Instructors:	Terry David Church, DRSc, MA, MS Assistant Professor, Department of Regulatory and Quality Sciences USC School of Pharmacy tdchurch@usc.edu (323) 442-0241 Office: HSC campus CHP-140 Daryl L. Davies, PhD Professor, Department of Clinical Pharmacy USC School of Pharmacy Office: HSC campus PSC 506 Michael W. Jakowec, PhD Associate Professor Keck School of Medicine Department of Neurology Office: MCA-241
	Martine Culty, PhD Associate Professor, Department of Clinical Pharmacy USC School of Pharmacy Office: PSC 702
Office Hours:	Health Sciences Campus, CHP-140F – Friday 10am – 2pm University Park Campus, UPC – By appointment, <u>tdchurch@usc.edu</u>
Course Weight:	4 units

Days/Time/Location: Tue, Thur; 2:00-3:20pm; SOS B-46

Catalogue description: Global perspectives; discovery and use of drugs (legal/illegal); poisons. How they helped shape, modify or change history as described in classical literature through present day.

Introduction

Since the beginning of time, humans have sought out or discovered by accident compounds that have medicinal, hedonic (mood-altering) or deleterious (poisonous) effects. These effects were, in part, due to the coevolution between the animal and botanical kingdoms whose efforts to survive gave us compounds that could have medicinal, mood-altering or poisonous effects. The origins of herbal medicine lie in the common empirical experience of the human race, in observing which plants the animals ate when they were feeling sick, and following their example. The societal consequences of improper drug and poison use have been documented as early as 4500 B.C. and attempts to regulate their uses have been documented as early as 2240 B.C. This course will consider the benefits and consequences of drug use (legal and illegal) from

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both a historical and geographical perspective. Additionally, the course will consider the role of poisons as a political as well as felonious tool. Topics will be presented that highlight how drugs and poisons where used throughout the world to shape, modify or change history.

Objectives

This course is designed to meet the requirements of the GE H (Global Perspectives: Traditions and Historical Foundations) for undergraduates. Students will explore how humans used drugs and poisons to change the economic, political, cultural and/or social settings of their time. Moreover, this course will examine the historical and cultural foundations of drug use from a contemporary and historical perspective by studying literary, political, economic, philosophical, legal, ethical and religious traditions as they relate to drug use. As an example, the "opium wars" of the nineteenth century between Britain and China and the implications of this historical event is one example of how we will explore links between illegal use of prescription opioids and the increase in accidental opioid overdose deaths. Students will also learn about the historical use and misuse of poisons for good and evil. The Sumerians as far back as 4500 B.C. documented the toxic effects of certain plants, and developed poisons such as curare for hunting. In Greek literature, the death of Socrates in 399 B.C. represented one of the earliest recorded incidents where a poison was used for political reasons. In recent time, polonium-210 was used to kill the Russian spy Alexander Litvinenko. A recent public inquiry concluded that President Putin probably approved the assassination. Differences surrounding the ethics of the development and deployment of poisons and biological agents (for example, as a weapon) will be presented that are designed to lead to lively discussions during class.

Chapters from the core textbook will be supplemented with a variety of source materials including online resources, media outlets and cinema.

Upon successful completion of this course, the student should be able to participate in a thoughtful debate about:

- The historical nature of the discovery of drugs and poisons throughout the world
- Medicines from ancient Egypt
- Medicines in the Classical Age of Greece and Rome
- The historical and recent biological, psychological, social-psychological, and sociological perspectives related to drug use and abuse
- Modern day pharmaceutics the good, the bad, the ugly
- The consequences of improper drug use and abuse and its relationship to health, economy, wellbeing and society as presented in the literature.
- The history of the development of forensic toxicology as a discipline to provide evidence of exposure to poisons
- The use of poison to influence history during the Renaissance Era
- Chemical and biological warfare in antiquity and modern day
- Concurrent practice of Eastern and Western medicines

Evaluation and Grading:

Evaluation will be based on one midterm examination, a final examination, course quizzes, four written reaction / reflection essays and class participation.

