Future of Work

Fall 2023

Instructor: Dr. Priyadarshini Pennathur
Office Address: A 241 Engineering Building
Telephone: 915-747-7956
Office Hours: Mondays 3 pm – 5 PM or by appointment. My email is prpennathur2@utep.edu. I usually respond to emails within a day when I am in town, and during weekdays. It may take a bit longer when I am traveling, and during weekends.

Course Website: Blackboard

Meeting Times: Mondays from 6:00 PM – 8:50 PM
Location: Bell Hall 130A

Course Description

This graduate course examines future of work systems, workers and work design with a human factors lens. Future work systems might integrate significant technology and automation including Artificial Intelligence, Robotic Process Automation, and both soft and physical bots. Additionally, the nature and structure of work itself is changing with remote work becoming more mainstream. The course will include current research readings, in-class discussions on future of work systems and its implications, and case studies.

Course Goals

By the end of this course, you will learn about:

- A broad set of topics on future of work systems, workers and work design examined from a human factors standpoint
- Approaches for addressing human factors design challenges in future work systems

Course Topics

- Introduction to Future of Work
- Information technology and its impact on work
- Organizational Design
- Worker Characteristics
- Communication, Coordination and Teamwork
- Physical and Cognitive Implications and Ergonomics of Future of Work Systems
- Health and Well-Being
- Industry sectors and applications
Course Expectations

- Read and understand peer-reviewed research publications critically and reflectively.
- Participate and contribute to class discussions, by including your thoughtful ideas and opinions, with due respect for your peers’ ideas.
- Bring additional insights and opinions by sharing other resources, articles or ideas that you are aware of.
- Be open to other ideas, reflect on them, and challenge them constructively.
- Be punctual and courteous in attending the class sessions, and in submitting assignments on time.

Course Grade Assignments

- Reading Assignments and Participation in Class Discussions (35%)
- Online discussion (10%)
- Case Presentations (15%)
- Debates (15%)
- Final paper and presentation (25%)

Description of Assignments

Reading Assignments and Participation in Class Discussions (35%)

The majority of class time will be spent in discussing peer-reviewed research publications/case articles. Class discussions will help bring out varied perspectives on the research issues, as well as provide a forum for critically and thoughtfully thinking about the future of work implications.

There will be 2 components to every discussion:

1. Leading discussions for 3 publications in class and 1 online discussion.
2. Every student will read and prepare for discussion every class.

I will post discussion questions for every publications on Blackboard couple of days prior to the assigned date for discussion.

There will be a discussion lead for each publication. Each student is required to choose and lead 3 in-class discussions and 1 online discussion over the course of the semester. There will be a sign-up sheet provided to you for choosing the publication.

The discussion lead should be prepared to summarize the article, and facilitate discussion based on the questions I post in Blackboard. The discussion lead is expected to be ready with well-thought-out responses for the discussion questions, any additional sources about the topic and facilitate peers to discuss the questions. Written response to the questions I post is not required. I will provide a discussion rubric first week of classes. This rubric will be used to grade your engagement in discussions.
For each publication we will discuss in class that day, each student should complete and bring to
class a written document (limit: one page) containing the following elements:

1. 2 to 3 sentence summary of each publication (can be a bulleted list).
2. 2 interesting questions or thoughts that came to you while reading the publication (can be
a bulleted list).

This written sheet should be provided to me or uploaded on blackboard prior to beginning of
class. The intent of this exercise is for you to read each publication and prepare for discussion.
You will be using this written sheet to guide your discussion.

We will spend approximately 30 minutes per publication during class. You are encouraged to
consult other external sources/readings as relevant to help steer the discussions.

The written document, generation of discussion questions and participation in discussions will all
count towards your reading assignment and participation grade. A breakdown of grades for each
category is shown below.

- Written document/summary = 5 pts per class session * 10 in-class sessions = 50 pts
- Leading discussions = 3 articles * 15 pts = 45 points
- Participation in discussion = 5 pts per class session * 10 in-class sessions = 50 points

**Online Discussion (10%)**

Each student will lead and moderate an online discussion of 1 reading assignment. Details will
be provided closer to the assigned date.

**Case Presentations (15%)**

*Case analyses:* There will be 2 case assignments/team on future of work topics. Teams will
analyze, present, and facilitate discussion for a case [teams will be formed on the first day of
class]. Guiding questions for the case discussions will be posted online on Blackboard. You can
add additional questions that emerge during your reading and analysis of the case during the
discussion. The case list is as follows:

Case analyses should include the following: (1) a brief presentation [you can use any medium
including PPT, MS Word, Text Files etc.] outlining the case and any background information;
(2) key questions and topics addressed in the case; (3) a brief analysis of case information [can
be qualitative or quantitative or a combination of the two]; (4) key insights and takeaways from
the case. Please upload your case presentation and notes on Blackboard for the respective case
assignment before the presentation.

