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Office Hours: 3 hours per week per instructor

Course Weight: 4 units

Days/Time/Location: Tue, Thur; 2:00-3:20pm; SOS B46

**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 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 C and GE H 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
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- 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, two take home written essays and class participation.

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<thead>
<tr>
<th>Component</th>
<th>Points</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Participation</td>
<td>20 pts</td>
<td>(10%)</td>
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<tr>
<td>4 quizzes @ 10 pts each</td>
<td>40 pts</td>
<td>(20%)</td>
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<tr>
<td>1 midterm exam @ 30 pts:</td>
<td>30 pts</td>
<td>(15%)</td>
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<tr>
<td>1 final exam (partially cumulative):</td>
<td>60 pts</td>
<td>(30%)</td>
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<tr>
<td>2 short written essays @ 25points:</td>
<td>50 pts</td>
<td>(25%)</td>
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<tr>
<td>Total:</td>
<td>200 pts</td>
<td>(100%)</td>
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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.

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.

15% 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% Two essays (each worth 12.5% of your class grade) will be required and 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. No late essays will be accepted for any reason short of a serious, documented emergency. An official note explaining why you were unable to write the essay will be required for an extension.

Participation: worth 10% of your class grade. To receive full credit, you must attend class regularly and turn in brief responses during class. It is your responsibility to make sure that you attend class consistently. Two critical reading responses (max 1 page) will also be required over the course of the semester as part of your participation grade (details to be announced later).

Grading is as follows:

- 90-100% = A
- 80-89% = B
- 70-79% = C
- 60-69% = D
- below 60 = F

Pluses and minuses are as follows: B+ means 87 through 89; A- means 90 through 93, etc.

There are no make-up exams. 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. A Brief History of Drugs: From the Stone Age to the Stoned Age (2009). Park Street Press_

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.

- [https://www.elsevier.com/books/history-of-toxicology-and-environmental-health/wexler/978-0-12-801506-3](https://www.elsevier.com/books/history-of-toxicology-and-environmental-health/wexler/978-0-12-801506-3)
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.
<table>
<thead>
<tr>
<th>Week &amp; Date</th>
<th>Topic</th>
<th>Subtopics to be Included</th>
<th>Assigned and Supplemental Reading</th>
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<tbody>
<tr>
<td>Week 1</td>
<td>Dr. Davies</td>
<td>Basic Principles; The who and why drugs are used to treat disease; Drug-Body interactions: Pharmacodynamics (PD); What is Pharmacology: <a href="https://www.youtube.com/watch?v=PQ2mnrf2z8&amp;feature=youtu.be">https://www.youtube.com/watch?v=PQ2mnrf2z8&amp;feature=youtu.be</a> Ligand-receptor binding activation of signal transduction. Ligand gated ion channels (LGICs) G-protein coupled receptors (GPCRs)</td>
<td>Required watching to prepare for week two lectures. Basics on Pharmacokinetics/pharmacodynamics: <a href="https://www.youtube.com/watch?v=NKV5iaUVBUI">https://www.youtube.com/watch?v=NKV5iaUVBUI</a> Very brief overview of PD and PK: Youtube: <a href="https://www.youtube.com/watch?v=tobx537kFal">https://www.youtube.com/watch?v=tobx537kFal</a></td>
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<tr>
<td>Aug 21, 23</td>
<td>Introduction: expectations and goals of this class. Basic principles of pharmacology. Principles of Pharmacodynamics (PD) Drug Receptors &amp; PD Meet other faculty in the course</td>
<td><strong>Week 2</strong></td>
<td>Dr. Church</td>
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<td>Aug 28, 30</td>
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<tr>
<th>Week &amp; Date</th>
<th>Topic</th>
<th>Subtopics to be Included</th>
<th>Assigned and Supplemental Reading</th>
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<tr>
<td><strong>Week 3</strong></td>
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<tr>
<td>Sept 4, 6</td>
<td>Dr. Church</td>
<td>Ancient Egyptian Medicine</td>
<td>The healers from pharaonic times are poorly documented as compared with those from Greece and Rome -- the understanding and use of medicines is only partially understood. Sept 4 – Old and New Kingdom Sept 6 – Ptolemaic Kingdom Drug Therapy, magic and religion in Egyptian medicine Chapters 5 &amp; 7 in the below free text. &lt;br&gt;<a href="https://books.google.com/books?id=WfEnVU6z8IC&amp;printsec=frontcover&amp;source=gbs_ge_summary_r&amp;cad=0#v=onepage&amp;q&amp;amp;f=false">https://books.google.com/books?id=WfEnVU6z8IC&amp;printsec=frontcover&amp;source=gbs_ge_summary_r&amp;cad=0#v=onepage&amp;q&amp;amp;f=false</a></td>
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<tr>
<td>Quiz #1 –</td>
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<td>Sept 6</td>
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<tr>
<td><strong>Weeks 4</strong></td>
<td>Dr. Church</td>
<td>Graeco-Roman Medicine</td>
<td>Understand the early development of medicines in Ancient Egypt Gain insights into writings of the Ancient Egyptians regarding their understanding of disease and remedies Sept 11 – Greece Sept 13 - Rome A Brief History of Drugs Chapters 2 &amp; 3 The Greek Way of Herbal Healing <a href="http://www.greekmedicine.net/therapies/Herbal_Medicine.html">http://www.greekmedicine.net/therapies/Herbal_Medicine.html</a></td>
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<td>Sept 11, 13</td>
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<td>Sept 18</td>
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# USC School of Pharmacy
## RXRS 201: The History and Geography of Drugs

