

HSS404-491 Senior History Seminar

Robots in History and Culture

Prerequisites: HUM 102 and one from among HUM 211, HUM 212 and HIST 213 or their equivalents, all with a grade of C or better. Completion of either the Lit/Hist/Phil/STS or Open Elective in Humanities and Social Science, with a grade of C or better. **NOTE:** Consult your advisor to be sure that this course will be accepted toward your graduation.

My Office: CULM 322

Instructor: Lisa Nocks, Ph.D.

NJIT Voicemail: 973.596.5360

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Office Hours Spring 2013:

Wednesday: 4:15-5:45pm

Thursday: 4:15-5:45pm (earlier by appointment)

Saturday: Noon - 1pm by appointment only

OVERVIEW: Robots are now in use not only in manufacturing, but in outer space and underwater exploration, on the battlefield, in hospitals, warehouses, our homes, in warehouses, and even (as remote presence liaisons) in the board room. Computer bots replace human agents online and as telephone operators. Government agencies and manufacturers are producing humanoid prototypes. **This raises many questions.**

- What is a robot anyway?
- Can a machine really be intelligent? Can it be conscious?
- What are the social implications of producing intelligent, autonomous machines?
- Will robots take over the Earth or lead to human extinction?

We will address these questions by:

- reading historical texts, engineering reports, trade and mass-market periodicals, science fiction, and watching videos to understand the continuity of current robotics trends with past attempts to address the limits of human labor.
- analyzing the work of engineers and inventors within a broader social context that includes the dreams, needs, and expectations of philosophers, businesses, government agencies, and the public.
- examining the intellectual and practical transition from mechanization to automation, and computer-assisted industrial and service robots with artificial intelligence (AI).
- considering what legislative, legal, or ethical policies ought to underwrite practice as robots play a greater role in our lives.

NOTE: You do not need previous knowledge of engineering to successfully complete this course.

COURSE OBJECTIVES: Through regular reading and discussion of the course texts and supplemental materials, and researching relevant historical and technical documents, students should be able to:

- identify relevant terminology in robotics and AI
- describe the historical development of robotics, computing and artificial intelligence (AI).
- discuss controversies related to the development of advanced intelligent robots.
- demonstrate a basic understanding of robots and how they are configured for different applications.
- give coherent and articulate oral and written arguments about a particular aspect of these fields.
- be able to distinguish legitimate argument from rumor in research documents.
- incorporate reviews of critical literature on robotics and AI into written work.
- improve personal research, writing, and editing skills.
- demonstrate an organized approach to making an argument and supporting a thesis in a term project.

COURSE REQUIREMENTS (DESIRED OUTCOMES)

- **Contribute to seminar discussions** through regular attendance and reading/viewing relevant media.
- **Develop a thesis** about a specific aspect of robotics or artificial intelligence and its application in a particular field. The thesis will be developed from a specific question about the topic.
- **Submit short response papers** (length varies from 2-5 pp.) on selected supplemental material (TBA).
- **Lead one group discussion** of selected course texts (see below).
- **Write a thoroughly researched and coherent paper** with historical background and analysis on the chosen research topic that includes thesis development, analysis of research, a conclusion, and attribution in the form of footnotes and bibliography.
- **Make an oral presentation** summarizing the parts of the research paper.
- **Correctly use Chicago style footnotes and bibliography.**

NOTE: This is a 400 level seminar.¹ To get the most out of this course, you must maintain an upper college level reading, writing and participation level. If you need extra help, please do not hesitate to contact me via email or to see me during office hours. You can also get help at the Writing Center in Cullimore first floor across from the elevator. (Set up appointments early in the semester or as soon as you know you need help.)

HOMEWORK: Forum and homework assignments are not optional. They are counted as a percentage of your participation grade.