Your contribution to the case analyses presentation will be evaluated based on the following
criteria: 1. Clarification/bringing out central ideas in case [5 points] 2. new insights, new
questions raised [5 points] and 3. Key takeaways [5 points].
**Debates (15%)**

In this assignment, your team will be assigned a future of work relevant topic and a side (for or against) to debate. A debate is a structured argument supported by evidence. The debate will be structured in this format:

Round one: The for and against teams present their arguments.

Discussion Period: The teams prepare their responses based on the opposing teams’ arguments in the first round.

Round two: The teams respond with their arguments based on round 1.

There will be 2 debates per team this semester. A rubric will be used to assess debate performance. Other external judges might be invited to assess the debates. Debate topics and logistics will be announced shortly. There are no submissions for this assignment.

**Project and Presentation (25%)**

We all have a role to play in designing the future of work systems either by creating entirely new ways to do work or by improving the current work activities we do. In the final project, you will assume the role of a “work system designer” and pitch an idea to do work differently or improve the current work activities. You can select any industry sector or work activity you like – healthcare, manufacturing, service sector etc. Think about the worker doing typical work activities in that sector and see how you can improve their work. For example, how can technology better help the Starbucks barista we interact with? How will their future of work be? Your pitch (both in the final paper and in the presentation) should contain the following elements (1) The problem/need you are addressing (2) the technology or process or product innovation and how it addresses the problem (3) how does your innovation impact the human who currently does the work or is expected to do the work in the future? how did you integrate human-centered design aspects in your innovation? (4) cost, benefit and value (5) challenges you anticipate and positive impacts you expect over time – include discussion of ethics, economics, well-being, labor issues etc.

**Final paper (15%)**

Final paper should not exceed 15 pages. It is due by **Dec 4th, 2023.** No exceptions will be allowed.

**Final Presentation (10%)**

**Final presentation will be held on Dec 4th, 2023.** Please plan a presentation for approximately 30 minutes, with 10 minutes for questions.
**Attendance**

Regular attendance is expected. As the nature and format of the course requires interactive discussion, students are expected to attend all classes. Classes will begin on time. If there is a genuine need for absence, please contact Dr. Pennathur well in advance, and please inform your team of your absence.

**Grading Scale**

- A: 91-100
- B: 81-90
- C: 71-80
- D: 61-70
- F: ≤ 60

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<tr>
<th>Week</th>
<th>Date</th>
<th>Topic</th>
<th>Assignment (due dates)</th>
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<tr>
<td>1</td>
<td>Aug 28th</td>
<td>Course Introduction</td>
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<td></td>
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<td>Form teams</td>
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<td>Finalize discussion assignments/case picks</td>
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<td>Identify and download reading discussion articles from UTEP library</td>
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<td>Sep 4th</td>
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<td>3</td>
<td>Sep 11th</td>
<td>Overview of Developments and Challenges in Future of Work</td>
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<td>Sep 18th</td>
<td>Information technology and its impact on work</td>
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<td>5</td>
<td>Sep 25th</td>
<td>Information technology and its impact on work</td>
<td>Case 1 presentations</td>
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<td>Online-discussion</td>
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<td>Guest Lecture</td>
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<td>6</td>
<td>Oct 2nd</td>
<td>Information technology and its impact on work</td>
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<td>7</td>
<td>Oct 9th</td>
<td>Organizational Design</td>
<td>Debate 1</td>
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<td>Oct 16th</td>
<td>Organizational Design</td>
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<td>9</td>
<td>Oct 23rd</td>
<td>Worker Characteristics</td>
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<td>10</td>
<td>Oct 30th</td>
<td>Communication, Coordination and Teamwork</td>
<td>Case 2 presentations</td>
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<td>Online-discussion</td>
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<td>11</td>
<td>Nov 6th</td>
<td>Physical and Cognitive Implications and Ergonomics of Future of Work Systems</td>
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<td>12</td>
<td>Nov 13th Physical and Cognitive Implications and Ergonomics of Future of Work Systems</td>
<td>Debate 2</td>
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<td>13</td>
<td>Nov 20th Health and Well-Being Online and In-Class Discussion</td>
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<td>14</td>
<td>Nov 27th Industry sectors and applications</td>
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<td>15</td>
<td>Dec 4th Final Presentations</td>
<td>Final pitch presentation and report due</td>
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Case Study List
All the case studies can be found in this link: [https://hbsp.harvard.edu/educator](https://hbsp.harvard.edu/educator)

**McCormick & Co.: Deploying Artificial Intelligence in New Product Development**
By: [Darren Meister, R. Chandrasekhar](#)
- **Product #:** W25509-PDF-ENG

**Dessa: Growing a Diverse and Inclusive Artificial Intelligence Company**
By: [Cheryl Gladu, Raymond Paquin](#)
- **Product #:** W20880-PDF-ENG

**Catalant's Operating System for the Future of Work**
By: [Christopher Stanton, William R. Kerr, James Palano, Kendall Smith](#)
- **Product #:** 820093-PDF-ENG

