

Introduction to Futures Skills

(Course Code: FUTS 1311)

Instructor: Dr.

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Office Hours: TBD

Web Pages: Blackboard and companion web pages for textbooks

Semester Credit Hours: 03

I. Course Overview

This course provides students with a basic understanding of the key concepts of Futures Studies including a brief overview of the different technological innovations in the 4th Industrial Revolution (4.0IR) era, otherwise referred to as Postnormal times. The technological innovations are discussed in the context of other influences such as societal, economic, environmental, and policy changes. This course also prepares students for the eventual impact of this constantly evolving digital environment on their future careers. Most importantly, it helps them understand the need to upskill and reskill to survive tomorrow's global landscapes.

II. PMU Competencies and Learning Outcomes

1. Prepare students to participate in a collaboration of individuals, businesses, and societal institutions, working together to ensure effective outcomes as these technologies evolve.
2. Help students develop a viewpoint about their role in this rapidly changing field of work
3. Cultivate the students' capacity to assess current and projected trends in 4IR, as well as early signals of change and potential disruptors. Students should also attain the capacity to imagine their desired 4IR, and the capacity to explore and identify necessary actions required to move organizations and society in the desired direction and to develop potential new opportunities.
4. Cultivate in students an understanding of the ethical and societal impacts of 4IR. i.e., how the new technologies introduced by companies and managers affect the broader community.
5. Develop good oral and written communication skills necessary to the profession.
6. Prepare students for employment and career advancement in local, national, and international markets.
7. Engage students with the community for them to apply their classroom knowledge to public use.
8. Encourage students to participate in scholarly work and creative productions.
9. Enable students to explore new channels of communication and collaborative work that transcends departmental and institutional boundaries.
10. Maintain strong relationships with alumni, community, business, and non-profit sectors.

III. Detailed Course Description

The world is transitioning the digital revolution, creating disruptive paradigms that are transforming the foundations of our future life and career. Students must therefore understand their changing environment and develop responses accordingly. This course familiarizes students with the key concepts of futures studies, the 4th Industrial Revolution (4IR), and its macro or micro impacts on workplaces, careers, and society. It introduces them to the emerging technological breakthroughs within the field of Artificial Intelligence (AI), robotics, the Internet of things, autonomous vehicles, 3-D printing, nanotechnology, biotechnology, block-chain technology, cloud computing, big data, and other innovations in the 4th industrial revolution era. The course also discusses the hard and soft skills that students need to be better prepared for projected changes and their impact on their future careers and society in general.

IV. Requirements Fulfilled

This is a 3 credit hours social science elective CORE course.

V. Required Prerequisites

This course does not have a prerequisite.

VI. Learning Outcomes

Students will be able to:

1. **Define and understand** the key concepts in the field of Futures Studies and 4th Industrial revolution.
2. **Develop** a modifiable viewpoint on the impact of technology innovations (like robotics, AI, and other emerging technologies) on the future of work.
3. **Understand** broader societal-level issues associated with the computerization of work.
4. **Build** a personal strategy for continued employability in the context of automation and the rise of robotics.
5. **Conjecture** about the future of work: What will be the shape of workplaces in 2030 and beyond?
6. **Demonstrate** the ability to decide which skills are needed to boost productivity and how to cultivate them.
7. **Communicate** how the key technologies impacting all our lives, now and into the future, and how this postnormal era has impacted the future of work.
8. **Demonstrate** futures thinking skills by bringing together both divergent and convergent thinking technique

VII. Assessment Strategy

Students will be graded based on class exams, presentations, and projects. Students will collaborate, present in class, and complete a project that demonstrates futuristic innovations. These projects will weigh heavily in determining whether they pass the course or not.

Project	Assessment Task	Weight
1	Exams	20

2	Assignments and Presentations	20
3	Project (s)	20
4	Seminars from Guest Speakers	10
5	Class Discussions	10
6	Field trips and reports	
7	Project-based assessment	20
Total		100%

VIII. Course Format

Students will attend two 75-minute lecture/discussion sessions per week. Over the course of the term, approximately 35 hours of class time will be set aside for discussion.

The course homepage on the University's BLACKBOARD system should contain the following:

- Course syllabus
- Course assignments
- Course Calendar
- Course e-mail utility
- Course discussion list
- Peer review utility

IX. Topics to Be Covered

1. An introduction to the key concepts and thinking approaches of Futures Studies
2. Highlights of the different industrial revolutions
3. A Broader vision of the complexities of Postnormal times
4. Technologies of the 4th Industrial Revolutions (IR)
 - New energy supplies and technologies
 - Advances in computing power and emerging
 - Mobile computing
 - Cloud Computing
 - The Internet of Things (IoT) and cyber-physical systems
 - Fifth-generation wireless technologies (5G)
 - Artificial Intelligence and Machine Learning (AI)
 - Robotics
 - Fully- autonomous vehicles
 - Big Data
 - Additive manufacturing including 3D printing
 - Blockchain Technology/Cryptocurrencies
 - Nanotechnology and the power of transdisciplinarity
4. Sample industries that are expected to be quickly affected by 4th IR like accounting, transportation, airlines, marketing, and HR management, etc.
5. Skills and Characteristics needed to stay relevant in the 4th IR.

6. The Impact of 4IR on universities/companies/organizations (will these technologies create new opportunities for jobs or results in the loss of jobs?)
7. Future of jobs post-Covid -19
8. Brainstorming a way forward.
9. Economic effects expected from 4IR
10. Global perspectives: what the other countries are doing about this transformation?
11. How 4IR technologies being implemented in and affecting developing countries?

X. Course location and learning approach

- On-campus course with group work and laboratory exercises

XI. Technology Component

Technology will be an integral part of the course as students would use word processing, e-mail, and the University's BLACKBOARD system.

XII. Special Projects/Activities

TBD

XIII. Textbooks and Teaching Aids

Teaching materials and reading links will be supplied by the instructor(s)