

Why Chemistry Matters

Quest 2 Syllabus

Primary General Education Designation: Physical Sciences

Secondary General Education Designation: Diversity

July 3rd, 2022-August 12th

Holidays: 7/4

Reading Days: --.

I. Course Information

Quest 2 IDS2935-Why Chemistry Matters

Summer B 2023

Meeting MWF: 3

Location: NRN 1020-UF Zoom via Canvas for some group project activities

T/R Period 3(top row) or 4 (bottom row) breakout sessions:

19762 MAT 0112	19764 FL 0119	19766 ROL 0115
19763 MAT 0113	19765 FL 0115	19767 FL 0113

General Education Designation: [Physical Sciences, Diversity]

* A minimum grade of C is required for general education credit

This class is scheduled as a face-to-face course. I will utilize Zoom during each class lecture period so that if you are out of class because of being withheld from campus, *i.e.*; due to an active COVID-19 infection or have been exposed you can participate without missing the lecture. Our class sessions may be audio visually recorded for students in the class to refer and for enrolled students who are unable to attend live. Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you

will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. The chat will not be recorded or shared. As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited.

Instructor

Gail E Fanucci – fanucci@chem.ufl.edu ; and Canvas email

Office location: 311F Chemistry Lab Building (CLB)

Office hours: Wed 3-4 pm over Zoom (and by appointment)

Phone: (352) 392-2345 (office)

Teaching Assistants : Alle Wolfer, Tina Li, Afnan Jaufer

contact and office hours TBD – see Canvas

Course Description

This cross-disciplinary Quest 2 course examines “Why Chemistry Matters” through analysis and discussion of topics (e.g. agriculture, materials, energy, medicine, human health, nature and the environment) represented in two popular public-facing science novels “The Disappearing Spoon” and “Napoleon’s Buttons” – all focused on aspects of chemical innovations used to tackle problems in society in the past. The course extends these examples to social and political problems of today and the future; asking “How can novel approaches/innovations in chemistry help alleviate or answer current and arising challenges in our world today, such as our food supply and pollution, novel medicines to combat resistance and addiction, and our water supply and the built environment?”, and “How has chemical innovation been motivated by and impacted diverse groups of people?” The answers to these questions will also reveal to students how pervasive chemistry is in their daily lives. One can say, “It is everywhere!”

Typically, the first session of each module will be used to explain the chemical concepts and principals required to have a deep understanding of the processes and products that humans have used in diverse groups of people throughout history related to that module’s topic (medicine, toxins, pollution, weapons, dyes, sugars, radioactivity, soaps etc). The chemical concepts presented span across general/physical/inorganic/organic/nuclear/biochemistry. An overarching theme throughout the semester is the isolation, characterization or creation of atoms/molecules required for life, extending to those that impact our quality of life. Examples include primary metabolites (sugars, proteins, lipids) and secondary metabolites (toxins and medicines), as well as energy and processes needed for a modern society (such as agriculture and water quality, dyes, chemical weapons, bombs and controlled chemical explosions for

infrastructure). Hence, demonstrating how chemistry is “everywhere”.

Typically, the second component of each module emphasizes the social context of chemistry in the particular applications being examined that week, with emphasis placed upon how scientific developments arise from or impact diverse societies or groups of people (e.g. health disparities, dual-use technologies and regulations, indigenous medicine versus modern pharmaceuticals, gender identity, gender and color, contagion panic and ethnicity/social class, cleanliness and race, set and setting related to drug abuse). Guest lecturers from various non-STEM departments have helped to develop course content and some may be available to participate with the lectures and lead/develop in-class activities that emphasize the merging of chemistry and society, with emphasis on how diversity motivated some chemical innovations and how chemical developments inadvertently effect diverse groups of people.

Typically, the third component of each module involves an experiential learning activity; e.g. in class activities, discussions and reflections, lab demonstrations, laboratory experiments, tours of facilities on UF campus (e.g. Ethnobiology gardens, AMRIS facility) or workshop activities to help develop student skills for their public-facing writing pitch assignment. These sessions will be facilitated by TAs during the summer semester.

Regarding assignments there typically will be a quiz each for each module (MC, T/F, short answers) to assess that students have read/watched the assigned materials and to demonstrate SLOs related to content for chemical and social concepts. For most modules there will also be a discussion post to meet the critical thinking, communication and connection SLOs for Quest 2, Gen Ed-P and Gen Ed-D. Exams will be delivered intake home essay and short answer format, and exams will be designed to meet the merging concept SLOs for Quest 2. In class activities (depending on student enrollment can be group or individual) and the corresponding assignments will be designed to assess reflection and data analysis aspects of SLOs.

This course is expected to be of interest to STEM majors who wish to seek a deeper understanding of how “*what we do*” is motivated by and impacts social aspects, including diversity, in our lives. By describing and analyzing how chemical innovations and the scientific method arise from or have impacted various societal groups within the United States and across the globe, sessions 2 and 3 each week; along with their corresponding assignments and assessments, this course will meet the SLOs for Diversity. This course will also appeal to non-STEM majors who seek to have a deeper understanding of where and how chemistry is essential to their daily lives and impacts life’s perceived quality. The SLO requirements for the Physical Sciences will be met by activities of sessions 1 and 3 of each module (along with corresponding assignments), where descriptions of chemical concepts and analysis of experimental methods and results will be performed.

It is not required that you have any college level science course as a prerequisite for this course as the chemistry and scientific concepts within *Disappearing Spoon* and *Napoleon’s Buttons* will be addressed. High-school level understanding of chemistry/physics is expected.

Required & Recommended Course Materials (to purchase/rent)

- *“The Disappearing Spoon and Other Extraordinary True Tales from The Periodic Table”* Sam Kean
- *“Napoleon’s Buttons: How 17 Molecules Changed History”* Penny Le Couteur and Jay Burreson
- *Other reading content will be provided on Canvas*

Statement on Materials and Supplies Fees

There are no extra fees for this class

II. Coursework & Schedule

1. List of Graded Work

Work	Description	Percentage
On-line quizzes	Almost all modules have an on-line quiz that covers the content of the reading and lecture materials.	15
On-line discussions	Almost all modules will have an on-line discussion that evaluates critical thinking and reflective components of the integration of the chemical and social concepts of that module. Most of these will be performed as group activities.	20
Exams	There will be two exams that assess your knowledge, comprehension, and evaluation of course materials. This semester these will be on-line/take home.	15
In-class activities and experiential Learning Activities	For each module there will be either an in-class activity or an experiential learning activity (most will be group activities depending upon enrollment) that you will do during either on your own time and class isn't scheduled or during the period that will involve analysis, synthesis and evaluation of presented materials. Please check on Canvas for due dates and times. [tours, demos, experiments, data analysis, reflections]	20
Participation	You are expected to come prepared for lecture/seminar presentations /activities/ workshops and to be fully engaged and participating in the Friday activities. There are some activities that are graded that are participation (like introduction to groups etc.)	10
Public-Facing Pitch	In efforts to engage with the public on Chemistry Issues that impact society, you will compose a pitch to an editor for a public-facing chemistry article of a topic of interest to you that relates to a current or future social challenge where chemistry can impact. Two course periods are set aside for development of your pitch topic and a workshop to help develop your pitch. There are various assignments and feedback leading to the final percentage of your grade.	20

