

## Medicine Science and the Dawn of Reason

UF Quest 1/Nature and Culture CLA 1812

General Education: Humanities, Writing (2000 words) 3 credit hours.

[Note: A minimum grade of C is required for General Education credit]

Class resources, announcements, updates, and assignments will be made available through the class Canvas site: <https://ufl.instructure.com/courses/550060>

Instructor	Teaching Assistant
Konstantinos Kapparis, Professor of Classics Office: 135 Dauer Hall. Office hours: T. 1-2 pm, R. 1-2 pm. Emailing for an appointment, even during office hours, will ensure that there will be no waiting time.	Belkis Abufaur <a href="mailto:b.abufaur@ufl.edu">b.abufaur@ufl.edu</a>  Katie Franklin <a href="mailto:k.franklin@ufl.edu">k.franklin@ufl.edu</a>

### Course Description

The creative period of Ancient Greek Medicine and Medical Ethics, from Hippocrates to Galen, defined and circumscribed medical science and ethics as we know them in the western tradition. This course offers a thorough introduction to ancient Greek medical science and practice, ancient pharmacology and its connection with the natural world, and the earliest attempts of tackling important issues in medical ethics. Students will be encouraged to confront and evaluate important questions of our times such as the relationship between humans and their environment as it has evolved through time, the interactions between religion, folk tradition and scientific thinking, the sustainable employment of natural resources for the benefit of humanity, medically assisted euthanasia, abortion, the economics of medical treatment, gendered approaches to medical practice, the interactions between patient and health care provider, concepts of human progress and the value of scientific thinking and methodology. The course is interdisciplinary by nature standing at the intersection between medical humanities and historical studies, and crosses into the fields of medical and biological sciences, botany, pharmacology, ethics, history, Greek literature, the Humanities and religion. As part of the “Nature and Culture” theme, part of it presents a historical narrative on the development of humanity and its passage from superstition and irrational belief to the era of reason and scientific inquiry. Another part of it asks important ethical questions and challenges students to consider these issues, but more importantly to appreciate and evaluate the processes involved in reaching safe, data-based, logical conclusions. Finally, the course offers a thorough exploration of the interactions between human and environment in the attempt to understand the natural world, unlock its rules and secrets, and seek treatments for disease in the informed and harmonious interaction between humanity and its environment.

### Telegraph Course Description

This interdisciplinary course invites students to examine the passage of humanity into the era of reason and the development of medical science and ethics. As part of the “nature and culture” theme, it presents a historical narrative on the passage of humanity from superstition to the era of scientific inquiry as represented throughout the western canon and world literatures.

### QUEST 1 SLOS: Quest 1 and Gen Ed Descriptions and Student Learning Outcomes

- QUEST 1 DESCRIPTION: Quest 1 courses are multidisciplinary explorations of truly challenging questions about the human condition that are not easy to answer, but also not easy to ignore: What makes life worth living? What makes a society a fair one? How do we manage conflicts? Who are we in relation to other people or to the natural world? To grapple with the kinds of open-ended and complex intellectual challenges they will face as critical, creative, and self-reflective adults navigating a complex and interconnected world, Quest 1 students use the humanities approaches present in the course to mine texts for evidence, create arguments, and articulate ideas.
- QUEST 1 SLOs:
  - Identify describe and explain the history, theories, and methodologies used to examine the dawn of Science and reason, and illustrate how they inform us about the human condition, and its subsequent development. (Content)
  - Develop and present clear and effective responses to essential questions on Science, Medicine, and the intellectual atmosphere, which have allowed them to flourish and change the course of humanity. (Communication)
  - Analyze and evaluate essential questions about the human condition using the development of scientific inquiry as a platform for such analysis. (Critical Thinking)
  - Connect the strong links between science, its political background and its ties with humanities, with critical reflection on their intellectual, personal, and professional development at UF and beyond. (Critical Thinking)
- HUMANITIES DESCRIPTION: Humanities courses provide instruction in the history, key themes, principles, terminology, and theory or methodologies used within a humanities discipline or the humanities in general. Students will learn to identify and to analyze the key elements, biases and influences that shape thought. These courses emphasize clear and effective analysis and approach issues and problems from multiple perspectives.
- HUMANITIES SLOs:
  - Identify, describe, and explain the history, underlying theory and methodologies used.
  - Identify and analyze the relevant factors that shape thought within the subject area.
  - Approach issues and problems within the discipline from multiple perspectives.
  - Communicate knowledge, thoughts and reasoning clearly and effectively.
  - Identify and analyze key elements, biases and influences that shape thought within the subject area.
  - Approach issues and problems within the discipline from multiple perspectives (Critical Thinking).
  - Communicate knowledge, thoughts and reasoning clearly and effectively (Communication).
- WRITING DESCRIPTION: The Writing Requirement (WR) ensures students both maintain their fluency in writing and use writing as a tool to facilitate learning. The writing course grade assigned by the instructor has two components: the writing component and a course grade. **To receive writing credit a student must satisfactorily complete all the assigned written work and receive a minimum grade of C (2.0) for the course.** It is possible to not meet the writing requirement and still earn a minimum grade of C in a class, so students should review their degree audit after receiving their grade to verify receipt of credit for the writing component.
- WRITING EVALUATION:

- This course carries 2000 words that count towards the UF Writing Requirement. You must turn in all written work counting towards the 2000 words in order to receive credit for those words.
- The instructor will evaluate and provide feedback on the student's written work with respect to content, organization and coherence, argument and support (when appropriate), style, clarity, grammar, punctuation, and other mechanics, using the writing rubric below.

**Writing Assessment Rubric:**

	<b>Satisfactory</b>	<b>Unsatisfactory</b>
<b>CONTENT</b>	Papers exhibit at least some evidence of ideas that respond to the topic with complexity, critically evaluating and synthesizing sources, and provide at least an adequate discussion with basic understanding of sources.	Papers either include a central idea(s) that is unclear or off-topic or provide only minimal or inadequate discussion of ideas. Papers may also lack sufficient or appropriate sources.
<b>ORGANIZATION AND COHERENCE</b>	Documents and paragraphs exhibit at least some identifiable structure for topics, including a clear thesis statement but may require readers to work to follow progression of ideas.	Documents and paragraphs lack clearly identifiable organization, may lack any coherent sense of logic in associating and organizing ideas, and may also lack transitions and coherence to guide the reader.
<b>ARGUMENT AND SUPPORT</b>	Documents use persuasive and confident presentation of ideas, strongly supported with evidence. At the weak end of the Satisfactory range, documents may provide only generalized discussion of ideas or may provide adequate discussion but rely on weak support for arguments.	Documents make only weak generalizations, providing little or no support, as in summaries or narratives that fail to provide critical analysis.
<b>STYLE</b>	Documents use a writing style with word choice appropriate to the context, genre, and discipline. Sentences should display complexity and logical sentence structure. At a minimum, documents will	Documents rely on word usage that is inappropriate for the context, genre, or discipline. Sentences may be overly long or short with awkward construction. Documents may also use

	display a less precise use of vocabulary and an uneven use of sentence structure or a writing style that occasionally veers away from word choice or tone appropriate to the context, genre, and discipline.	words incorrectly
MECHANICS	Papers will feature correct or error-free presentation of ideas. At the weak end of the Satisfactory range, papers may contain some spelling, punctuation, or grammatical errors that remain unobtrusive so they do not muddy the paper's argument or points.	Papers contain so many mechanical or grammatical errors that they impede the reader's understanding or severely undermine the writer's credibility.

#### Student Learning Outcomes

Reflecting the curricular structures of Quest 1 and these Gen Ed designations, after taking Science and the Dawn of Reason students will be able to:

1. Identify, describe, and explain the historical processes involved in the passage of humanity into the era of Reason, and of the history of Medicine and Science, Medical Ethics, scientific inquiry, rational quest, experimentation and the study of the natural world for the benefit of humanity, as well as humanity's place in the natural world. **(Content SLOs for Gen Ed Hum, and Q1)**
2. Analyze and evaluate some important culture texts from the early Greek scientists and natural philosophers, as well as some comparable texts from other ancient traditions such as Ancient Egyptian, Babylonian, Ayurvedic, or Chinese, using established practices appropriate to the arts and humanities **(Critical Thinking SLOs for Gen Ed Hum, and Q1)**
3. Analyze and evaluate how scientific methodologies and rational inquiry initially developed and explain how their employment changed the course of humanity's history **(Critical Thinking SLO for Gen Ed Hum, and Q1)**
4. Analyze and evaluate essential questions about the progress of humanity on the basis of reason **(Critical Thinking SLO for Gen Ed Hum, and Q1)**
5. Observe and evaluate the role arts and humanities play in the lives of individuals and societies and the role they might play in students' undergraduate degree programs. **(Communication SLO for Gen Ed Hum, and Q1)**
6. Analyze, evaluate, and critically reflect on connections between course content and their intellectual, personal, and professional development at UF and beyond **(Critical Thinking SLO for Q1)**
7. Develop and present clear and effective responses to essential questions about the history of medicine, science, rational Inquiry, and other relevant humanities disciplines intersected during the course into the course **(Communication SLO for Gen Ed Hum and Q1).**