Description	Points	Weight
Class participation	10 pts	(10%)
Quizzes 4 (@ 10 pts each)	40 pts	(15%)
Midterm exam	50 pts	(20%)
Final exam (partially cumulative)	100 pts	(30%)
Written Essays (@ 25 pts each)	100 pts	(25%)
Total	300 pts	(100%)

Attendance at all classes is expected. Participation will include asking and answering questions and being actively involved in the discussion. It is expected that the students read the assigned papers prior to the lecture and be prepared to discuss background, current understanding, treatments, and gaps in knowledge for the topic in each lecture.

15% Quizzes: There will be 4 quizzes over the course of the semester to count towards their grade. The quizzes will be based on questions from the lecture and from the textbook and will include multiple choice, T/F and fill-in the blank questions.

20% Midterm: There will be 1 midterm for this course that will cover the first 8 weeks of course material. The midterm will consist of a series of questions involving short answers as well as a longer question requiring critical thought and its articulation in written responses. This midterm exam will help students to generate a critical assessment of key topics in this course, to develop a suitable argument, and to convey their ideas and interpretations through the written word.

30% Final: The Final Exam will be in the form of an in-class examination during exam week. The final exam will be composed of two parts, each having equal weight towards the final grade. The first part of the exam will include questions from the lectures and from the textbook in the form of multiple choice, T/F and fill-in the blank questions (15%). The second part of the final examination will consist of short written answers to demonstrate the students' knowledge regarding topics covered in the course (15%). This latter part of the final exam will allow students to express their ideas based on facts derived from the course.

25% Four Short Essays: (each worth 6.25% of your class grade) The short essays will be written outside of class and submitted via Blackboard under the Assignments Tab. These short essays are designed to help students generate a critical assessment of key topics in this course, to develop a suitable argument, and to convey their ideas and interpretations through the written word. The short essays will be response / reaction papers to the course material and will require two things: summarize the material covered in class and provide a reaction to the material. Students are free to choose which topics they wish to write about and must submit 4 response / reaction papers throughout the semester. <u>No late essays will be accepted for any reason short of a serious, documented emergency.</u> An official note explaining why you were unable to write the essay will be required for an extension.

10% Participation: To receive full credit, you must attend class regularly. It is your responsibility to make sure that you attend class consistently. Attendance will be taken periodically and will be used to determine participation throughout the semester.

Please note, below is the "Approximate" grading scale breakdown. However, this scale is not set in stone and may slightly shift up or down based on overall scores. There are no pluses (+) or minuses (-) assigned to grades in this course.

Percent	Letter Grade
90-100%	А
80-89%	В
70-79%	С
60-69%	D
Below 60%	F

<u>There are no make-up exams</u>. If exceptional circumstances prevent you from attending an exam, your reason for missing it must be accompanied by a written statement from a third party (e.g. a note from a medical doctor).

Notes, books, calculators, electronic dictionaries, regular dictionaries, cell phones or any other aids are not allowed during exams.

Students will be asked to complete an anonymous critical evaluation of the course at its completion.

Course Readings

Required Readings (selected, short, easy to read chapters)

Antonio Escohotado. (1999). A brief history of drugs: from the stone age to the stoned age. Simon and Schuster.

Although not mandatory, several additional texts are strongly suggested to enhance the discussions regarding the use of poisons throughout literature and history. The students will be able to use identified chapters in the text to support their learning process throughout the semester. These texts are very inexpensive.

- <u>https://www.elsevier.com/books/history-of-toxicology-and-environmental-health/wexler/978-0-12-801506-3</u>
- https://www.elsevier.com/books/toxicology-in-the-middle-ages-and-

renaissance/wexler/978-0-12-809554-6

- John Emsley. Molecules of Murder: Criminal and Classic Cases. (2008) RCS Publishing, Thomas Graham House, Science Park, Milton Road, Cambridge CB4 0WF, UK
- John Emsley. The Elements of Murder: A History of Poisons. (2005) Oxford University Press, Great Claredon Street, OX2 6DP

Other topical materials including but not limited to the syllabus, supplemental reading assignments and additional handouts will be posted on <u>http://blackboard.usc.edu/</u>. Students will also be encouraged to use the online discussions sessions (via Blackboard) as an additional learning tool.