Dates are left blank to either accommodate the summer A or B schedule. Colors designate the module types

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Sat.
1		Class Intro/ Pitch Description /Examining Chemical Fertilizers	Library Resources Activities 1 (schedule with science librarian and Tas)	Fertilizer to Chemical Warfare/ Phosphorus Cycle and Organic Farming	Evaluating Organic Fertilizers and Run- off Nitrogen and Phosphorus Pollution	What are Explosions?/ Explosion and Combustion Demos	
2		How old is our Planet? Why was Lead removed from Gasoline?	Political Lobbying and re- framing social issues to appeal to emotion	Free-Lance Writing 2	Lobby Activity	Elements of WWII and the Cold War/ Philosophy of Dual Use technology	
3		Intro to Organic Chemistry/ Spices and Trade,	Garden Tours/ Research video (Xing)	Dyes, Pigments and the Chemical Industry	Prussian Blue/Cyanotype Demos	Cultural Attitudes and the Meaning of Color	
4		Sugars as Food, Clothing and Medicine	Exam Time 1	Social Inequalities of our Food	Pitch Workshop 3	Germ Theory and Antibiotic Resistance/ Cholera and Contagion Panic	
5		History of Pain Medicine	What's in that? /Research Video (Rudolf)	Pick your poison/Drugs vs Medicine	What is a Drug Addict?	What is a salt? / Urban Planning	
6		Soaps and Coatings /Cleanliness, Advertising and Racism	Coatings Exp./ Olive Oil Tasting	Steroids, Brain and Puberty	Toothpick Moment / Pitch Due	Exam 2	

- 1) Pitch Intro and Fertilizers, Weapons and Food Sustainability (orange)
- 2) Explosions, Gasses and the Built Environment (grey)
- 3) Lead and Political Regulations (yellow)
- 4) Radioactivity and Ethics of Nuclear Chemistry (blue)
- 5) Early Medicine and Indigenous Discovery (green)
- 6) Dyes, Energy and social uses of color (light grey)
- 7) Sugars and Social Inequalities (Blue grey)
- 8) Germs and Public Health (Orange)
- 9) Natural Products and Drug Discovery (grey)
- 10) Drugs, Poisons and Addiction (yellow)
- 11) Salt and Sustainable Environments (Blue)
- 12) Olive Oil, Soaps and Cleanliness (Green)
- 13) Steroids, the Brain and Gender Identity (grey)

NOTES:

Three of the modules that are typically 2 days of lecture/activity during a S/F semester are delivered as a single day in class with a prerecorded lecture or demo to watch.

Orange Text means an activity related to the development of the public facing pitch

Blue writing are demos/experiments/tours during those sessions with Tas.

Quizzes and Discussions will be distributed throughout the material as fall typically within the regular semester format. Each module has 2-3 assignments such as a (1) quiz, (2) discussion post, (3) activity for grade.

The Following pages have a detailed schedule utilized in the Fall 2022.

Weekly Course Schedule for FALL 2022

Topics from Fall schedule are pasted in the compressed Summer schedule. Dates will depend upon whether summer A or B is chosen.

Module/ Date	Topic (Question/Subject)	Physical Sciences + Q2 + Diversity Method/Concept/Practice at Work	Reading & Activities for Before Class, during Tours and Experiments and Discussion Posts	Assigned Work Due Discussion, Quizzes and Activity Due Dates posted in Canvas
Module 1 Aug 24- 31	Fertilizers, Weapons and Food Sustainability		<i>Gail Fanucci, Gabriel Mathias-Landry (Soil and Water Science)</i>	
W	Class Intro	Pitch Project Description		
F	Examining Chemical Fertilizers and their Relationships to Chemical Warfare	Redox Chemistry, Catalysis and Fertilizers	Read: <ul style="list-style-type: none"> Disappearing Spoon, Chapter 5 "Elements in Time of War," pages 81-87. Napoleon's Buttons, Chapter 5 "Nitro Compounds," pages 98-102 Watch: <ul style="list-style-type: none"> Haber Bosch Process Need for New Fertilizers Father of Chemical Warfare 	
M	Phosphorus Cycle and Organic Farming	Growing Populations Nitrogen and Phosphorus cycle	Read: Vitousek, P.M., et al. (2009) Science, 324: 1519-1520. Lecture Slides Provided.	Quiz – assess reading/viewing materials and comprehension.
W	Evaluating Organic Fertilizers and Run-off Nitrogen and Phosphorus Pollution	analysis of run-off pollution (F)	Assignment Provided, please come to class prepared to work on the activity together.	Fertilizer Data Analysis (Group; In class activity and upload final analysis)
Disc.	Unintended consequences of developing fertilizers	Bombs, Chemical Warfare, Chemical industry, Pollution	Discussion Post examples of modern day problems and solutions: <ul style="list-style-type: none"> Recycling Human Sewage to Fertilizers in Cities Utilizing CRISPER/CAS technology to engineer babies Engineering factory emissions for jet fuel 	Fertilizers, Weapons and Food Sustainability Discussion
Module 2 2-7 Sept. (5 th holiday)	Explosions, Gases and the Built Environment		<i>Gail Fanucci,</i>	
F	What are Explosions?	States of Matter, Thermodynamics, Chemical Reactions, Components of a controlled Explosion	Read: <ul style="list-style-type: none"> Disappearing Spoon, Chapter 1 "Geography is Destiny" pages 11-31 Napoleon's Buttons, Chapter 5 "Nitro Compounds," pages 87-104 Sodium Metal disposal following WWII (Links to external site.) Sodium Azide Usage in Airbags (Links to external site.) 	Quiz – assess reading materials and preparedness.