| Week 5 | The Discovery of the Americas | The conquistadors
Maya, Aztec, and Inca Medicines: Herbs of the America’s for healing, pleasure and sacrifice | **A Brief History of Drugs  Chapter 8**
Aztec Medicine:
http://ambergriscaye.com/pages/mayan/aztecmedicine.html |
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<td><strong>Sept 20</strong></td>
<td><strong>Quiz #2</strong></td>
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| Week 6 | **First Short Essay Due – 13 February 2018** | | **A Brief History of Drugs  Chapter 9**
To the victors the spoils: Hong Kong |
|---|---|---|---|
| **Week 6** | **Dr. Church**
Maritime Empires and
The Opium Wars | The Age of Discovery led to geographical and political conflicts over trade, rum, and opium in an era where navies, privateers, and pirates vied for their share of the bounty.
Two armed conflicts in China in the mid-19th century between the forces of Western countries and of the Qing dynasty, which ruled China from 1644 to 1911/12.
Sept 25 – Maritime Empires
Sept 27 – Celestial Empire and Opium Trade | |
| **Sept 25, 27** | **Essay – 25 Sept** | | |

| Week 7 | **Dr. Church**
The 19th Century | The influence of dye companies; chemists, pharmacists and doctors and their influence on psychoactive drugs. “Snake Oil”
Oct 2 – Quackery, Charlatans, and Pseudomedicine
Oct 4 – Scientific Advances, Chemical Compounds, and Technical Advances | **A Brief History of Drugs  Chapters 10 & 11** |
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<td><strong>Oct 2, 4</strong></td>
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| Week 8 | **Dr. Jakowec**
New Drugs; 20th Century Psychedelics
Return of the Repressed | The discovery of the amines and their euphoric and toxic effects – amphetamines and others. The influence of psychedelics and how they changed the course of history. The golden years and the societal pushback. | **A Brief History of Drugs  Chapter 12**
**A Brief History of Drugs  Chapters 15 & 16** |
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<td><strong>Oct 9, 11</strong></td>
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| Week 9 | Discussion of current events and how they relate to historical drugs that affected society.  
**Oct 16**  
**Review for Mid Term** |
|---|---|
| Week 9 | Mid Term Exam  
**Oct 18** |
| Week 10 | Dr. Pacifici  
Modern day Pharmaceutics  
A brief overview of the drug discovery process, the pharmaceutical industry and the FDA. This will include discussion of a popular drug used by pregnant women during the 1960’s that led to a severe birth defect known as “phocomelia” where babies are born with defective limbs. These events led to the establishment of the modern US regulatory structure.”  
The Pharmaceutical Industry – The Good, the Bad and the Ugly  
Required reading to prepare for class lecture:  
https://www.fda.gov/AboutFDA/WhatWeDo/History/Overviews/ucm304485.htm  
**Oct 23, 25** |
| Week 11 | Dr. Jakowec  
The Era of substitutes  
Societies attempts to regulate illicit drug trade. War on Drugs. Recent events discussed – The Killing Time: Inside Philippine President Rodrigo Duterte's War on Drugs  
A Brief History of Drugs Chapter 17  
http://time.com/4462352/rodrigo-duterte-drug-war-drugs-philippines-killing/  
**Oct 30, Nov 1**  
**Quiz #3** |
| Week 12 | Dr. Culty  
The history of the development of forensic toxicology as a discipline to provide evidence of exposure to poisons  
Understand the development of assays to measure poisons  
Understand has forensic toxicology has progressed with time to enable determination of cause of death  
Introductory Chapter, Emsley, 2008  
Langman and Kapur, 2006  
**Nov 6, 8** |
| Week 13 | Dr. Culty  