### Grading Scale

10 online quizzes = 40 %

Midterm = 15 % (10% is based on multiple choice questions, and 5% on one essay-format question)

Final = 15 % (10% is based on multiple choice questions, and 5% on one essay-format question)

Participation = 10 %

Paper (2000 words, **due by Oct. 22; 2<sup>nd</sup> draft due by Nov. 5; 3<sup>rd</sup> draft due by Nov. 19**) = 10%

Experiential Learning Report. **Due by Dec. 3** = 10%

A= 94-100% of points possible	A- =90-93%	
B+=87-89%;	B=84-86%	B- =80-83%
C+=77-79%	C=74-76%	C- =70-73%
D+=67-69%	D=64-66%	D- =60-63%
<60=E		
Decimal points will be rounded up if higher than .5		

More information on UF grading policy is [available here](#).

### Required Books:

Required books for class and the recommended writing guide are available at the UF Bookstore.

Recommended books are available in Library West, or they can be purchased from any retailer.

Vivian Nutton, *Ancient Medicine*, London: Routledge, 2013.

**Strunk, William and White, E.B. *The Elements of Style*. 4<sup>th</sup> edition.** Pearson Education Limited 2014.

### Recommended Texts:

James Longrigg. *Greek Rational Medicine: Philosophy and Medicine from Alcmaeon to the Alexandrians*.

London: Routledge, 1993

Helen King. *Greek and Roman Medicine*. Reprint. Classical World Series. Bristol, U.K.: Bristol Classical Press, 2002. xi + 73 pp. (a brief survey for basic understanding).

Lesley Dean-Jones, *Women's Bodies in Classical Greek Science*. Oxford: Clarendon Press, 1994.

Important Source Materials (available online at no additional cost; all links to source materials will be available on Canvas; the same applies to Powerpoints and other course materials):

- Homer, *Iliad*, Book 1
- The Ebers Papyrus (pdf file will be uploaded to Canvas)
- Extracts from the *Materia Medica* of Ayurveda
- Hippocrates *The Oath, The Physician, On Decorum, The Sacred Disease, Nature of Man, Airs Waters Places, On Diet*.
- Soranus: *Gynaecology*, The Best Midwife
- Thucydides Book 2: The Plague
- Extracts from Galen on Cosmetic Medicine
- Giovanni Boccaccio, *The Decameron*, Introduction: The Plague

List of Weekly topics:

## **WEEK 1. Introduction/Class Administration**

Why is the study of ancient Greek medical literature and medical ethics still important in the 21st century, and how it addresses the essential question of the interaction between humans and their environment, especially in relation to medicinal treatments and the development of medical and scientific thinking.

## **2. Medicine Before Hippocrates**

(We will explore practices in Folk medicine and traditional healing practices before the arrival of rational medicine in ancient Greece, Egypt, Babylon, India, China, and Rome, including natural treatments and the impact local resources had on the development of medical practices).

Readings:

Nutton, pp. 37-52

The Ebers Papyrus (Unpaginated handout on Canvas)

Homer, Iliad Book 1 (Unpaginated handout on Canvas)

## **3. The arrival of rational medicine**

(This week we will look into some of the groundbreaking developments that led to the establishment of rational medicine, like the inquiries of the pre-Socratic natural philosophers, and how they culminated in the development of the theory of the Four Humors. We will also compare the Theory of the Four Humors with similar concepts in Ayurvedic and traditional Chinese medicine. Our objective is to understand how humans used available natural resources, and how they developed a rational system of explanation for health, disease and treatment).

Readings:

Nutton 53-71

Extracts from the *Materia Medica* of Ayurveda, on Canvas

Hippocrates, *Nature of Man*, on Canvas

## **4. Medical practice in the Classical Greek World; Surgery and Orthopedics**

(Following several studies in the Hippocratic corpus discussing the ideal physician, as well as of the appropriate conditions of practicing medicine will get some valuable insights into how the pioneers of medical science exercised their art, how they used natural resources and how they correlated the environment with explanations and treatments for health and disease.)

Readings:

Nutton 87-103

Hippocrates *The Physician* (Unpaginated handout on Canvas)

### **5. Medical Ethics in the Classical Period**

(Here and will take a look into some important matters on ancient medical ethics, which is still a matter of intense debate, like abortion, contraception, euthanasia, finances, and gender. This class focuses on important ethical questions which are still important in our times, and challenges students to consider these issues).

