

Florida International University  
Honors College  
COURSE SYLLABUS

Thinking, Design and Impossible Problems  
2018-2019  
Professor: Robert H. Hacker

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### COURSE DESCRIPTION

Regardless of discipline, ideation, critical thinking and problem-solving frameworks have been shown to produce the best outcomes. The more developed these skills, the tougher the problems one can tackle and the better the outcomes or solutions. Developing a documented understanding of one's intellectual abilities can be an invaluable outcome of an undergraduate education.

Each week, this course tackles an impossible problem as a means to hone one's critical thinking skills and work with new frameworks for problem solving. The problems are typically problems and solutions that changed society and the direction of humanity. This course is not research focused but rather looks for the student to analyze the problem in an original way to produce a satisfactory solution.

### COURSE OBJECTIVES

- For students to learn many new problem-solving techniques
- Examine difficult problems and demonstrate how to approach them
- For students to realize that they have the capability to take on much bigger challenges in their lives

### LEARNING OUTCOMES

- Develop a much larger toolkit of frameworks to address problems
- For students to better understand their potential to take on greater challenges
- For some students to realize that they have much greater potential than they realized

Student Learning Outcomes will be measured based on the weekly assignments, the two presentations and classroom participation.

## COURSE PRE-REQUISITES / CO-REQUISITES

None.

## TEXTBOOKS & OTHER REQUIRED MATERIAL

### Required Texts:

1. Complexity: A Guided Tour, Melanie Mitchell
2. [The d.school Operator's Handbook](#)
3. Principles: Life and Work, Ray Dalio
4. When Einstein Walked with Godel, Jim Holt

Other books may be assigned.

The books are available from most on-line websites for books. Any edition is suitable.

**There is a reading list of recent articles that supplements other readings in this course. Students are expected to prepare these articles for short presentations in class.**

## COURSE PROCEDURES/METHODOLOGY

The first half of each class is devoted to books or readings. Students will present most books and readings. The second half of each class is devoted to a discussion of how to solve that week's problem.

Grade will be determined based on in class presentations of books and readings, quality of classroom participation, class attendance and a course project. Percentages are shown below.

<b>Weekly quotes</b>	10%
<b>Mid-term PPT</b>	20%
<b>Final PPT</b>	30%
<b>Class participation</b>	<b>40%</b>
<b>Total</b>	100%

## CLASS or PROFESSOR POLICIES

Very active role in class discussion is expected and required.

## GRADING STANDARDS/PERFORMANCE MEASURES

Grading will be on a curve, based on grades for attendance, class participation, presentations and the project.

## FIU/HC POLICIES

### The FIU Academic Pledge

As a student of this university:

- I will be honest in my academic endeavors.
- I will not represent someone else's work as my own.
- I will not cheat, nor will I aid in another's cheating.

### Intellectual Honesty Statement

Students at Florida International University are expected to adhere to the highest standards of integrity in every aspect of their lives. Honesty in academic matters is part of this obligation. Academic Integrity is the adherence to those special values regarding life and work in an academic community. Any act or omission by a student which violates this concept of academic integrity and undermines the academic mission of the University, shall be defined as academic misconduct and shall be subject to the procedures and penalties mandated by the University and the School of Hospitality and Tourism Management.

### Misconduct Statement

Florida International University is a community dedicated to generating and imparting knowledge through excellent teaching and research, the rigorous and respectful exchange of ideas and community service. All students should respect the right of others to have an equitable opportunity to learn and honestly to demonstrate the quality of their learning. Therefore, all students are expected to adhere to a standard of academic conduct, which demonstrates respect for themselves, their fellow students, and the educational mission of the University. All students are deemed by the University to understand that if they are found responsible for academic misconduct, they will be subject to the Academic Misconduct procedures and sanctions, as outlined in the Student Handbook.

Misconduct includes: Cheating – The unauthorized use of books, notes, aids, electronic sources; or assistance from another person with respect to examinations, course assignments, field service reports, class recitations; or the unauthorized possession of examination papers or course materials, whether originally authorized or not. Plagiarism – The use and appropriation of another's work without any indication of the source and the representation of such work as the student's own. Any student who fails to give credit for ideas, expressions or materials taken from another source, including internet sources, is responsible for plagiarism.

## Cell Phones

Cell phones are prohibited during class.

## University Requirements

### Religious Observances

Every effort will be made, where feasible and practical, to accommodate students whose religious practices coincide with class requirements or scheduling. Please make sure to notify your instructor *at the beginning of the semester* of which dates you will be absent or any anticipated problems with completing course work.

### Physical, Mental and Sensory Challenges

Every effort will be made, where feasible and practical, to accommodate students who are so challenged. Should you require accommodations, contact the Disability Resource Center (DRC), if you have not done so already.

### Honors College

Below are sections on student portfolios, Honors College citizenship requirements, the HEARTS program, and academic misconduct and plagiarism.

