HUMANS AND ROBOTS: THE FUTURE IS HERE

FALL 2015 – THEA 4393-002

Monday - Wednesday - Friday, 9:00 – 9:50 a.m.

Instructor: Julienne Greer, B.F.A. Drama, M.A. Media Arts, Ph.D. Humanities

Fine Arts Building, Room 143

Office Hours: Monday and Wednesday, 11:00 a.m. – 1:00 p.m. or by appointment.

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## FACULTY PROFILE

Dr. Julienne A. Greer has B.F.A. in Drama from New York University, Tisch School of the Arts; a Master of Arts in Media Arts, emphasis Film Production from TCU’s Bob Scheiffer College of Communication; and a Ph.D. from University of Texas at Dallas in Humanities – Aesthetic Studies. Dr. Greer has directed, performed, written, or produced in the theatre arts, cinema, game studies, and robotics disciplines. Current research interests include: performance, drama, social robotics, and cinema.

### COURSE DESCRIPTION

A multi-disciplinary course exploring human-robot interaction (HRI) and research. From “Eliza” the simple computer program created by Joseph Weizenbaum in 1966 to “Pepper” the emotional companion robot in 2015, this course will look at the relational interactions that have formed and will form between humans and social robots. In addition to lecture and interactive research, collaborative and multi-disciplinary alliances will be formed with field of study’s as diverse as UTARI (UTA Research Institute), engineering, psychology, social work, liberal arts, disabilities, interdisciplinary studies, and theatre arts.

### COURSE OBJECTIVES

Upon successful completion of this course the student will:

* Develop a fundamental knowledge of the history of social robotics from a social, cultural, and economic prospective including the arc of industrial to companion robots.
* Analyze the advantages and limitations of the present social robotics industry to the consumer.
* Demonstrate proficiency in writing and presenting intricate ideas pertaining to artificial intelligence and its relationship to human beings.
* Interpret and analyze the ethical and moral questions of HRI (human-robot interaction) from a humanistic perspective – Roboethics.
* Add to the discussion of interdisciplinary alliances between theatre arts and robotics as well as multi-discipline interaction with robotics

### REQUIRED TEXT

There is no required text; however, there will be multiple readings, peer-reviewed articles, and journals.

### RECOMMENDED TEXT

*Alone Together* Sherry Turkle 2011.

### GRADING

Grades represent these levels of achievement:

“A” Excellent Work - 90 - 100 % of points

“B” Good/Above Average Work - 80 - 89% of points

“C” Fair/Average Work - 70 - 79% of points

“D” Passing/Below Average Work - 60 - 69% of points

“F” Failure/Unsatisfactory Work - 59% of points or less

The grade of **C** is for students who fulfill all assignments, participate actively in discussion, and show regular and steady growth throughout the semester. To achieve a **B**, a student must do exceptional work, and the quality of the work must set a high standard for the rest of the class to follow. **A** is reserved for outstanding accomplishments –fulfilling the discipline of the assignment with skill, originality, and personal vision.

Your grade will be based on the:

* Quality of work in your assignments.
* Discipline and commitment shown in your promptness.
* Attendance.
* Preparation for class through reading assignments.
* Collaborative efforts in group projects.
* Alert participation in discussions.

### ASSIGNMENTS

There will brief weekly written assignments that will consist 30% of your grade. There will be a group research project that will consist of 60% of your grade. Participation in class is vital to the nature and substance of the course and will consist of 10% of your grade. Full explanation of the assignments will be given in class.

**TOTAL POSSIBLE POINTS 300 POINTS**

 [Scale: 300-270 pts. =A, 269-240 pts. = B, 239-210 pts. = C, 209-180 pts. = D, 179 or below= F]

Attendance: **THREE excused or unexcused absences allowed. Sickness is an unexcused absence. Each subsequent absence your grade is lowered ONE FULL LETTER GRADE per absence. You must keep track of your absences.**