Module/ Date	Topic (Question/Subject)	Physical Sciences + Q2 + Diversity Method/Concept/Pract ice at Work	Reading & Activities for Before Class, during Tours and Experiments and Discussion Posts	Assigned Work Due Discussion, Quizzes and Activity Due Dates posted in Canvas
			<ul style="list-style-type: none"> Explosives History (downloadable file) Watch: <ul style="list-style-type: none"> States of Matter Deflated footballs and Ideal Gas Law 	
<i>M</i>	Holiday			
W	Explosion versus Combustion	Synthesizing and Analyzing unstable compounds and Redox reactions of alkalis with water	Read: <ul style="list-style-type: none"> Nitrogen Triiodide Experiment (Links to an external site.) Alkali Metal Demo Standard Operating Procedure (SOP) Watch: <ul style="list-style-type: none"> Reactions of Alkali Metals with Water Reaction of Cesium with Fluorine gas. 	Virtual Lab Demonstrations (upload experiment analysis and reflection: Explosions Demo and Experiment)
Disc.	Rocket Fuels and Commercial Space Travel	Analyze, reflect and connect with how explosive compounds have contributed to infrastructure development	Read and Comment on your Reaction: <ul style="list-style-type: none"> https://blogs.nasa.gov/Rocketology/2016/04/15/weve-got-rocket-chemistry-part-1/ https://blogs.nasa.gov/Rocketology/tag/chemical-reactions/Space Tourism 	Discussion: Analysis and Reflection on Views of Explosives
Module 3 Sept. 9- 14	Lead and Political Regulations		<i>Gail Fanucci, Suzanne Robbins (Political Science)</i>	
F	How old is our Planet? Why was Lead removed from Gasoline?	Radioactivity, Isotopes, How Elements are Formed, Lead and Cadmium Pollution	Read: <ul style="list-style-type: none"> Disappearing Spoon, Chapter 4 "Where Elements Come From," pages 65-80 Disappearing Spoon, Chapter 9 "Poisoners Corridor" Watch: <ul style="list-style-type: none"> The Clean Room; Nucleosynthesis: The Formation of Elements in the Universe 	Quiz –assess reading materials and preparedness.
M/W	Political Lobbying and re- framing social issues to appeal to emotion	Framing Political Issues, External and Internal Lobbying (W) Analysis of Chemical Company and Interest Group Lobbying Activities (F)	Read: <ul style="list-style-type: none"> Madison, James (1787) Federalist Papers #10: "The Same Subject Continued: The Union as a Safeguard Against Domestic Faction and Insurrection" from <i>The New York Packet</i>. Five pages long Examine: <ul style="list-style-type: none"> https://www.senate.gov/legislative/Public_Disclosure/LDA_reports.htm. https://archive.epa.gov/ocir/leglibrary/pdf/112senatejuris.pdf https://www.opensecrets.org/cong-cmtes 	Lobbying Analysis (Group; In class activity and upload final analysis)

Module/ Date	Topic (Question/Subject)	Physical Sciences + Q2 + Diversity Method/Concept/Pract ice at Work	Reading & Activities for Before Class, during Tours and Experiments and Discussion Posts	Assigned Work Due Discussion, Quizzes and Activity Due Dates posted in Canvas
Disc.	Lead regulations from diverse groups	Evaluate Various positions and regulations related to Lead pollution	<ul style="list-style-type: none"> Identify, describe, compare and analyze various groups seeking regulations on lead on Regulations.Gov 	Lead and Political Regulations Discussion Post
F	Pitch Activity	Pitch Topic Discussion	<ul style="list-style-type: none"> On line assignment and discussion 	
Module 4 19-23 Sept.	Radioactivity and the Ethics of Nuclear Power		<i>Gail Fanucci, Duncan Purves (Philosophy), Campus EH&S</i>	
M	Elements of WWII and the Cold War	Nuclear chemistry, fission and fusion, making elements, bombs to isotopes in medicine	Read: <ul style="list-style-type: none"> Disappearing Spoon, Chapter 6 "Completing the Table with a Bang," pages 98-114 Disappearing Spoon, Chapter 7 "Extending the Table, Expanding the Cold War" pages 115-134 Disappearing Spoon, Chapter 12 "Political Elements" pages 203-221 How we Make Elements (external link) Watch: <ul style="list-style-type: none"> Isotopes in Medical Science 1 Making Medical Isotopes 	Quiz –assess reading materials and preparedness.
W	Philosophy of Dual Use technology	Dual-use technology, Bombs to isotopes in medicine,	Read: <ul style="list-style-type: none"> Douglas, Thomas (2014) "The dual-use problem, scientific isolationism and the division of moral labour" Monash Bioethics Review 32: 86-105. Shane, Scott & Daisuke Wakabayashi (2018) "'The Business of War': Google Employees Protest Work for the Pentagon" The New York Times (April 4): A1 	none
F	How to be Safe with Chemistry	Safety Culture and Risk Assessment science/political regulation agencies	Read: <ul style="list-style-type: none"> Safety Culture (Links to an external site.) Hazard Assessment Fundamentals, Assessments and Tools (Links to an external site.) Lecture Slides Laboratory Safety and Risk 	Work on Pitch Activities Step 1 of Pitch Assignment : Interview Questions (due this week)
Disc.	Current Ethical debates with new technologies	Identifying, describing and reflecting on personal views of gene editing ethics	Read and React to: <ul style="list-style-type: none"> https://www.huffingtonpost.com/entry/gene-edited-babies-crispr-cas9_us_5c0078fde4b0249dce734190 (Links to an external site.) https://www.nature.com/articles/d41586-018-07573-w 	Discussion Post
Module 5 9/26-9/30	Early Medicine and Indigenous Discovery		<i>Gail Fanucci, Rick Stepp (Anthropology)/Chris Xing (Medicinal Chemistry)</i>	

Module/ Date	Topic (Question/Subject)	Physical Sciences + Q2 + Diversity Method/Concept/Practice at Work	Reading & Activities for Before Class, during Tours and Experiments and Discussion Posts	Assigned Work Due Discussion, Quizzes and Activity Due Dates posted in Canvas
M	Spices and Trade, Essential Oil Show and Tell	organic chemistry structures, trade routes and colonialization, ascorbic acid and scurvy, Age of Discovery, chemical components of spices, medicinal properties of spices	Read: <ul style="list-style-type: none"> • Napoleon's Buttons, Introduction pages 1-19. • Napoleon's Buttons, Chapter 1 "Peppers, Nutmeg and Cloves," pages 19-35 • Napoleon's Buttons, Chapter 2 "Ascorbic Acid," pages 36-53 • Scurvy and Ascorbic Acid (Links to an external site.) • Nutmeg 	Quiz –assess reading materials and preparedness. In Class Geography/ Map Exercise
F	Indigenous Discovery and Ethnobiology	Ethnobiological and Medicinal impacts of Kava	Read: <ul style="list-style-type: none"> • An introduction to Kava (Links to an external site.) • The Science Behind the Natural Calm of Cava • Indigenous science goes far beyond boomerangs and spears Watch: <ul style="list-style-type: none"> • The case to recognize Indigenous knowledge as science Albert Wiggan TEDxSydney 	Zoom meeting with Chris Xing (UF Medicinal Chemistry)
W	Use Time for Ethnoecology/Garden Tour	Identify and discuss plants and their herbal/medical/toxic uses	Resources: <ul style="list-style-type: none"> • UF Herbarium Collections catalog: https://www.floridamuseum.ufl.edu/herbarium/cat/ • Floristic Inventory of the University of Florida Campus: https://www.floridamuseum.ufl.edu/herbarium/research/ufcampusflora.htm • 50 Common Native Plants Important In Florida's Ethnobotanical History 	Video upload of a specific plant on your tour.
Disc.	Evaluation of Biases for Natural/ Traditional medicines	Evaluate Literature and Reflect on Views of Natural Medicine versus Pharmaceuticals	Read: Internationalization of Traditional Chinese Medicine: challenges Utilize PubMed and Library Databases Synthesize your views and reactions to current scientific research into effectiveness of essential oils and herbal medicines and how you viewed prior and after the module uses of herbal remedies and essential oils (common in Asian cultures)	Discussion Post
*Module 6 3-10 Oct. (10/7 Holiday)	Dyes, Energy and Social Uses of Color		<i>Gail Fanucci, Melissa Hyde (Art History), Daniel Talham (Chemistry)</i>	
M1	Dyes, Pigments and the Chemical Industry	Absorption, spectroscopy, synthetic	Read: <ul style="list-style-type: none"> • Napoleon's Buttons, Chapter 9 "Dyes," pages 162-180 	.

