Thus, The Ohio State University and the Committee on Academic Misconduct (COAM) expect that all students have read and understand the university's Code of Student Conduct (studentconduct.osu.edu), and that all students will complete all academic and scholarly assignments with fairness and honesty. Students must recognize that failure to follow the rules and guidelines established in the university's *Code of Student Conduct* and this syllabus may constitute "Academic Misconduct."

The Ohio State University's *Code of Student Conduct* (Section 3335-23-04) defines academic misconduct as: "Any activity that tends to compromise the academic integrity of the university or subvert the educational process." Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Ignorance of the university's *Code of Student Conduct* is never considered an excuse for academic misconduct, so I recommend that you review the *Code of Student Conduct* and, specifically, the sections dealing with academic misconduct.

If I suspect that a student has committed academic misconduct in this course, I am obligated by university rules to report my suspicions to the Committee on Academic Misconduct. If COAM determines that you have violated the university's Code of Student Conduct (i.e., committed academic misconduct), the sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the university.
If you have any questions about the above policy or what constitutes academic misconduct in this course, please contact me.

Other sources of information on academic misconduct (integrity) to which you can refer include:

- [Committee on Academic Misconduct](go.osu.edu/coam) (go.osu.edu/coam)
- [Ten Suggestions for Preserving Academic Integrity](go.osu.edu/ten-suggestions) (go.osu.edu/ten-suggestions)
- [Eight Cardinal Rules of Academic Integrity](go.osu.edu/cardinal-rules) (go.osu.edu/cardinal-rules)

Copyright for Instructional Materials

The materials used in connection with this course may be subject to copyright protection and are only for the use of students officially enrolled in the course for the educational purposes associated with the course. Copyright law must be considered before copying, retaining, or disseminating materials outside of the course.

Creating an Environment Free from Harassment, Discrimination, and Sexual Misconduct

The Ohio State University is committed to building and maintaining a community to reflect diversity and to improve opportunities for all. All Buckeyes have the right to be free from harassment, discrimination, and sexual misconduct. Ohio State does not discriminate on the basis of age, ancestry, color, disability, ethnicity, gender, gender identity or expression, genetic information, HIV/AIDS status, military status, national origin, pregnancy (childbirth, false pregnancy, termination of pregnancy, or recovery therefrom), race, religion, sex, sexual orientation, or protected veteran status, or any other bases under the law, in its activities, academic programs, admission, and employment. Members of the university community also

have the right to be free from all forms of sexual misconduct: sexual harassment, sexual assault, relationship violence, stalking, and sexual exploitation.

To report harassment, discrimination, sexual misconduct, or retaliation and/or seek confidential and non-confidential resources and supportive measures, contact the Office of Institutional Equity:

1. Online reporting form at equity.osu.edu,
2. Call 614-247-5838 or TTY 614-688-8605,
3. Or Email equity@osu.edu

The university is committed to stopping sexual misconduct, preventing its recurrence, eliminating any hostile environment, and remedying its discriminatory effects. All university employees have reporting responsibilities to the Office of Institutional Equity to ensure the university can take appropriate action:

- All university employees, except those exempted by legal privilege of confidentiality or expressly identified as a confidential reporter, have an obligation to report incidents of sexual assault immediately.
- The following employees have an obligation to report all other forms of sexual misconduct as soon as practicable but at most within five workdays of becoming aware of such information: 1. Any human resource professional (HRP); 2. Anyone who supervises faculty, staff, students, or volunteers; 3. Chair/director; and 4. Faculty member."

This course adheres to The Principles of Community adopted by the College of Food, Agricultural, and Environmental Sciences. These principles are located on the Carmen site for this course; and can also be found at https://go.osu.edu/principlesofcommunity. For additional information on Diversity, Equity, and Inclusion in CFAES, contact the CFAES Office for Diversity, Equity, and Inclusion (https://equityandinclusion.cfaes.ohio-state.edu/). If you have been a victim of or a witness to a bias incident, you can report it online and anonymously (if you choose) at https://studentlife.osu.edu/bias/report-a-bias-incident.aspx.

Your Mental Health

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. No matter where you are engaged in distance learning, The Ohio State University's Student Life Counseling and Consultation Service (CCS) is here to support you. If you find yourself feeling isolated, anxious or overwhelmed, on-demand mental health resources (go.osu.edu/ccsondemand) are available. You can reach an on-call counselor when CCS is closed at 614- 292-5766. **24-hour emergency help** is available through the National Suicide Prevention Lifeline website (suicidepreventionlifeline.org) or by calling 1-800-273-8255(TALK). The Ohio State Wellness app (go.osu.edu/wellnessapp) is also a great resource.

Accessibility Accommodations for Students with Disabilities

Requesting Accommodations

The university strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability including mental health, chronic or temporary medical conditions, please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services (SLDS). After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. In light of the current pandemic, students seeking to request COVID-related accommodations may do so through the university's request process, managed by Student Life Disability Services.

Disability Services Contact Information
- Phone: 614-292-3307
- Website: slds.osu.edu
- Email: slds@osu.edu
- In person: Baker Hall 098, 113 W. 12th Avenue

Accessibility of Course Technology

This online course requires use of CarmenCanvas (Ohio State's learning management system) and other online communication and multimedia tools. If you need additional services to use these technologies, please request accommodations as early as possible.
- CarmenCanvas accessibility (go.osu.edu/canvas-accessibility)
- Streaming audio and video
- CarmenZoom accessibility (go.osu.edu/zoom-accessibility)

Course Schedule

Refer to the CarmenCanvas course for up-to-date due dates.

Week	Day	Topics, Assignments, Deadlines, Events
1	1/12/2021	Course Overview; Introduction to basic concepts, Food issues, food sectors, food composition.
	1/14/2021	Tools, resources and strategies for technical problem solving. Examples.
2	1/19/2021	Training project
	1/21/2021	Team formation
3	1/26/2021	Introduction to ST and LT projects
	1/28/2021	Introduction to ST and LT projects. Project selection
4	2/2/2021	Discuss the progress for ST1 projects Lab pilot plant visit
	2/4/2021	Analytical techniques lecture
5	2/9/2021	Discuss the progress for ST1 projects Thoughts for the LT projects
	2/11/2021	Macronutrients Lecture
6	2/16/2021	Discuss the progress for ST1 projects
	2/18/2021	Discuss the progress for ST1 projects
7	2/23/2021	Discuss the progress for ST1 projects
	2/25/2021	Completion of the ST1 project
8	3/2/2021	Review status of LT projects
	3/4/2021	Review status of LT projects
9	3/9/2021	Review status of LT projects
	3/11/2021	Introduction to ST2 and discussion on the LT projects
10	3/16/2021	Discuss the progress for ST2 projects
	3/18/2021	Discuss the progress for ST2 projects
11	3/23/2021	Discuss the progress for ST2 projects
	3/25/2021	Discuss the progress for ST2 projects
12	3/30/2021	Discuss the progress for ST2 projects
	4/01/2021	Discuss the progress for ST2 projects
13	4/6/2021	Completion of the ST2 project
	4/8/2021	Review status of LT projects

14	4/13/2021	Review status of LT projects
	4/15/2021	Review status of LT projects
15	4/20/2021	Review status of LT projects
	4/22/2021	Oral presentation of final reports for LT projects

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