Course Outline

This course will be in the format of a directed seminar/lecture under the guidance of the instructor for the specific session. During each biweekly session the instructor will engage the students with questions and draw comments or interpretations primarily based on the assigned reading. Students are expected to ask questions and participate in an interactive fashion. Because this is an area of rapid change in policies, the readings may vary from one term to the next. Additional readings for each section that may be of added use are listed in the table below.

Week & Date	Торіс	Subtopics to be Included	Assigned and Supplemental Reading
Week 1	Dr. Church	Outline of course and introduction to Pharmacology.	What is Pharmacology:
Aug 27, 29	Introduction: expectations and goals of this class.	Course expectations and review of writing assignment / submission schedule.	https://www.youtube.com/watch?v=PQ2m- nrf2z8&feature=youtu.be Basics on Pharmacokinetics (PK) /
		27 Aug – Introduction29 Aug – Course overview and expectations	pharmacodynamics (PD): <u>https://www.youtube.com/watch?v=NKV5iaU</u> <u>VBUI</u>
			Very brief overview of PK and PD:
			https://www.youtube.com/watch?v=tobx537k FaI
Week 2	Dr. Church	Humans discover the medicinal and hedonic effects of plants.	A Brief History of Drugs Chapter 1
Sep 3, 5	Remote Antiquity	The discovery of opium	"Pharmacological Influences on the Neolithic
		The discovery of fermented plants – wine in the old testament	Transition" Wadley, G and Hayden B (2015) – on Blackboard
		3 Sep – Paleolithic Age	
		5 Sep – Neolithic Age	
Week 3	Dr. Church	The healers from pharaonic times are poorly documented as compared with those form Greece	"Herbal Medicine in Ancient Egypt" Aboelsoud, NH (2010) – on Blackboard
Sep 10, 12	Ancient Egyptian Medicine	and Rome the understanding and use of medicines is only partially understood.	
Quiz #1 –		10 Sep – Dynastic Egypt	
Sep 12		12 Sep – Ptolemaic Kingdom	

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Week & Date	Торіс	Subtopics to be Included	Assigned and Supplemental Reading
Weeks 4	Dr. Church	Understand the early development of medicines in Ancient Greece and Rome	A Brief History of Drugs Chapters 2 & 3
Sep 17, 19	Graeco-Roman Medicine	Gain insights into the practices of Greek and Roman healers regarding their understanding of disease and remedies	http://www.greekmedicine.net/therapies/Herb al Medicine.html
		17 Sep – Greece	
		19 Sep - Rome	
Week 5	Dr. Church	Discuss the ancient networks of trade of drugs, ideas, and culture.	A Brief History of Drugs Chapters 4 & 5
Sep 24, 26	Silk Road Drug Exchanges	Understand how Arabian civilization curated medical knowledge after the fall of Rome.	"Physicians of Ancient India" Saini, A (2016) – on Blackboard
Quiz #2 – 26 Sep	The Discovery of the Americas	Introduction to Ayurvedic medicine. Introduction to Nei-Jing and Daoist herbal medicines.	"The Use and Abuse of Wine in Ancient China" Poo, MC (1999) – on Blackboard
		The conquistadors and the colonizers.	Aztec Medicine:
		Maya, Aztec, and Inca Medicines: Herbs of the	http://ambergriscaye.com/pages/mayan/aztec
		America's for healing, pleasure and sacrifice	medicine.html
		and de'Medici families influenced history	
		24 Sep – Silk Road Drug Exchanges	
		26 Sep – The Americas	