REQUIRED TEXTS: Available in the bookstore. If the store has run out of copies, see the manager. They can usually get the books in a few days. **Also available on** Amazon.com, B&N.com, Half.com, or the publishers)

- Nocks, Lisa. *The Robot: The Life Story of a Technology* (Johns Hopkins 2008, paperback) ISBN 978-0801890710
- Additional required readings and viewings will be available via Moodle or on reserve in the Van Houten library. **See Moodle Resources.**
- **Additional readings will be posted on moodle, available on line, or on reserve in the library**

GRADING:

Available Grades: A B+ B C+ C D F (missing individual assignments: 0) Plagiarism: F

Equivalents: 91-100 (A) ♦ 86-90 (B+) ♦ 80-85 (B) ♦ 76-79 (C+) ♦ 70-75 (C) ♦ 60-69 (D) ♦ <60 (F) ♦ 0 (no credit)

Grade distribution:

Attendance	10%	(late or leave early - lose half credit)
Participation	10%	(Regular, engaged/in addition to leading discussion assignment)*
Lead class discussion of reading	10%	
Homework Assignments	10%	(Short reading, research, or viewing responses; 1pg)
Formal thesis/outline	10%	
Presentation of project/paper	25%	NOTE: formal written assignments will be posted to Turnitin.
Formal project term paper	25%	
Total**	100%	(Honors College Students see note below)**

¹ A **seminar** is not the same as a lecture class. It is a continuing discussion, in which you are expected to contribute something to the discussion each class meeting, rather than to just listen to a lecture and take notes. Discussing news articles, relevant pop culture or controversies count toward your class participation grade. **It also makes the class more interesting and fun.**

HONORS CREDIT: annotated bibliography (Chicago style) and one extra essay on a research article posted to Moodle by end of Spring Break. You have to respond to each other on these.

***ABOUT ATTENDANCE AND PARTICIPATION:** You will neither enjoy nor reap the full benefit of this course without regular attendance and participation, which comprises:

- Arriving on time and *not* leaving early
- Participating in discussions *for which you have also done the reading*
- Completing assigned class activities including Moodle forums
- Not working on other course assignments or email during class...that's just rude.

This means you may earn A's on your class work but receive a B for the course because you failed to contribute anything to class discussions or were absent for others' presentations.

See me immediately about extenuating circumstances.

FINAL PROJECT DIRECTIONS ARE DETAILED IN THE DOCUMENT "FINAL PROJECT DIRECTIONS" POSTED ON MOODLE. Your final project must relate to either robotics or artificial intelligence.

UNEXCUSED LATE ASSIGNMENT SUBMISSIONS: Grade reduced ½ step for each 48 hours after due date. (e.g.: earned: B=Grade posted: C+) **Absence when you are scheduled for a class presentation=0.**

ABOUT CLASS DISCUSSIONS: Lively discussions always make a course more interesting.

- **You are encouraged to bring to class relevant articles or news to share with the class or to post on Moodle.**
- *Provided that you are respectful to your classmates and instructor, you are welcome to contribute to all class discussions. It is not necessary to agree with your teacher or classmates to contribute to discussions; disagreeing does not lower your grade. Failure to participate does affect your grade.*

EXCUSED ABSENCES: To receive an excused absence, you must provide appropriate documentation when you return from your absence; otherwise your absence is not excused. 2 unexcused absences results in the loss of a grade (e.g. Final grade earned: A/Posted Grade: B) **Leaving the area early for Thanksgiving or other holiday breaks is not excused.)**

Examples of Documentation:

- A doctor's note** (prescriptions and appointment cards do not count.)
- A copy of an employer's memo to you** noting the day/time of event requiring you to miss class.
- An email to me** directly from another instructor or advisor explaining why it is necessary to miss my class and noting the day/time of class to be missed.
- A document that authenticates your required absence to attend a funeral.
- Proof of military deployment.