### POLICIES AND PRACTICES:

1. **Attendance:** At The University of Texas at Arlington, taking attendance is not required. Rather, each faculty member is free to develop his or her own methods of evaluating students’ academic performance, which includes establishing course-specific policies on attendance. As the instructor of this section, I have established the following attendance policy: the student will be expected to sign-in each day for class. It is expected that you will be on time for class. In addition, it is expected that you remain for the entire session. Late arrivals and early departures will affect not only your ability to receive the information but also that of your colleagues. If you are tardy three times, you will be assigned an absence. If you miss class because of illness *and* present a doctor’s statement attesting to your illness, then you may make up missed work. HOWEVER, it only means that you have used up one of your ALLOWED absences. It does NOT mean that you are allowed an “extra” absence besides the THREE (3) allowed before it begins to deduct final course grade points. ALL absences shall affect daily participation points.
2. **Extra Credit**: Extra credit is NOT given in this course.
3. **Classroom atmosphere:** It is expected that you will be supportive to each of your colleagues in this class. Much of the class will consist of discussion and rhetoric.
4. **Outside of Class:** It is expected that you read any materials distributed or assigned. A three credit hour class requires 6 hours of work outside of class per week; this course is no exception.
5. **Drop Policy:** Students may drop or swap classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Students will not be automatically dropped for non-attendance. **Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. Contact the Financial Aid Office for more information.**
6. **Final Review Week:** A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week unless specified in the class syllabi. During Final Review week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week.
7. **Disability Accommodations:** UTArlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including *The Americans with Disabilities Act (ADA), The Americans with Disabilities Amendments Act (ADAAA),* and *Section 504 of the Rehabilitation Act.* All instructors at UT Arlington are required by law to provide “reasonable accommodations” to students with disabilities, so as not to discriminate on the basis of disability. Students are responsible for providing the instructor with official notification in the form of a letter certified by the **Office for Students with Disabilities (OSD).** Students experiencing a range of conditions (Physical, Learning, Chronic Health, Mental Health, and Sensory) that may cause diminished academic performance or other barriers to learning may seek services and/or accommodations by contacting: **The Office for Students with Disabilities, (OSD)** [www.uta.edu/disability](http://www.uta.edu/disability) or calling 817-272-3364.**Counseling and Psychological Services, (CAPS)** [www.uta.edu/caps/](http://www.uta.edu/caps/) or calling 817-272-3671.Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at [www.uta.edu/disability](http://www.uta.edu/disability) or by calling the Office for Students with Disabilities at (817) 272-3364.
8. **Academic Integrity**: All students enrolled in this course are expected to adhere to the UT Arlington Honor Code: *I pledge, on my honor, to uphold UT Arlington’s tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence. I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.* Instructors may employ the Honor Code as they see fit in their courses, including (but not limited to) having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System *Regents’ Rule* 50101, §2.2, suspected violations of university’s standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student’s suspension or expulsion from the University.
9. **Student Support Services Available**: UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to resources@uta.edu, or view the information at [www.uta.edu/resources](http://www.uta.edu/resources).
10. **Electronic Communication Policy**: The University of Texas at Arlington has adopted the University “MavMail” address as the SOLE means of communication with students. MavMail is used to remind students of important deadlines, advertise events and activities, and permit the University to conduct official transactions exclusively by electronic means. For example, important information concerning registration, financial aid, payment of bills, and graduation are now sent to students through the MavMail system. All students are assigned a MavMail account. ***Students are responsible for checking their MavMail regularly.*** Information about activating and using MavMail is available at <http://www.uta.edu/oit.email/>.
11. **Student Feedback Survey:** At the end of each term, students enrolled in classes categorized as lecture, seminar, or laboratory shall be directed to complete a Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student’s feedback enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlington’s effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. For more information, visit <http://www.uta.edu/sfs>.

**SCHEDULE**

This course will be research in four (4) sections; 1) History of robotics from industrial to social, 2) Social robotics and persons with Disabilities, 3) Roboethics, or the morality and ethics of social robotics from a humanistic perspective, 4) Theatre arts and robotics.

Each week there will be written assignments due on peer-reviewed journals articles as well as off-campus study of various robotic platforms and units housed at UT-Arlington. The student will engage in discussion that furthers the scholarly understanding of the human robot topic. The course will conclude with a group project expanded on one of the above topics.

## CALENDAR

## HUMANS AND ROBOTS - FALL 2015

**August**

28 Syllabus

31 Introductions and interests

**September**

2 **History of robotics from industrial to social, or what we commonly call a robot – an overview**

4 History of robotics from industrial to social: robots in antiquity

**SEPTEMBER 7TH – LABOR DAY – NO CLASS**

9 History of robotics from industrial to social: renaissance to early 20th century

11 History of robotics from industrial to social: 1930s – 1950s

14 History of robotics from industrial to social: 1960s – 1990s

16 History of robotics from industrial to social: contemporary 1990s - 2015

18 Types of contemporary robots: Industrial

21 Types of contemporary robots: Service

23 Types of contemporary robots: Social, Emotional, Companion

25 Uncanny Valley

28 Google, Sony, MIT: modern robots

30 **Social robotics and persons with Disabilities - overview**

**October**

2 Social robotics and persons with Disabilities – Robots for older adults/healthcare

5 Social robotics and persons with Disabilities - Autism

7 Social robotics and persons with Disabilities – socio/economic factors for persons with disabilities.

9 Fixed: The Science Fiction of Human Enhancement

12 Fixed: The Science Fiction of Human Enhancement

14 Fixed: The Science Fiction of Human Enhancement

16 UK – The Robotics Innovation Show 2015

19 UK

21 UK

23 UK

26 **Theatre and Robots: Robots in performance – an overview**

28 Literature and plays including robots;*R.U.R.* by Karel Capek, *I, Robot* by Isaac Asimov

30 Tour of UTARI

**November**

2 Theatre and Robots, *Metamorphosis* by Franz Kafka (French/Japanese collaboration, dir. By Oriza Hirata and roboticist Hiroshi Ishiguro)

4 Robot Opera, Opera of the Future, MIT Media Lab – *Death and the Powers*, a new opera by Tod Machover

6  **Roboethics, or the morality and ethics of social robotics from a humanistic perspective – an overview**

9 Roboethics: privacy issues

11 Roboethics: the singularity

13 Roboethics: multi-disciplinary discourse of social robotics

16 Roboethics: *to be or not to be* – should robots look like humans

18 Roboethics: a humanistic perspective on emotional robots

20 Roboethics: Emotional analytics and commerce

23 Formation and discussion of group projects

25 Formation and discussion of group projects

**THANKSGIVING HOLIDAY – NO CLASS FRIDAY, NOV. 27**

30 Guest speaker

**December**

2 Guest speaker

4 Presentation of group projects

7 Presentation of group projects

9 Presentation of group projects

*As the instructor for this course, I reserve the right to adjust this schedule in any way that serves the educational needs of the students enrolled in this course. –Julienne A. Greer*

**Final Examination Dec 16th 8 – 10:30 a.m.**