Module/ Date	Topic (Question/Subject)	Physical Sciences + Q2 + Diversity Method/Concept/Practice at Work	Reading & Activities for Before Class, during Tours and Experiments and Discussion Posts	Assigned Work Due Discussion, Quizzes and Activity Due Dates posted in Canvas
		dyes, dyes and the FDA, photosynthesis and solar cells	<ul style="list-style-type: none"> How Dye's impacted the foundation of the FDA (Links to an external site.) History of the Chemical Industry (links to an external site) 	
M2	Cultural Attitudes and the Meaning of Color	Color and gender Historical Meaning and Social Impact of Colors	Read: <ul style="list-style-type: none"> Jo Paoletti, Pink and Blue, Telling the Boys for the Girls in America (2012) Ch. 5, "Pink is for Boys," pp. 85-99 Regina L Blaszyk, The Color Revolution, (2012), pp. 21-32 (section on mauve) https://www.theawl.com/2017/11/prussian-blue-the-color-of-great-waves-and-starry-nights/ (Links to an external site.) http://www.artinsociety.com/prussian-blue-and-its-partner-in-crime.html (Links to an external site.) Optional: <ul style="list-style-type: none"> https://play.google.com/books/reader?id=IAJiBQAAQBAJ&hl=en&pg=GBS.PT99 (Links to an external site.) https://www.chemistryworld.com/podcasts/prussian-blue/6101.article (Links to an external site.) 	Quiz – assess reading materials and preparedness
W	Let's Play with Prussian Blue!	Experiential Learning through experimentations	<ul style="list-style-type: none"> Check out this ACS link (Links to an external site.) for a description of the chemical structure of Prussian Blue. Lab Demo information: Dye Diffusion Demonstration Report-2.pdf PrussianBlue Demo Notes 2_19 (1).pdf 	Dye Experiments and Analysis Report
*Module 7 Oct 12- 17	Sugars and Social Inequalities		<i>Gail Fanucci, Alyssa Zucker (Women's Studies)</i>	
W	Sugars as Food, Clothing and Medicine	Sugars and carbohydrates, colonialization of Americas, cellular glycans and cancer, slavery and carbohydrates, synthetic versus artificial	Read: <ul style="list-style-type: none"> Napoleon's Buttons, Chapter 3 "Glucose," pages 54-70 Napoleon's Buttons, Chapter 4 "Cellulose," pages 71-86 Napoleon's Buttons, Chapter 6 "Silk and Nylon," pages 105-122 Inulin (Links to an external site.) Colonialization and Trade (II): "colonization of the Americas" (Links to an external site.) "Making of an Atlantic World" (Links to an external site.) 	Quiz –assess reading materials and preparedness.
F	Social Inequalities of our Food	Identify the causality between socioeconomic	Read: <ul style="list-style-type: none"> Schulze, Matthias B., et al. (2004) "Sugar-Sweetened Beverages, Weight Gain, and Incidence of Type 2 Diabetes in Young and Middle-Aged Women. Journal of the American Medical Association. 292(8): 927-934. 	

Module/ Date	Topic (Question/Subject)	Physical Sciences + Q2 + Diversity Method/Concept/Pract ice at Work	Reading & Activities for Before Class, during Tours and Experiments and Discussion Posts	Assigned Work Due Discussion, Quizzes and Activity Due Dates posted in Canvas
		conditions and public health	<ul style="list-style-type: none"> Schulze, Amy J., et al. (2005) "Healthy Eating and Exercising to Reduce Diabetes: Exploring the Potential of Social Determinants of Health Frameworks Within the Context of Community-Based Participatory Diabetes Prevention. American Journal of Public Health. 95(4): 645-651. 	
M	What do we choose to eat?		<p>Analyze the relationship between food availability and nutrition. Explore: Fooducate (Links to an external site.) Website</p> <ul style="list-style-type: none"> 	On-line submission: Evaluation and Analysis Activity of Weekly Food choices
Disc.	Diabetes and Diversity (Location, Class and Race)	Content, Analysis and Reflection on Solutions to Food availability and Diabetes	<ul style="list-style-type: none"> Impact of Urban Gardens (Links to an external site.) Ethnic Minorities and Managing Diabetes (links to external site) 	Discussion Post
Module 7b 19-21 Oct.	Pitch Workshop, Exam and		Dates this week are subject to change depending upon availability of participating Faculty	
W	Free-lance writing?	Skype/Zoom interview with Public Facing Science Writer Q2 connection and communication	<p>Browse:</p> <ul style="list-style-type: none"> "Object Lessons", short stories from The Atlantic that talk about important (and often chemistry-created) objects in our lives: http://objectsofscience.com (Links to an external site.) OpenNotebook.com to explore how the best science stories are put together: https://www.theopennotebook.com/ <p>Read two of the following articles by Dr. Altman before class:</p> <ul style="list-style-type: none"> This article on the impact of chemical synthesis across many aspects of society has an unexpected UF connection! Check it out: https://aeon.co/essays/how-20th-century-synthetics-altered-the-very-fabric-of-us-all (Links to an external site.) This article is about the discovery of the benzene ring, learning to build on the benzene ring, its industrialization, including of PCBs and related organochlorines. But also about war and empire and chemistry: https://www.theatlantic.com/science/archive/2017/10/benzene-tree-organic-compounds/530655/ (Links to an external site.) <p>Here are her source documents for this: https://static1.squarespace.com/static/5703f76762cd94e407457a23/t/59e4df3790baded2acfeb691/1508171576588/Altman+Benzene+Tree+Selected+Bibliography+October+2017v2.pdf (Links to an external site.)</p>	Step 2 of Pitch Assignment: Select a Topic and Locate 3 Sources (due Module 8)