The use of poison to influence history during the Renaissance Era  
Understand how poisoning developed as an art during the Renaissance Era  
Evaluate how the Dinner Party poisonings of the Borgia family influence history  
**Nov 13, 15** |
<table>
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<tr>
<th>Week 14</th>
<th>Second short essay due – 20 Nov</th>
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<tbody>
<tr>
<td>Week 14</td>
<td>Dr. Church</td>
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<td>Nov 20</td>
<td>History of the use poisons in the Court of James I of England-Thomas Overbury</td>
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<tr>
<td>Quiz 4</td>
<td>Understand how Renaissance courts used many means to influence outcomes Investigate the means necessary to dispatch a political enemy by poisons</td>
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<td>Writings of Sir Frances Bacon <a href="http://www.bartleby.com/209/247.html">http://www.bartleby.com/209/247.html</a> Emsley, Elements of Murder, Chapter 4</td>
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<tr>
<th>Week 15</th>
<th>Dr. Church</th>
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<tr>
<td>Nov 27, 29</td>
<td>Chemical and biological warfare in antiquity and modern day</td>
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<td>Understand the development and uses of chemical and biological warfare Discuss the ethical considerations of the use of chemical agents on populations and the data collected</td>
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**Final Exam Week**

6 Dec
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 Section 11, Behavior Violating University Standards. Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus and university policies on scientific misconduct.

Discrimination, sexual assault, and harassment are not tolerated by the university. You are encouraged to report any incidents to the Office of Equity and Diversity or to the Department of Public Safety. This is important for the safety of the whole USC community. Another member of the university community – such as a friend, classmate, advisor, or faculty member – can help initiate the report, or can initiate the report on behalf of another person. The Center for Women and Men provides 24/7 confidential support, and the sexual assault resource center webpage describes reporting options and other resources.

Support Systems

A number of USC’s schools provide support for students who need help with scholarly writing. Check with your advisor or program staff to find out more. Students whose primary language is not English should check with the American Language Institute, which sponsors courses and workshops specifically for international graduate students. The Office of Disability Services and Programs provides certification for students with disabilities and helps arrange the relevant accommodations. If an officially declared emergency makes travel to campus infeasible, USC Emergency Information will provide safety and other updates, including ways in which instruction will be continued by means of blackboard, teleconferencing, and other technology.

Emergency Preparedness/Course Continuity:

In case of emergency, and travel to campus is difficult, USC executive leadership will announce an electronic way for instructors to teach students in their residence halls or homes using a combination of Blackboard, teleconferencing, and other technologies. Instructors should be prepared to assign students a "Plan B" project that can be completed at a distance. For additional information about maintaining your classes in an emergency please access:

http://cst.usc.edu/services/emergencyprep.html