

Florida International University  
Honors College  
COURSE SYLLABUS

The 4th Industrial Revolution—The Social, Political and Economic Changes Ahead  
2017-2018

Professors: Emily C. Gresham, Robert H. Hacker

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COURSE DESCRIPTION

Google, Amazon, Facebook, Uber, Netflix are some of the most disruptive and transformative technologies in the last twenty years. These technologies not only changed the way people accessed information and services but also how people behave. This course explores this major period of technological and social change called the Fourth Industrial Revolution (4IR). From robots to 3D printed medication, the period in which we now live will have wide ranging effects for at least the next fifty years.

First the course reviews the various approaches to defining such a paradigm shift, including the writings of Thomas Kuhn, Carlotta Perez, Breshnahan/Tratjenberg and W. Brian Arthur. Such an approach develops an economic and technological foundation for consideration of which particular technology may emerge as the principal change agent. After reviewing the technologies, a more detailed analysis of the future changes to society, the economy and politics (SEP) is pursued. While futuristic in nature, the course takes an analytical approach to develop frameworks to understand the changes in each SEP category. Particular attention will also be paid to fundamental principles (such as trust, sharing, community, etc.) and “anchors” in economic development (such as healthcare, education and federal government) as a way to develop a more comprehensive understanding of the Fourth Industrial Revolution.

*A key part of the course is to complete a term project that requires each student team to develop a solution to the problem of access to information. The asymmetry of information is a major determinant of any social problem and will only get worse in the 4IR. What will the information be that people need if information is doubling every 18 months. What role will AI play in shaping the future? What will the nature of work be? These are all themes a team may explore. The students submit short weekly PowerPoints as progress reports and mid-term and final presentations as a major part of the learning. There are no exams in this course.*

## COURSE OBJECTIVES

- to develop an understanding of the role that technologies play in paradigm shifts and the related SEP changes
- to develop an informed, comprehensive view on how the future will be significantly different from the last 50-100 years
- to develop a view on where the most significant SEP opportunities will be in the future
- to adjust one's life plan for the findings from the course

## LEARNING OUTCOMES

- to develop the skills necessary to properly assess the full range of social, economic and political impacts of new technologies
- to learn to assess future social and entrepreneurial opportunities
- to self-assess one's skills as a social commentator and futurist
- to create the opportunity to re-assess the current life plan from a more informed perspective

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:**

- The Structure of Scientific Revolutions: 50th Anniversary Edition by Thomas Kuhn
- The Nature of Technology by W. Brian Arthur
- Technological Revolutions and Financial Capital: The Dynamics of Bubbles and Golden Ages by Carlotta Perez
- Information—The New Language of Science by Hans Christian von Baeyer
- Complexity: A guided tour by Melanie Mitchell
- The New Science of Cities by Thomas Batty

The books are available from most on-line websites for books. Any edition is suitable, except the book by Thomas Kuhn.

**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 a book or reading. Most readings will be presented by students. The second half of each class is devoted to the semester project.

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

#### 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 and beepers are prohibited during class.