Module/ Date	Topic (Question/Subject)	Physical Sciences + Q2 + Diversity Method/Concept/Pract ice at Work	Reading & Activities for Before Class, during Tours and Experiments and Discussion Posts	Assigned Work Due Discussion, Quizzes and Activity Due Dates posted in Canvas
			<ul style="list-style-type: none"> This article is about polyethylene and the plastic bag: https://www.topic.com/american-beauties (Links to an external site.) here are her sources: https://static1.squarespace.com/static/5703f76762cd94e407457a23/t/5b64b6ba70a6adc72332a0ea/1533327034796/Altman_Am_Beauties_Topic_Aug2018_Resources.pdf (Links to an external site.) This article is about the rise of plastics in general, but uses personal narrative in a strategic way: https://aeon.co/essays/plastics-run-in-my-family-but-their-inheritance-is-in-us-all 	
F	exam		Take Home Exam 1	
Module 8 Oct.24-28	Germ and Public Health		<i>Gail Fanucci, Pamela Gilbert (English)</i>	
M	Germ Theory and Antibiotic Resistance	Antiseptics, antibiotics, secondary metabolites, bacteria, theories of disease, history of surgery	<p>Read:</p> <ul style="list-style-type: none"> Napoleon's Buttons, Chapter 7 "Phenol," pages 123-140 Napoleon's Buttons, Chapter 10 "Wonder Drugs" pages 181-20 Disappearing Spoon, Chapter 10 , "Take Two Elements and Call Me in the Morning" Drug Resistance to Antibiotics (Links to an external site.) (Links to an external site.) Bacteria in skin care products? (Links to an external site.) CENEws cover story on Cosmetics: The next Microbiome (Links to an external site.) Microbiome and Short Chain Fatty Acids <p>Watch:</p> <ul style="list-style-type: none"> Antibiotic Resistance (Links to an external site.) Gut Microbiome (Links to an external site.) Claire Fraser: The Human Gut Microbiome in Health and Disease (Links to an external site.) 	Quiz – assess reading materials and preparedness.
W	Cholera and Contagion Panic	Contagion panic, disease, social group and social status,	<p>Read:</p> <ul style="list-style-type: none"> a summary article from Dr. Gilbert: Gilbert, Pamela K. (2012) "On Cholera in Nineteenth-Century England." <i>BRANCH: Britain, Representation and Nineteenth-Century History</i>. Ed. Dino Franco Felluga. Extension of Romanticism and Victorianism on the Net. Web. http://www.branchcollective.org/?ps_articles=pamela-k-gilbert-on-cholera-in-nineteenth-century-england (Links to an external site.) 	Step 3 of Pitch Assignment: Evaluate a Pitch (due Module 9)

Module/ Date	Topic (Question/Subject)	Physical Sciences + Q2 + Diversity Method/Concept/Practice at Work	Reading & Activities for Before Class, during Tours and Experiments and Discussion Posts	Assigned Work Due Discussion, Quizzes and Activity Due Dates posted in Canvas
		existing beliefs and cognitive frameworks, AIDS in the 1980s	<ul style="list-style-type: none"> this 1800s essay by physician and public health campaigner Thomas Southwood Smith (Links to an external site.) to see how people made sense of germ theory at the time, which may put into perspective how we make conclusions about chemistry today: Excerpt from Thomas Southwood Smith, "Contagion and Sanitary Laws," The Westminster Review (Jan. 1825), pp: 134-167. <p>AIDS as a contagion (Links to an external site.) HIV and AIDS likely represents a modern day twist of Cholera and the interplay between medical understanding, treatments, politics and social class.</p> <ul style="list-style-type: none"> 30 years of AIDS (Links to an external site.) HIV in the 1980s: People didn't want to kiss you on the cheek (Links to an external site.) 	
F	What's in that?	Group Activity	Evaluate and Analyze Chemical Components in Common House Hold Cleaners	Upload Analysis Information
Disc.	Good Bacteria?	Dual-Usage Theme and Reflection	<p>Read:</p> <ul style="list-style-type: none"> Virgin airlines has jet fuel that was made from CO₂ recovery from industrial pollution via engineered bacteria.: https://www.cnbc.com/2018/07/27/lanzatech-turns-carbon-waste-into-ethanol-to-one-day-power-planes-cars.html (Links to an external site.) Using bacteria to combat global warming. <p>Describe, reflect and evaluate your views on good/bad bacteria as well as those of someone two generations ahead of you (ie your grandparent's generation)</p>	Discussion Assignment
Module 9 Oct 31- Nov 4	Natural Products and Drug Discovery		<i>Gail Fanucci, Jeffrey Rudolf (Chemistry), Sean Trainor (Dates are flexible depending upon availability)</i>	
F	History of Pain Medicine	Organic chemistry functional groups, chemical synthesis schemes, introduction	<p>Read:</p> <ul style="list-style-type: none"> Napoleon's Buttons, Chapter 12 "Molecules of Witchcraft," pages 223-245 Napoleon's Buttons, Chapter 10 "Wonder Drugs" pages 181-200 Disappearing Spoon, Chapter 11 "How Elements Deceive" 	Quiz –assess reading materials and preparedness.

Module/ Date	Topic (Question/Subject)	Physical Sciences + Q2 + Diversity Method/Concept/Practice at Work	Reading & Activities for Before Class, during Tours and Experiments and Discussion Posts	Assigned Work Due Discussion, Quizzes and Activity Due Dates posted in Canvas
		to medicinal chemistry, molecules of witchcraft	<ul style="list-style-type: none"> Disappearing Spoon, Chapter 9 "Poisoners Corridor" (already assigned in week 2: this ties back to Lead poisoning and radioactivity we saw earlier) <p>Watch Videos:</p> <ul style="list-style-type: none"> Introduction to Medicinal Chemistry (Links to an external site.) Minimize Video Molecules of Witchcraft - Dr. Christina Miller - October 31, 2012 (Links to an external site.) 	
W	Natural Products Research Seminar	Jeff Rudolf presents modern day research activities in: Genome Mining and Combinatorial Chemistry for Drug Discovery	<p>Read:</p> <p>"Natural Products Drug Discovery Wins a Nobel Prize" https://blogs.sciencemag.org/pipeline/archives/2015/10/05/natural-products-drug-discovery-wins-a-nobel?r3f_986 (Links to an external site.)</p> <p>"A New Golden Age of Natural Products Drug Discovery" "Drug-resistant superbugs may have found a new foe in the Irish soil"</p>	
M	Writing Workshop	Components of a Pitch	Completed Pitch Topic Session Assignment prior to this class period. Visit: https://seantrainor.org/	Develop Components of your Pitch – in class; submit after workshop.
Disc.	Pitch Topic Selection	Connection and Communication	Select a Topic and locate three sources by Week 10 Workshop	Step 3 of Pitch Assignment
Module 10 Nov 7 - 14	Drugs, Poisons and Addiction		<i>Gail Fanucci, Trysh Travis (Women's Studies)</i>	
M	Pick your poison	Caffeine, Nicotine, Morphine, Opioid Epidemic and current solutions	<p>Read:</p> <ul style="list-style-type: none"> Napoleon's Buttons, Chapter 13 "Morphine, Nicotine and Caffeine," pages 246-269 Disappearing Spoon, Chapter 9 "Poisoners Corridor" (this ties back to Lead poisoning and radioactivity we saw earlier) Caffeine Addiction (Links to an external site.) Vaping (Links to an external site.) Jane Aldrich (Links to an external site.): UF Faculty fighting opioid addiction <p>Watch:</p> <ul style="list-style-type: none"> Opioids: Fighting Addiction with Chemistry (Links to an external site.) (https://www.acs.org/content/acs/en/acs-webinars/program-in-a-box/pib-on-demand/opiates/recording.html (Links to an external site.)) Fighting Nicotine Addiction (Links to an external site.) 	Quiz – assess reading materials and preparedness.