### Student Portfolios

The Honors College will be using a portfolio method to assess students' learning outcomes. The portfolio allows for maximum flexibility in gauging student learning. Students decide (with instructor consultation) what "artifacts" or assignments to include for consideration in their portfolios to demonstrate successful achievement of each of five key student learning outcomes over the 4-year Honors experience. Portfolios provide a rich context for students to show what they have learned and to explain their learning process. The purpose of the portfolio is to assess how successfully our curriculum fulfills its goals and is not graded, though it is a requirement for graduation from the Honors College. Because the Honors curriculum is meant to be thought-provoking and reflective, student self-assessment through portfolios will facilitate learning and provide in-depth assessment. Each course will include at least one assignment that could potentially fit portfolio requirements. For more information on the student learning outcomes and constructing a portfolio for your senior year, see [www.honors.fiu.edu/portfolios](http://www.honors.fiu.edu/portfolios).

### Honors Citizenship Requirements

Beginning in Fall 2014, Honors College students are required to accumulate at least **20 citizenship points** each academic year (Fall and Spring) by attending Honors College activities. Students attending only one semester (Fall or Spring) are required to accumulate **10 citizenship points**.

### Honors Education in the Arts (HEARTS)

The HEARTS program is designed to give Honors College students opportunities to explore and appreciate different artistic and cultural traditions and modes of artistic expression. HEARTS will also serve as a clearinghouse (and curatorial framework) for our students to experience the arts on campus and in the community by providing them with information about cultural activities and access to performances with free or discounted tickets. See <http://honors.fiu.edu/hearts/>

### Academic Honesty and Plagiarism FIU Academic Misconduct Statement

### Procedures

An Honors faculty member may bring charges of Academic Misconduct against an Honors student. If the faculty member suspects plagiarism or other forms of academic misconduct, within one week of the discovery of the suspected act the faculty member will hold an informal meeting with the student in order to inform him/her of the allegation(s), provide any evidence available, and allow the student to respond. The faculty member will decide whether to pursue informal resolution, file formal resolution charges, or take no further action, and will follow the procedures outlines in the Honors College website (<http://honors.fiu.edu/honors-policies/#misconduct>).

The student will have the right to appeal the outcome of the meeting with the instructor within one week of the faculty member's decision, when the decision is to pursue informal resolution or file formal resolution charges. The appeal will take the form of a letter to the Dean outlining the circumstances of the case and the reason for the objection to the professor's recommendation. The Dean or his designee will examine the case and make a final determination about the pursuit of Informal Resolution or the filing of formal resolution charges.

## **Penalties**

An Honors College student found responsible for plagiarism or other academic misconduct by informal resolution or formal resolution will receive an F in the relevant Honors course, and will be dismissed from the Honors College by the Dean, effective from the end of the semester in which the infraction occurs. Dismissal will be in writing and will entail the loss of all privileges and benefits of being in The Honors College, and the student will not be readmitted to The Honors College. The decision of the Dean will be final. This decision relates solely to the student's status in The Honors College and does not affect the student's right to appeal the original faculty decision. The penalty of dismissal from The Honors College may apply to academic misconduct in any course within Florida International University and not only to courses offered by The Honors College. In the case of courses outside The Honors College, the Dean of The Honors College will rely on the Office of the Provost for notification about the infraction(s). More stringent penalties, such as dismissal from the university, may be pursued through the university's established academic misconduct process.

## **Honors College Requirements**

Registration for this course implies an acceptance of and compliance with the Honors College policies for students and the FIU Code of Academic Integrity. Please refer to the following documents for additional information.

FIU Code of Academic Integrity: <http://undergrad.fiu.edu/academic-integrity/index.html>

In The Honors College, the term "honor" refers both to academic accomplishment and character. Students in Honors should therefore adhere to and be held to the highest standards of personal academic accountability. Academic dishonesty in any form, including plagiarism, is antithetical to the very definition of being an Honors student at FIU. Consequently, an Honors College student found responsible for academic misconduct will be dismissed from the College.

Global Learning Outcomes (All sections):

Global Awareness: Students will be able to demonstrate knowledge of the interrelatedness of local, global, international, and intercultural issues, trends, and systems.

Course Learning Outcome: Students will demonstrate knowledge of the interrelated global dynamics (social-cultural, political, economic, etc.) that shape aesthetics, values, and authority in diverse cultural contexts.

Global Perspectives: Students will be able to develop a multi-perspective analysis of local, global, international, and intercultural problems.

Course Learning Outcome: Students will be able to analyze multiple global forces that shape their understanding of aesthetics, values, and authority—economic, political, sociological, technological, cultural, etc.

Global Engagement: Students will be able to demonstrate a willingness to engage in local, global, international, and intercultural problem solving.

Course Learning Outcome: Students will be able to develop solutions to local global, international, and/or intercultural problem related to aesthetics, values, and authority.