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Week & Date	Торіс	Subtopics to be Included	Assigned and Supplemental Reading
Week 6	Dr. Culty Dr. Church	Understand the development of assays to measure poisons	A Brief History of Drugs Chapter 8
Oct 1, 3	Renaissance Poisons Maritime Empires	Understand has forensic toxicology has progressed with time to enable determination of cause of death	
		Understand how poisoning developed as an art during the Renaissance Era and how the Borgia	
		The Age of Discovery led to geographical and political conflicts over trade in an era where pirates vied for their share of the bounty.	
		1 Oct – Renaissance Poisons (Dr. Culty) 3 Oct – Maritime Empires (Dr. Church)	
Week 7	Dr. Church	Two armed conflicts in China in the mid-19th century between the forces of Western countries and	A Brief History of Drugs Chapter 9
Oct 8	The Opium Wars	of the Qing dynasty.	
		8 Oct – Celestial Empire and Opium Trade	
Week 7 <i>Oct 10</i>	Review Game for Mid Term		
Week 8 Oct 15	Mid Term Exam		
Week 8 Oct 17	Fall Recess – 17 Oct – 18 Oct		

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Week & Date	Торіс	Subtopics to be Included	Assigned and Supplemental Reading
Week 9 Oct 22, 24	Dr. Church The 19 th Century	 The influence of dye companies; chemists, pharmacists and doctors and their influence on psycho active drugs. "Snake Oil" 22 Oct – Quackery, Charlatans, and Pseudomedicine 24 Oct – Scientific Advances, Chemical Compounds, and Technical Advances 	A Brief History of Drugs Chapters 10 & 11
Week 10 Oct 29, 31 Quiz #3 – 31 Oct	Dr. Jakowec Pain and Opioid Dr. Church New Drugs; 20 th Century	 Opioids were once the cornerstone in treating severe disabling pain and are now known to underlie an epidemic of substance use disorders and overdose deaths. Intense public concern about drug abuse between 1986 and 1989 – the new synthetics on the block. 29 Oct – Pain and Opioids (Jakowec) 	"The dynamic interaction between pain and opioid misuse", Wilson-Poe (2018) – uploaded to Blackboard <u>https://bpspubs.onlinelibrary.wiley.com/doi/a</u> <u>bs/10.1111/bph.13873</u> A Brief History of Drugs Chapter 13 & 14
Week 11 Nov 5, 7	Dr. Church Drug enforcement, legal action, and ethical considerations of the 20 th and 21 st Centuries.	 31 Oct – New Drugs; 20th Century (Church) An overview of drug enforcement. This will include discussions of legal and ethical concerns. These events led to the establishment the Drug Enforcement Agency. 5 Nov – Legal Actions 7 Nov – Ethical Consequences 	Required reading to prepare for class lecture: "Drug Enforcement in the United States: History, Policy, and Trends", Sacco (2014) – uploaded to Blackboard

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Week & Date	Торіс	Subtopics to be Included	Assigned and Supplemental Reading
Week 12	Dr. Jakowec Sugar, The Worldwide Addiction	Is sugar addictive? Eating sugar triggers production of natural opioids in your brain.	"Sugar addiction: the state of the science", Westwater (2016) – uploaded to Blackboard
Nov 12, 14	Dr. Church 1980s; Drug Panic	Drug panic of the 1980s and the rise of American Anti-Drug Media Campaigns.	"The American drug panic of the 1980s: social construction or objective threat?", Goode (1990) – uploaded to Blackboard
		12 Nov – Sugar, Worldwide Addiction (Jakowec) 14 Nov –1980s Drug Panic (Church)	
Week 13	Dr. Church	Music festivals and raves have grown more popular in recent years. Festival drugs, music, and synthetic	"Adolescents and Drug Abuse: 21 st Century Synthetic Substances", Yin (2019) –
Nov 19, 21	Raves, EDM, and the rise of festivals.	drugs will be discussed.	uploaded to Blackboard
Quiz #4 – 21 Nov	Chemical and biological warfare in antiquity and modern day	Discuss the ethical considerations of the use of chemical agents on populations and the data collected.	EPA's 2006 Human-Subjects Rule for Pesticide Experiments <u>http://www.tandfonline.com/doi/full/10.1080</u> /08989620701670161?mobileUi=0&
		19 Nov – Synthetic music and Synthetic drugs 21 Nov – Chemical and biological warfare	The Ethical Use of Unethical Human Research <u>http://bioethics.as.nyu.edu/docs/IO/30171/St</u> <u>einberg.HumanResearch.pdf</u>
Week 14	Dr. Church	Understand the development and uses of chemical and biological warfare	"History of the Concept of Addiction" Nathan, P. (2016) – uploaded to Blackboard
Nov 26	History of the Diagnosis of Addiction	26 Nov – Diagnosis of Addiction	
Week 15	Dr. Davies Dr. Church	Clinical Case review of alcohol at LAC+USC	
Dec 3, 5	Alcohol Clinical Case Review Review for Final	 3 Dec – Alcohol Case Review (Davies) 5 Dec – Review for Final Exam (Church) 	
	Final Exa	m Week - Thursday, 12 Dec; 2pm	-4pm