Module/ Date	Topic (Question/Subject)	Physical Sciences + Q2 + Diversity Method/Concept/Practice at Work	Reading & Activities for Before Class, during Tours and Experiments and Discussion Posts	Assigned Work Due Discussion, Quizzes and Activity Due Dates posted in Canvas
			<ul style="list-style-type: none"> Chinese Opium Wars 	
Disc.	How do we view addiction?	Reflection of views	Complete worksheet. Some questions are prior to reading, some are after reading assignments: Due Prior to Wed Class	Due Prior to Wed Class Period
W	What is a Drug Addict?	Set and Setting;	Read: <ul style="list-style-type: none"> Waldorf, Dan. (1998) "Becoming a Heroin Addict" in <i>The American Drug Scene: An Anthology</i> (2nd Ed), Roxbury Publishing Company, pp. 94-104. Zinberg, Norman E. (1984) "The New Perspective on Control" in <i>Drug, Set, and Setting</i>. New Haven: Yale University Press: pp. 4-18. Reading Worksheet:TT-Chemistry Molecules Prep Sheet.pdf 	
M2	Drugs vs Medicine Discussion	Scheduled Drugs and Barriers to Research besides Drug Abuse	Read: <ul style="list-style-type: none"> An ethical exploration of barriers to research on controlled drugs (Links to an external site.) Illegal Drugs Laws: Clearing a 50-Year-Old Obstacle to Research 	Questionnaire due at end of class period
Module 11 16-18 Nov.	Salt and Sustainable Environments		<i>Gail Fanucci, Mike Volk (Landscape Architecture), Chris Brewer (Chemistry)</i>	
M	What is a salt?	Solid-state chemistry Redox chemistry Public Health: Iodine in salt; Fluoride in water	Read: <ul style="list-style-type: none"> Napoleon's Buttons, Napoleon's Buttons15-Salt.pdf Solid State Lattice Structures (Links to an external site.) Iodine and Public Health (Links to an external site.) World Health Organization on Iodized Salt (Links to an external site.) Water Fluoridation and Public Health Watch: <ul style="list-style-type: none"> Oxidation and Reduction: (Links to an external site.) https://www.khanacademy.org/science/chemistry/oxidation-reduction/redox-oxidation-reduction/v/introduction-to-oxidation-and-reduction?modal=1 (Links to an external site.) Introduction to electrolysis (Links to an external site.) Solid State structures 	Quiz – assess reading materials and preparedness.
W	Sustainable Urban Planning		Read:	

Module/ Date	Topic (Question/Subject)	Physical Sciences + Q2 + Diversity Method/Concept/Pract ice at Work	Reading & Activities for Before Class, during Tours and Experiments and Discussion Posts	Assigned Work Due Discussion, Quizzes and Activity Due Dates posted in Canvas
			<ul style="list-style-type: none"> Partial Overview: A quick summary of the relationship between salinity and water resources: http://www.tampabay.wateratlas.usf.edu/shared/learnmore.asp?toolsection=lm_salinity (Links to an external site.) Issues: Saltwater intrusion in SE Florida: https://www.miamiherald.com/opinion/editorials/article212844644.html (Links to an external site.) Opportunities: The Tampa Bay desalination plant: https://www.tampabaywater.org/tampa-bay-seawater-desalination-plant Watch: <ul style="list-style-type: none"> Water Desalination Video (Links to an external site.) How salt water desalination works (Links to an external site.) 	
F	Corrosion Experiment		Read over the Corrosion Lab Protocol Perform and Analyze corrosion experiments and effects of salt water and protection anodes.	Report Analysis Due 24 hrs after experiment
Disc	Water Shortages	Solutions and Social Impacts	Read or watch the following: Water Shortages: <ul style="list-style-type: none"> https://qz.com/1180035/uae-has-built-the-worlds-largest-water-reserve-in-liwa-desert/ (Links to an external site.) Cape Town's Water Crisis Approaches Day Zero (Links to an external site.) How drought and the fight for water is splitting the state of California (Links to an external site.) The Atlanta Basin and Florida's Rivers Participate in the discussion post to evaluate the who has and who has not water? What groups are negatively impacted?	Discussion Post due by Friday class session <i>Florida/Georgia water debate</i>
Module 12 Nov 21- Dec 02 Nov 23-25 Holiday	Olive Oils, Soaps and Cleanliness		<i>Gail Fanucci, Pamela Gilbert (English),</i>	
M1	Olive Oil Tasting		Olive Oil Tasting in Class	
M2	Soaps and Coatings	Lipids and cholesterol, soaps, coatings, BPA, healthy dietary lipids	Read: <ul style="list-style-type: none"> Napoleon's Buttons, Chapter 14 "Olive Oil" Olive Oil: https://www.oliveoitimes.com/olive-oil (Links to an external site.) 	Quiz –assess reading materials and preparedness.