NJIT HONOR CODE: A significant element in your professional and personal development is honesty and integrity. Following the guidelines of the Academic Honor Code of NJIT is good practice. **Turning in a paper that includes plagiarism, or that is written by someone else and represented to be yours, or cheating on an examination will result in an F grade for the assignment and possibly for the semester, as well as your incurring administrative sanctions.**

You are required to turn in a signed academic integrity pledge for this course by the end of the add/drop period. **(See Academic Integrity Pledge in Moodle Resources.)** You will post formal written assignments to Turnitin. Directions will be provided.

HOUSEKEEPING:

- Please **turn cell phone ringers off or to vibrate**. Turn off any other electronic equipment that makes noise before entering class. If you get an emergency call, please quietly leave the room.
- Please be considerate of others who use the classroom after us, and **remove all papers and food/beverage containers you brought in** when you leave.
- **If I must cancel class meeting:** I will let you know ahead of time, OR I will contact the History department secretary and post a message. **ALSO: check Moodle and email before class for emergency cancellations, especially during winter months.**
- **If I am not present at class time:** WAIT a FULL 15 minutes, then take attendance; leave after 20 minutes. Leave attendance sheet in my mailbox in the history department office in Cullimore Hall 331.
- **Please only use your laptop for relevant course activities.**

Have a productive and fun semester!

CALENDAR OF READINGS/ASSIGNMENTS

NOTE: This calendar may be modified – See updates on Moodle Announcements and Forums

HSS404-102 - *Wed. Eve*

HSS491-H02 - *Thu. Afternoon-Honors*

Week	Date	Meeting Description	READ for following week: ^
1	1-23-24	Course Intro: Syllabus; Project Directions Lecture: What is a robot? Myth and machine Techno-ambivalence The problem of labor	<i>The Robot</i> : Introduction + Ch1+Ch 2 "A Wife Manufactured to Order" Student picks (due 1-30/31)
2	1-30/31	Discussion of possible projects Student-led discussions	"Automata" S Fowler Wright Binder, "I, Robot" Harris, "The Lost Robot" Student picks (due2-6/7) Prepare topic essay
3	2-6/7	Lecture: Thesis; Sci-Fi and Public perception Student-led discussions Concepts: autonomy, mechanics HAND IN TOPIC ESSAY (1-2 Paragraphs)	<i>The Robot</i> : Ch3 Asimov, "Runaround," "Reason," Student picks (due2-13/14)
4	2-13/14	Lecture/Discussions Q&A Thesis rough assignment Early robotics history Student-led discussions	<i>The Robot</i> : Ch 4; Student picks (due2-20/21) Online AI experiment Homework: post outcome to Moodle; bring to class Draft of thesis section (2pp) due 2-15 11:30pm post to Moodle Assign's.
5	2-20/21	Lecture/Discussions Student-led discussions - Artificial intelligence - Sci-fi and history VIEWINGS TBA	<i>The Robot</i> : Ch 5 Student picks (due2-27/28) --mobility -- exploration -- hazardous environments
6	2-27/28	Lecture/Discussions Student-led discussions	<i>The Robot</i> : Ch 6 (due 3-6/7) - Robot dev. Competitions articles

		--mobility -- exploration -- hazardous environments	- Trends-industry & manufacture Formal thesis for grading due 3-2/11:30pm
7	3-6/7	Lecture/Discussions Student-led discussions - Robot dev. Competitions - Trends-industry & manufacture Make Writing Center Appointments NOW!	Student picks (due 3-13/14) - Robots in medicine DaVinci et als assisted surgery - Care giving robots "I, Nanny" "ICub" "Paro" Make Writing Center Appointments NOW!
8	3-13/14	Lecture/Discussions Student-led discussions - Robots in medicine - Care giving robots VIEWINGS TBA	Student picks TBA (due 3-27/28) - Military robots Singer <i>Wired for War</i> reading TBA - Rescue robots
9	3-20/21	SPRING BREAK NO CLASS	Catch up, rest, have fun!
10	3-27/28	Lecture/Discussions: Student-led discussions - Military robots - Rescue robots SEE ME FOR HELP THIS WEEK	Student picks TBA (due 4-3/4) - humanoid robots - Social robotics Honors Extra Essay Due: 3-31/11:30pm
11	4-3/4	Lecture: Challenges for the future WRITING TIPS/CITATIONS Student-led discussions - humanoid robots - Social robotics VIEWINGS TBA	Work on final project
12	4-10/11	Final Presentations**	Final papers for this group due 4-18***
13	4-17/18	Final Presentations	Final papers for this group due 4-25
14	4-24/25	Final Presentations	Final papers for this group due 5-2
15	5-1/2	Final Presentations - Last class	Final papers for this group due 5-9

