

## Course Information

*Collegium V Honors Reading:*

HONS 3199.H11      **History of Vaccines**

*Term: Spring 2021 (virtual meeting on Teams; assigned classroom AD. 2.238)*

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## Professor Contact Information

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## Course Pre-requisites, Co-requisites, and/or Other Restrictions

Honors department consent required.

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## Course Description

This reading class will provide insight into vaccines' history, starting with variolation (inoculation) for smallpox, to current research to develop new vaccines. Variolation for smallpox was popularized in Europe by Lady Mary Wortley Montagu. The work of Edward Jenner, who is considered the father of “vaccination” and Louis Pasteur will also be discussed. The search for a polio vaccine started as early as 1910. Still, it only came close to materialization in 1949, when Thomas Weller, John Enders, and Frederick Robbins showed that poliovirus could be grown in lab conditions using skin and muscle tissues from human embryos. Jonas Salk is the most known to the general public for developing an inactivated polio vaccine by growing the virus in monkey kidney cells, followed by killing the virus with formalin. Other researchers less known to the general public who worked to develop the live attenuated polio vaccine are Hilary Koprowski, Herald Cox, and Albert Sabin. An essential part of this course is to present the outstanding work of Maurice Hilleman, who is responsible for almost one-half of the vaccines children receive today.

## Student Learning Objectives/Outcomes

- 1) Learn about the history of vaccines
- 2) Learn about the ethical problems in medical research (discussion of the Cutter incident)
- 3) Learn about new vaccine technologies
- 4) Try to understand the impact of vaccines on improved health and life expectancy in the world

**Suggested Textbooks and Materials** (the instructor will upload some of the listed materials in E-Learning)

**Vaccinated: One Man’s Quest to Defeat the World’s Deadliest Diseases, by Paul A. Offit, 2007**

**Hilleman: A Perilous Quest to Save the World’s Children, DVD, 2016, Medical History Pictures**

## Suggested Course Materials

(the instructor will show some listed materials during the class time for discussion)

- 1) **Deadly Choices: How the Anti-Vaccine Movement Threatens Us All, by Paul A. Offit, 2011**

- 2) **Vaccine:** The Controversial Story of Medicine’s Greatest Lifesaver, by Arthur Allen, 2007
- 3) **Between Hope and Fear:** A History of Vaccines and Human Immunity, by Michael Kinch, 2018
- 4) **The Letters of Lady Mary Wortley Montagu,** Edited by Mrs. Hale, 1869
- 5) **Polio: An American Story-** The Crusade That Mobilized the Nation Against the 20<sup>th</sup> Century’s Most Feared Disease, by David M. Oshinsky, 2005
- 6) **The Cutter Incident:** How America’s First Polio Vaccine Led to the Growing Vaccine Crisis, by Paul A. Offit, 2005
- 7) **Listen to the Music:** The Life of Hilary Koprowski, by Roger Vaughan, 2000
- 8) **The Moth in the Iron Lung,** by Forrest Maredy, 2018
- 9) **The Doctor Who Fooled the World:** Science, Deception, and the War on Vaccines, by Brian Deer, 2020

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**Assignments & Academic Calendar (AD. 2.238; Class time: Wed. 10:00 – 10:50 am)**

January 20	Introduction (meet in classroom and on Teams)
January 27	Mary Wotley Montagu and the Variolation (Innoculation)
February 03	Edward Jenner as the father of “vaccination”
March 03	Louis Pasteur and the rabbies vaccines
March 10	Polio vaccines
March 15	The Cutter Incident discussion
March 24	<b>Hilleman: A Perilous Quest to Save the World’s Children</b>
March 31	<b>Vaccinated: One Man’s Quest to Defeat the World’s Deadliest Diseases</b>
April 07	Sabin vs Salk polio vaccines
April 14	Hilary Koprowsky’s research and speculated origin of AIDS
April 21	Iron lung
April 28	Summary on types of vaccines
May 03	Research on vaccines at UTD-Professor Jeremiah Gassensmith

**Grading Policy**

The grade for this course will be based on attendance, informed participation, and one term paper. The grading scale for letters from percentages will be as follows: A: 100-93%, A-: 90-92%, B+:87-89%, B: 83-86%, B-: 80-82%, C+: 77-79%, C:73-76%, C-: 70-72%, D: 60-69%.

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**Course & Instructor Policies**

**Attendance and Class Participation:** 50% Attendance (on Teams): If you are unable to attend the class, you are responsible for contacting me to let me know.

**Participation:** I expect students to participate in the class and read the materials to be ready to contribute to the group discussion.

50% Term Paper: At the end of the term, you will write a two-page term paper which will be graded. Detailed assignment instructions will be distributed later in the semester.

Your term paper should be focused on a scientist or a major discovery in medicine. This could be in the form of a critical review in which you can make a case for a particular scientist or discovery in the medical field.

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### **Comet Creed**

*This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same:*

*“As a Comet, I pledge honesty, integrity, and service in all that I do.”*

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### **UT Dallas Syllabus Policies and Procedures**

The information contained in the following link constitutes the University’s policies and procedures segment of the course syllabus.

Please go to <http://go.utdallas.edu/syllabus-policies> for these policies.

***The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.***