Module/ Date	Topic (Question/Subject)	Physical Sciences + Q2 + Diversity Method/Concept/Practice at Work	Reading & Activities for Before Class, during Tours and Experiments and Discussion Posts	Assigned Work Due Discussion, Quizzes and Activity Due Dates posted in Canvas
			<ul style="list-style-type: none"> • (Links to an external site.) • The BPA controversy: https://www.factsaboutbpa.org/bpa-overview/products-bpa (Links to an external site.) • BPA-Free? (Links to an external site.) • Engineering BPA-free polymers: https://www.greenbiz.com/article/valspar-how-we-engaged-stakeholders-solve-bpa-dilemma (Links to an external site.) Watch Videos: Khan Academy: lipids and cholesterol	
F	Cleanliness, Advertising and Racism	Imperialism and Cleanliness, Racisms and Cleanliness	Read: <ul style="list-style-type: none"> • McClintock, Anne. (1995) "Soft-Soaping Empire" in <i>Imperial Leather: Race, Gender and Sexuality in the Colonial Context</i>. New York: Routledge: pp 210-231. • https://www.washingtonpost.com/news/business/wp/2017/10/08/dove-ad-that-shows-a-black-woman-turning-herself-white-sparks-consumer-backlash/?utm_term=.baed528af00d (Links to an external site.) Watch: <ul style="list-style-type: none"> • Racism in a Chinese laundry detergent advertisement (Links to an external site.) • Funny Italian laundry commercial - "Coloured Is Better" (Links to an external site.) 	
W	Surface Coatings	Super Hydrophobic Experiment	Explore surface coatings, measure contact angles and explore superhydrophobicity	Questionnaire Due end of Experiment Period
Disc.	BPA Awareness and Reflection on our Implicit Biases	Evaluation and Reflection	Read: <ul style="list-style-type: none"> • The BPA controversy: https://www.factsaboutbpa.org/bpa-overview/products-bpa (Links to an external site.) • BPA-Free? (Links to an external site.) Engineering BPA-free polymers: https://www.greenbiz.com/article/valspar-how-we-engaged-stakeholders-solve-bpa-dilemma	Discussion Post
Module 13 12/5-12/7 Dec	Steroids, the Brain and Gender Identity		<i>Gail Fanucci, Julia Graber (Psychology),</i>	
M	Hormones from urine?	Steroids as metabolites, social impact of the Pill, chemistry of family planning, gender and	Read: <ul style="list-style-type: none"> • Napoleon's Buttons, Chapter 11, "The Pill" • https://www.fpa.org.uk/factsheets/contraception-past-present-future (Links to an external site.) 	Quiz

Module/ Date	Topic (Question/Subject)	Physical Sciences + Q2 + Diversity Method/Concept/Pract ice at Work	Reading & Activities for Before Class, during Tours and Experiments and Discussion Posts	Assigned Work Due Discussion, Quizzes and Activity Due Dates posted in Canvas
		gender identity, climate change and gender	<ul style="list-style-type: none"> • https://www.businessinsider.com/male-birth-control-startup-backed-y-combinator-your-choice-therapeutics-2019-4 (Links to an external site.) • https://www.livescience.com/65078-male-birth-control-pill-tested-safety.html (Links to an external site.) • https://www.scientificamerican.com/article/is-climate-change-producing-too-many-female-sea-turtles/ (Links to an external site.) • https://www.sciencenewsforstudents.org/article/when-frog-gender-flips 	
W	Puberty, hormones and behavior	Hormonal changes during puberty, Medicines and Social impact of controlling puberty Risk behaviors and puberty	Read: Hyde, J. S., Bigler, R. S., Joel, D., Tate, C. C., & van Anders, S. M. (2018, July 19). The Future of Sex and Gender in Psychology: Five Challenges to the Gender Binary. <i>American Psychologist</i> . http://dx.doi.org/10.1037/amp0000307	none
F	How can we see inside of us?	AMRIS tour (magnetic resonance imaging MRI) 3 groups staggered	Please look over the assignment questionnaire prior to the tour so you know what questions to ask and information to gather	Tour Questionnaire Due 24 hours after tour
Disc	Steroids, the Brain and Gender Identity	Our views and biases on Gender, and Gender Identity and Family Planning	Read: <ul style="list-style-type: none"> • https://www.psychologytoday.com/us/blog/hormones-and-the-brain/201608/gender-identity-is-in-the-brain-what-does-tell-us (Links to an external site.) • http://sitn.hms.harvard.edu/flash/2016/gender-lines-science-transgender-identity/ (Links to an external site.) • Future of Sex and Gender in Psychology-Hyde et al 2018 (1).pdf • what has sex got to do with it- 2019.pdf Watch: https://www.ted.com/talks/karissa_sanbonmatsu_the_biology_of_gender_from_dna_to_the_brain?language=en <ul style="list-style-type: none"> • https://www.ted.com/talks/jackson_bird_how_to_talk_and_listen_to_transgender_people 	Discussion Post
Final Assignments 7-14 Dec.	Exam2 and Pitch Project Due			Pitch Project Due 12/7 Exam 12/14 on-line submission

Module/ Date	Topic (Question/Subject)	Physical Sciences + Q2 + Diversity Method/Concept/Pract ice at Work	Reading & Activities for Before Class, during Tours and Experiments and Discussion Posts	Assigned Work Due Discussion, Quizzes and Activity Due Dates posted in Canvas

III. Grading

3. Details for grading expectations

a. Attendance and Participation:

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at: <https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/>

Attendance: will be noted and recorded in the Canvas gradebook. You are allowed two “unexcused absences” for the semester, after which each absences that does not meet university criteria for “excused” will result in a two percent deduction from your final grade. However, unexcused absences on Friday activities will automatically result in a score of zero for participation/assignment if we are doing an activity.

Participation (5% total grade): Consistent informed, thoughtful, and considerate class participation is expected and will be evaluated using the rubric below. The instructor will post your participation grade to date in Canvas when Exam 1 results, and schedule a conference if you are earning below 70% of the possible points. There are also graded activities and discussion posts that contribute to your participation grade.

NOTE: If you have personal issues that prohibit you from joining freely in class discussion, e.g., shyness, language barriers, etc., see the instructor as soon as possible to discuss alternative modes of participation.

General Participation Grading Rubric:

	High Quality	Average	Needs Improvement	Unacceptable
Informed: Shows evidence of having done the assigned reading and in-class work.	100 pts	80 pts	50 pts	0 pts
Thoughtful: Shows evidence of having understood and considered issues raised.	100 pts	80 pts	50 pts	0 pts
Considerate: Takes the perspective others into account.	100 pts	80 pts	50 pts	0 pts

Instructor/TA will note your participation each week giving general scores of high quality, average, needs improvement or unacceptable. The percentages will be recorded in Canvas as two separate assignments and will be averaged to total 5% of your final grade.

b. Discussion Posts (20% total grade):

Approximately each week there will be an on-line discussion in Canvas that evaluates critical thinking and reflective components related to the integration of the chemical and social concepts of that module. Students will be either given (1) additional information to read and asked questions related to self-reflection or (2) asked to identify, describe, discuss and provide references to a current political or societal situation that is analogous to the lessons of that week. Discussion posts will be graded based upon how well students provide responses that are informed, thoughtful, reflective and complete. Discussion post length will typically involve 4-5 paragraphs of response.