STATEMENT ON ACADEMIC CONDUCT AND SUPPORT SYSTEMS

Academic Conduct:

Plagiarism – presenting someone else's ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in *SCampus* in Part B, Section 11, "Behavior Violating University Standards" <u>policy.usc.edu/scampus-part-b</u>. Other forms of academic dishonesty are equally unacceptable. See additional information in *SCampus* and university policies on scientific misconduct, http://policy.usc.edu/scientific-misconduct.

Support Systems:

Student Counseling Services (SCS) – (213) 740-7711 – 24/7 on call Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention. <u>engemannshc.usc.edu/counseling</u>

National Suicide Prevention Lifeline – 1 (800) 273-8255

Provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week. <u>www.suicidepreventionlifeline.org</u>

Relationship and Sexual Violence Prevention Services (RSVP) – (213) 740-4900 – 24/7 on call Free and confidential therapy services, workshops, and training for situations related to gender-based harm. <u>engemannshc.usc.edu/rsvp</u>

Sexual Assault Resource Center

For more information about how to get help or help a survivor, rights, reporting options, and additional resources, visit the website: <u>sarc.usc.edu</u>

Office of Equity and Diversity (OED)/Title IX Compliance – (213) 740-5086 Works with faculty, staff, visitors, applicants, and students around issues of protected class. <u>equity.usc.edu</u>

Bias Assessment Response and Support

Incidents of bias, hate crimes and microaggressions need to be reported allowing for appropriate investigation and response. <u>studentaffairs.usc.edu/bias-assessment-response-support</u>

The Office of Disability Services and Programs

Provides certification for students with disabilities and helps arrange relevant accommodations. <u>dsp.usc.edu</u>

Student Support and Advocacy – (213) 821-4710

Assists students and families in resolving complex issues adversely affecting their success as a student EX: personal, financial, and academic. <u>studentaffairs.usc.edu/ssa</u>

Diversity at USC

Information on events, programs and training, the Diversity Task Force (including representatives for each school), chronology, participation, and various resources for students. <u>diversity.usc.edu</u>

USC Emergency Information

Provides safety and other updates, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible. <u>emergency.usc.edu</u>

USC Department of Public Safety – UPC: (213) 740-4321 – HSC: (323) 442-1000 – 24-hour emergency or to report a crime. Provides overall safety to USC community. dps.usc.edu

Short Essays (4 in total)

Grading will be based upon the quality of your analysis and how clearly you present the information within your essay. You are expected to incorporate key terms and concepts you have learned in this course. Points will be deducted for grammar, punctuation, spelling, and technical errors. You should start with a brief outline for your essay, create a rough draft, and then produce a final draft. *The final draft of each essay is the only document you need to submit.*

These are reaction / response essays to the material covered in lecture; your essays must consist of:

- A. **An Introduction paragraph**, which contains a minimum of two sentences that introduces your answer to the reader and establishes a foundation for the remainder of your answer.
- B. **Body paragraph**(s), which present the major content of your answer. Include at least one body paragraph with three or four sentences within the paragraph.
- C. A conclusion paragraph, which contains a minimum of two sentences and summarizes the major points contained in the body paragraphs.