Readings:

Hippocrates *The Oath* (Unpaginated handout on Canvas)

Hippocrates *On Decorum* (Unpaginated handout on Canvas)

### **6. Plagues and Epidemics**

(We will take a look into the theories on ancient epidemiology, will read the description of a major plague in classical Athens, and descriptions of diseases through the notes of the wandering physicians who wrote the books of the *Epidemics*. Environmental factors, and the desire to figure out the nature of epidemic diseases and not infrequently lethal pandemics, and ways and appropriate behaviors to tackle them are an important part of the challenges which humans have faced and we are still facing).

Readings:

Thucydides Book 2: the Plague (Unpaginated handout on Canvas)

Giovanni Boccaccio, *The Decameron*, Introduction: The Plague (Unpaginated handout on Canvas)

### **7. Environmental medicine; Diet and Lifestyle as Health Concerns**

(We will be focusing upon the theories of Greek physicians about the influence of the environment on health and disease, as well as their often successful efforts in assisting patients with chronic diseases by simply suggesting improvements in their lifestyle and living conditions).

Readings:

Hippocrates *Airs, Waters, Places* (Unpaginated handout on Canvas)

Nutton 254-279

Hippocrates *On Diet* (Unpaginated handout on Canvas)

### **8. REVIEW AND MIDTERM EXAM**

### **9. The learning process: Scientific Methodology and Health.**

(Here will have the opportunity to study how the ancient physicians gained knowledge, what kind of methods they used in their attempts to understand disease, and how they applied such methods into

the therapeutic regimes. The progression of humanity from superstition to reason, and from belief to scientific thought is an important part of this lecture).

Readings:

Nutton 72-86, and 130-141

### **10. Antenatal life and biological theories about human life**

(Here who will study some of the works on antenatal life, and ancient theories on how it was created, and what made a human being. Significant questions about the methodologies used to understand antenatal life and significant ethical questions which arose from the nature and vulnerability of antenatal life are addressed, and these should help students better understand some important ethical issues in our times and reflect on these).

Readings:

Nutton 91-206

Soranus, *Gynaecology*: The best midwife (Unpaginated handout on Canvas)

## **11. EXPERIENTIAL LEARNING WEEK**

### **Theme: Circular Health, Past, Present and Future**

(see below the relevant section for further details)

### **12. Nature's arsenal: the origins of pharmacology**

(This week will discuss how natural substances were used by ancient pharmacology to create drugs intended to help the patient in distress, initially through simple recipes, but eventually through complex composite drugs. The utilization of natural resources for the benefit of humanity is at the core of this lecture).

Reading:

Nutton 174-190

## **13. THANKSGIVING HOLIDAY, NO CLASSES**

### **14. The physician and the god of healing**

(This week explores how rational medicine and faith worked hand by hand to improve a patient's chances of recovery in the Asklepeia, and other religious places which offered the hope of healing and recovery to patients. Students are invited to reflect on the relationship between rational medicine and its treatments, religion and folk tradition, in the past and the present).

Readings:

Hippocrates: *The Sacred Disease* (Unpaginated handout on Canvas)



Nutton: 104-115

REVIEW

## 15. (Dec. 6) FINAL EXAM

### Assignments:

- 10 online quizzes = 50 % (Advances SLOs 1, 2, 3, 7)  
(12 quizzes will be offered, one for each week except week 1, Springbreak, week 9 and week 16; the 10 best will count).
- Midterm = 15 % (10% is based on multiple choice questions, and 5% on one essay-format question).  
(Advances SLOs 1, 2, 3, 4, 5, 7)
- Final = 15 % (10% is based on multiple choice questions, and 5% on one essay-format question).  
(Advances SLOs 1, 2, 3, 4, 5, 7)
- Paper (2000 words, **due by Oct. 22; 2<sup>nd</sup> draft due by Nov. 5; 3<sup>rd</sup> draft due by Nov. 19**) = 10% (as described above). The 3<sup>rd</sup> draft of the paper is the final version that students are to hand in.  
(Advances SLOs 1, 2, 3, 4, 7)

TOPIC: Taking into account the version of the Hippocratic Oath which UF medical graduates take, and comparing it with the original Hippocratic Oath, discuss the issues of Medical Ethics on which the two texts diverge, and explain why these changes to the original text have been deemed necessary, in the light of modern discussions on relevant ethical issues in Medical practice.