14 total meetings

* See Moodle Activities

** To be scheduled by lottery

*** Each group has one week to revise the paper or project report they present in class - NO extensions!

^^ Student Picks - refers to the class reading/discussion assignments Chosen by lottery.

* I reserve the right to alter assignments and exam dates to accommodate the progress of the class.
Updates/changes will be announced in class and will be posted on Moodle.

** If there are changes made to the NJIT schedule by the registrar there will be an announcement and we will follow the modified NJIT policy.

NJIT Spring 2013 Calendar:

Jan. 21	Martin Luther King, Jr. Day – No classes
Jan. 22	First day of Spring classes
Jan. 22	Schedule Change Fee Begins (\$25)
Jan. 28	Last day to add/drop a class
Jan. 28	Last day for 100% refund
Jan. 29	W grades posted
Feb. 4	Last day for a 90% refund based on partial withdrawal
Feb.18	Last day for a 50% refund based on a complete withdrawal
Mar. 11	Last day for a 25% refund based on complete withdrawal
Mar. 17-24	Spring Recess-No Classes Scheduled University Open (Sunday to Sunday – no Sat. 3-23)
Mar. 18	Last day for a refund based on complete withdrawal
Mar. 26	Withdrawal Deadline
Mar. 29	Good Friday-No Classes
Mar. 30	Saturday classes meet
Apr. 15	Summer/Fall Registration Begins
May 1-2	Last HSS Robots class meetings; Last COMM Thu meeting (May 2)
May 4	Last Saturday COMM meeting
May 7 (Tue)	Classes Follow a Friday schedule
May 8	Reading day
May 9-15	Final exams
May 16	Grades are due in the Registrar's Office

More about History at NJIT:

- The history department at NJIT has eight full-time faculty members, and is part of the Federated History Department at NJIT<Rutgers University, Newark. **Because the department is Federated, NJIT and Rutgers students can take history courses offered at either institution.**
- The NJIT History Department also offers a **minor in history**.
- **On the graduate level**, the Federated Department of History also administers a joint Rutgers/NJIT masters program in history, which offers two joint degrees:
 - the Master of Arts (MA)
 - Master of Arts in Teaching (MAT).**Available fields of concentration:** American History, World History, and the History of Technology, Environment and Medicine/Health.
Application is made to the program at Rutgers-Newark.

Pre-Law at NJIT:

The NJIT History Department also administers a **new BA program in Law, Technology and Culture** that represents the new focal point for pre-law education at NJIT. The new program is specially focused on preparing students at a technological university for careers in law and law-related areas of business and government, as well as providing students with a broadly comparative perspective on the nature of legal thought and practice. Special features of the NJIT program include:

- An interdisciplinary curriculum focused on law in relation to technology, media, environment, health, and culture.
- Opportunities for exceptionally well-qualified students to matriculate in an **accelerated BA/JD program with the Seton Hall School of Law**.
- Hands-on internships in law.
- A patent law option available to students pursuing careers as patent attorneys or patent examiners. Because this is a highly competitive program, applicants should have records of strong academic performance and SAT composite scores in mathematics and critical reading of at least 1200.

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