In writing a good reaction paper, it is not enough to simply praise the strengths or criticize the weakness of the lecture or reading material. More than that, students must be able to justify their "reaction". It is important to provide the reasons why, for example, the information related to prohibition was compelling, or why the argument of a particular historical figure resonates a strong message with you.

Format Requirements

Carefully follow the format requirements below. Any variation will result in lost points or no credit.

- Margins = 1 inch
- Font type = Arial, Times New Roman, or any Sans type font
- Font size = 11 point
- <u>2 pages (double spaced) (references not included)</u>
- Use week number to indicate your topic (e.g. Week 3 Rome)
- Filename should have your last name and first name (e.g. Trojan_Tommy_ShortEssay1)
- Acceptable file formats:
 - Word (DOC or DOCX)
 - No other formats will be accepted!

Direct Quotations

These essays are expected to be written in your own words therefore no more than 5% of the essay should be quoted or copied word – for – word. If you submit an essay with more than 5% quoted material, you will be penalized one point for each percentage above 5%. If you submit an essay with more than 15% quoted material, you will receive an automatic zero.

APA Citations

THIS IS NOT AN APA paper; however, you are expected to demonstrate understanding of the rules of plagiarism and expected to use APA style citations appropriately, which include in-text and full citations with a Reference page.

You are expected to cite at least $\underline{2}$ sources (class books and articles, articles from journals, books, etc) per essay. You will be penalized $\underline{-5}$ points for each missing resource.

Do NOT use Wikipedia or any other similar form of wiki to write these essays.

General Topics and Weekly Submission Dates

(Essays are due the week after their presentation date, see table below for submission dates)

Essay Topic Week Number	Essay Topic	Due Date (by 2pm)
2	Paleolithic and Neolithic Ages	10 Sep
3	Dynastic Egypt and Ptolemaic Kingdom	17 Sep
4	Greco-Roman Ethics and Blood	24 Sep
5	Silk Road and The Americas	1 Oct
6	Renaissance Poisons and The Maritime Empires	8 Oct
7	The Opium Wars	15 Oct
9	Industrial Revolution of 19 th Century	22 Oct
10	Pain and 20 th Century Drugs	5 Nov
11	Drug enforcement, Legal action, and Ethical considerations	12 Nov
12	Sugar and 1980s Drug Panic	19 Nov
13	Synthetic Music and Drugs; Duck and Cover	26 Nov
14	History of the Diagnosis of Addiction	3 Dec

Students will sign up to submit topics through Blackboard by going to the Content tab; selecting the Reaction Paper Sign-up link.

Students are required to submit 4 reaction / response papers based on the weekly class topics summarized in the table above. Once the due date has passed, no papers will be accepted for that topical week. Which means an essay on prehistoric drugs (Week 2) cannot be submitted when we are in Week 9.

General Essay Template

Introduction

The introduction serves two key functions -

- 1) it gets your reader interested in the topic and encourages them to read your argument; and
- 2) it acts as a roadmap of what you are going to say and provides the overarching point you plan on making i.e. your thesis statement.

All topic sentences should relate to the thesis statement.

	Body Paragraph 1	
Topic Sentence	(repeat format for each of the body paragraphs)	
Topic Sentence		
• Evidence		
Citation -		
• Evidence		
Citation -		
• Evidence		
Citation -		
• Analysis		

Concluding Paragraph

In a concluding paragraph, you must summarize what you have written about in your essay.

You should bring back your main statement.

The conclusion should leave the readers with something to consider.

Concluding paragraphs should convey a sense of completeness and closure to the topics discussed.

There should be a sense of the lingering possibilities of the topic, perhaps its broader meaning... or its implications.

The final paragraph should close your topic without closing it off.

Paragraph Transitions

Do the paragraphs build directly on the one before?

How?

References – use in-text citations throughout your essay and provide a complete Works Cited / Bibliography at the end.