### Notes:

1. There is no expected right or wrong answer. All well-argued points are acceptable, and the objective is not so much to get to the “right” answer, but rather to develop a methodology of arguing a case, and to improve on writing skills. So, there is no need to be pedantic with your arguments. Be imaginative and creative.
2. You MUST stick to the topic. This is very important because the skill to focus on a specific aspect of the subject is crucial for good writing.
3. A brief set of further instructions on how to complete your research and write your paper is published online. These are simply meant to be common-sense and easy to follow guidelines, NOT obligatory requirements. Here is the URL with my suggestions:  
<http://web.clas.ufl.edu/users/kapparis/esinstructions.htm>

**Writing Resources:** Students should consult the following book: **Strunk, William and White, E.B. *The Elements of Style*. 4<sup>th</sup> edition.** Pearson Education Limited 2014. This is a very modestly priced, concise and useful book.

It is also highly recommended to take advantage of the rich resources offered by the **University Writing Studio**. Writing Studio: Daytime (9:30am-3:30pm): 2215 Turlington Hall, 352-846-1138 | Evening (5:00pm-7:00pm): 1545 W University Avenue (Library West, Rm. 339). Help brainstorming, formatting, and writing papers.

- Experiential Learning Component Report (c. 1000 words, **due by Dec. 3**) = 10%

### **Experiential Learning Component Project**

**Contact:** Dr. Sara Agnelli  
[saraclassics@ufl.edu](mailto:saraclassics@ufl.edu)

#### **THEME: Circular Health: Past, Present and Future**

**DESCRIPTION:** The objective of this project is to invite students to learn about the concept of “Circular Health”. Dr. Agnelli, the Assistant Director for Graduate Engagement, will be invited to give a lecture about “Circular Health”. Following, students will attend a workshop where they will analyze real-world global health challenges by using the One Health approach. It will be worth 10% of the grade.

**Purpose of experiential learning:** Students will learn and use the One Health approach to better understand and address world challenges, such as climate change, poverty, and inequalities. Considering that many students might be interested in a career in the health professions, this project is expected to offer valuable insights in the earlier years of their undergraduate studies, and advances SLOs 3, 4, 5, 6, 7.

#### **WHAT IS ONE HEALTH**

The One Health philosophy underlines the idea that the health of coexisting humans, animals, and plants in one environment is interconnected. Governing this interconnection is key to achieving the health of the whole system. One Health is a conceptual framework aiming at understanding the links and dependencies between the health of humans, animals, plants and the environment. One Health strives to bring all the different disciplines and perspectives towards the optimization of health outcomes for humans, animals, plants and the environment.

**PROJECT Learning Objectives:** *By the end of the process, students will:*

- Describe the One Health philosophy
- Develop the language and leadership tools to communicate with different disciplines around One Health
- Identify novel areas of interface between human, animal, and environmental health and different disciplines

### **Required Policies**

#### **1. Class Attendance**

Class attendance is expected. Students are allowed five discretionary absences (see “Attendance” under “Graded Work” above) to cover excused and unexcused absences. Additional absences that meet the standard of “excused” per [UF’s policies](#) may be allowed, otherwise each absence beyond five will result in two points off of the final grade.

#### **2. Making Up Work**

Work is due as specified in the syllabus. Late work is subject to a 1/3 grade penalty for each 24 hour period it is late (e.g., a paper that would’ve earned an A if turned in in class on Monday becomes an A- if received Tuesday, a B+ if received Wednesday, etc, with the weekend counting as two days). To be

excused from submitting work or taking an exam at the assigned time, you must give 24 hours advance notice and/or meet the UF standards for an excused absence.

### **3. Class Demeanor**

Students are expected to arrive to class on time, stay the full class period, and behave in a manner that is respectful to the instructor and to fellow students. Electronic devices should be turned off and placed in closed bags. Opinions held by other students should be respected in discussion, and conversations that do not contribute to the discussion should be kept to a minimum.

### **4. Materials and Supplies Fees**

There are no additional fees for this course.

### **5. Students Requiring Accommodation**

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center by visiting <https://disability.ufl.edu/students/get-started/>. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

### **6. 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. Students can complete evaluations in three ways: [1] The email they receive from GatorEvals; [2] Their Canvas course menu under GatorEvals; or [3] The central portal at <https://my-ufl.bluera.com>. Guidance on how to provide constructive feedback is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

### **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 Conduct Code specifies a number of behaviors that are in violation of this code and the possible sanctions. See the UF Conduct Code website (<https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>) for more information. If you have any questions or concerns, please consult with the instructor or TAs in this class.

### **Counseling and Wellness Center**

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