General Discussion Grading Rubric:

	High Quality	Average	Needs Improvement	Unacceptable
Informed: Shows evidence of having done the assigned reading and in-class work.	100 %	75 %	50 %	0 %
Thoughtful: Shows evidence of having understood and considered issues raised.	100 %	75 %	50 %	0 %
Reflective: Provides a component of self-reflection that is sincere.	100 %	75 %	50 %	0 %
Complete: Responses are complete and/or consistent with the instructions. Responses also utilize appropriate grammar	100 %	75 %	50 %	0 %

c. Weekly In-Class Activities (20% total grade):

Almost every week there will be an in-class activity or tour that will have a graded assessment that may contain the following: (A) questions with short answers to assess the content of the demonstration/tour etc, (B) short responses asking students to reflect on how integration of concepts in the module impacts

or alters their views on that week's topic (graded with a scale similar to reflective component of discussion posts), or (C) possible problems to be solved or data to be analyzed. Grading of problem sets/data analysis/short answers will evaluate completeness and correctness according to the percentages of 100%=high quality, 75% = average quality, 50% = needs improvement, 0% =unacceptable.

d. Public Facing Pitch and related assignments (20% total grade):

There are four graded assessments related to the pitch development and submission.

- A) The first of these is an on-line assignment that will introduce you to select public-facing essays from Rebecca Altman such as "Object Lessons" in *The Atlantic* and essays from *Aeon Magazine*. An important aspect of writing a pitch is having appropriate references and you will be given the source documents for the essays. This assignment will also expose you to the resource "OpenNotebook.com", showing you various components to develop a pitch to an editor. After digesting the reading material, students will post in the Pitch Discussion Post three questions they would like to ask Rebecca (or another public facing science writer). This assignment will be due prior to the in-class interview with either Rebecca Altman or Dr. Sean Trainer. Grading will be done in accordance with the rubric for Discussion Posts described above. During the In-class interview, students will be evaluated based upon their participation.
- B) The second component to the pitch assignment will be students reporting in The Pitch Ideas and References on-line Discussion Post their identified topic for the pitch and 5 sources. This documentation will be reviewed and feedback will be given. Grading will be done to in accordance with the rubric for Discussion Posts described above.
- C) The third component is the development of the pitch. Prior to the due date, we will have another in-class workshop (a Friday activity) where students will be asked to participate and share the development of their pitch and to provide peer evaluations/discussion regarding how well it is meeting the guidelines provided by Dr. Sean Trainor. This assignment will be graded according to the Participation rubric provided above as well as students turning in written answers to the 7 concepts given in the guide to writing a pitch after obtaining peer review feedback. Students are expected to have active participation and give feedback to other students/groups. This activity may vary depending upon class size as groups of 5 students should be set to help facilitate the effective communication and feedback among the group. The written document will be reviewed by Faculty/TA and feedback will be given. The written document will be graded according to rubrics for correctness and completeness given above.
- D) The final and last component is the grading of the pitch. Pitches will be submitted on-line. Students will be asked to peer review TWO other pitches addressing how well the pitch matched the guidelines given by Dr. Trainer. The final grade will be the average of the faculty/TA grading and TWO peer reviews. Each of the pitches will be evaluated based upon the 7 concepts outlined in the guide to writing a pitch along with evaluating grammar and organization. Scores for these 9 criteria will range from of 100%, 85%, 70%, 50%, 0%; reflective of excellent, very good, average, below average and unacceptable; respectively.

4. Grading Scale

For information on how UF assigns grade points, visit: <https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/>

A	≥94 – 100% of possible points		C	≥75 – 80%
A-	≥90 – 94%		C-	≥70 – 75%
B+	≥86 – 90%		D+	≥65 – 70%
B	≥83 – 86%		D	≥60 – 65%
B-	≥80 – 83%		F	<60

I will round to the appropriate unit percentage.

IV. Quest Learning Experiences

5. Course Delivery and Engagement

This course has traditional lecture periods on Monday to examine the chemistry concepts of the modules. On-line quizzes need to be completed each week that evaluate materials presented on-line and within the Monday/Wednesday lectures. Wednesday periods have been developed in conjunction with UF Faculty across campus who are experts in the social/humanities topics that connect a social lesson with our chemistry concepts and solutions to technical/social problems. There are readings/videos for each Monday and Wednesday lecture and sometimes worksheets to be completed beforehand. After the completion of Wednesday's lectures, we will engage with a new problem that intersects the chemistry and social lesson of the module through Discussion posts, which also may have a short reading/video component. Friday's sessions are group activities, facilities tours, demonstrations or lab experiments to enhance our experience of the content being discussed each week. Many of these activities have post-experience surveys, questionnaires or data analysis assignments.

6. Details of Experiential Learning Component

Friday periods are typically allocated for tours, demonstrations and experiments will be posted in Canvas or announced in class. Please consult Canvas for the most up to date activities and assignments. These can change due to COVID-19 impacts/restrictions.

Campus visits include tours of

- Field and Fork, campus food pantry (<https://fieldandfork.ufl.edu/>)
- UF's Ethnoecology Garden (if incimate weather: UF Herbarium Collections catalog: <https://www.floridamuseum.ufl.edu/herbarium/cat/> and Floristic Inventory of the University of Florida Campus: <https://www.floridamuseum.ufl.edu/herbarium/research/ufcampusflora.htm>)

- UF's AMRIS facility (<https://amris.mbi.ufl.edu/>)

Chemical Demonstrations and Experiments Include:

- Explosive Molecules and Reactions
- Making and Evaluating Dyes
- Corrosion and Corrosion Protection
- Superhydrophobic Coatings

7. Details of Self-Reflection Component

Throughout the semester, the on-line Discussion Posts and Post-lab/tour assignments will contain a reflective component where you evaluate your views on a topic pre- and post- module interactions. For example, you may be asked to describe and evaluate your biases/views on essential oils as medicines prior to an after grappling with the week's module content and activities.

8. What is the essential/pressing question your course explores?

This course shows how Chemistry and Society are intertwined; how societal needs motivate chemical innovation and how chemical innovation impacts our lives in a multitude of ways, making Chemistry and chemical innovation present "everywhere". This course also explores why "Chemistry" as a field sometimes has a negative public relations view through the dual-use aspect of many chemical innovations that can be utilized for benefit – or harm; intended or unintended. This course aims to broaden the social consciousness of STEM majors to get a deeper understanding of where Chemistry is involved in our daily lives, as well as how chemical innovation is motivated by and impacts social disparities. This course will also provide a basic General Education of chemical concepts and principles within our everyday lives; thus educating non-STEM majors on how it is impossible to separate chemistry from our social world- past present and future.

V. Required Policies

9. Students Requiring Accommodation

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, <https://disability.ufl.edu/>) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

10. UF Evaluations Process

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or

via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

11. University Honesty Policy

UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Honor Code (<https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

12. Counseling and Wellness Center

Contact information for the Counseling and Wellness Center: <http://www.counseling.ufl.edu/cwc/Default.aspx>, 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

13. The Writing Studio

The writing studio is committed to helping University of Florida students meet their academic and professional goals by becoming better writers. Visit the writing studio online at <http://writing.ufl.edu/writing-studio/> or in 2215 Turlington Hall for one-on-one consultations and workshops.