**Evie.ai: The Rise of Artificial Intelligence, and the Future of Work**
By: [Damien Joseph, Wee-Kiat Lim, Chong Tack Chun](#)
- **Product #:** NTU226-PDF-ENG

**Telenor: Revolutionizing Retail Banking in Serbia: Digital Transformation of the Customer Experience**
By: [Joerg Niessing, Hilke Plassmann](#)
- **Product #:** IN1328-PDF-ENG

**GitLab and the Future of All-Remote Work (A)**
By: [Prithviraj Choudhury, Emma Salomon](#)
- **Product #:** 620066-PDF-ENG

**Unilever's Response to the Future of Work**
By: [William R. Kerr, Emilie Billaud, Mette Fuglsang Hjortshoej](#)
- **Product #:** 820104-PDF-ENG

**Upwork: Reimagining the Future of Work**
By: [Feng Zhu, Rory McDonald, Marco Iansiti, Aaron Smith](#)
- **Product #:** 616027-PDF-ENG
**Reading Assignments**

**Sept 11**

**Introduction to Future of Work**


**Sept 18**

**Information technology and its impact on work**


**Sept 25** (Online Discussion)

**Information technology and its impact on work**


Information technology and its impact on work


Organizational Design


Leadership


**Oct 23rd**

**Worker Characteristics**


**Oct 30th (Online Discussion)**

**Communication, Coordination and Teamwork**


Nov 6th

Physical and Cognitive Implications and Ergonomics of Future of Work Systems


Nov 13th

Physical and Cognitive Implications and Ergonomics of Future of Work Systems


Nov 20th

Online Discussion
Health and Well-Being


**In-Class**

**Health and Well-Being**


**Nov 27th**

**Industry sectors and applications**


Administrative Drops:
At the discretion of the instructor, a student may be dropped from a course because of excessive absences, neglect or lack of effort. A grade of “W” will be assigned before the course drop deadline and a grade of “F” after the course drop deadline. A grade of “F” received due to disciplinary action imposed by the University overrides a grade of “W” received through a student-initiated or faculty drop.

Class Attendance:
The student is expected to attend all class sessions. It is the responsibility of the student to inform each instructor of extended absences. When, in the judgment of the instructor, a student has been absent to such a degree as to impair his or her status relative to credit for the course, a drop for not attending will count toward the State Allowed Six Drop Limit. If you are failing the class at the time of the drop you may also be given a WF designation. Be advised that a drop could adversely impact visa status, financial aid and other programs. As per UTEP rules, you may be asked to show a UTEP ID at any time during class.

Excused Absences for University-Recognized Activities:
Students who will be absent while representing the University in officially recognized University activities (sports, band, professional conferences, etc.) must notify the Dean of Students not less than ten (10) days prior to the absence. The Dean of Students will provide the student with a letter of excuse for the professors. It is the student’s responsibility to give the letter to the professors prior to the official recognized activity. Students following these procedures will be permitted to make up both assignments and examinations in consultation with faculty.

Students With Disabilities:
If you have a disability and need classroom accommodations, please contact The Center for Accommodations and Support Services (CASS) at 747-5148, or by email to cass@utep.edu, or visit their office located in UTEP Union East, Room 106. For additional information, please visit the CASS website at https://www.utep.edu/student-affairs/cass/.

Academic Integrity:
The University of Texas at El Paso prides itself on its standards of academic excellence. In all matters of intellectual pursuit, UTEP faculty and students must strive to achieve excellence based on the quality of work produced by the individual. In the classroom and in all other academic activities, students are expected to uphold the highest standards of academic integrity. Any form of academic dishonesty is an affront to the pursuit of knowledge and jeopardizes the quality of the degree awarded to all graduates of UTEP.

Any student who commits an act of academic dishonesty is subject to discipline. Academic dishonesty includes, and is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, and any act designed to give unfair advantage to a student or the attempt to commit such acts. Proven violations of the detailed regulations, as printed in the Handbook of Operating Procedures (HOP), and available in the Office of Student Life and on the homepage of the Office of Student Life at www.utep.edu/dos, can result in sanctions
ranging from disciplinary probation, to a failing grade on the work in question, to a failing grade in the course, to suspension or dismissal, among others.

Engineers are educated professionals, and every engineer is expected to subscribe to a professional canon of ethics. Paramount among these is the canon that engineers shall not affix their signatures to documents that are not their own work. This is also expected of engineering students, whether or not the work is being graded individually or as a group! **If academic dishonesty is suspected or observed, please report it to the instructor -- this will be kept in the strictest confidence.**

- If you are suspected of scholastic dishonesty you may not be directly confronted about your conduct by the instructor or proctor. You will however, be reported to the Office of Student Conduct and Conflict Resolution (OSCCR) and your exam will not be admissible. Your grade in the class may not be available until OSCCR makes a final ruling, this may adversely impact your ability to enroll in other classes or graduation.

- If you miss more than one exam, the instructor may choose to administratively drop you from the class. This may adversely impact a visa and financial aid.

- Scholastic dishonesty on homework, lab assignments and all other class assignments will be held to the same standards and requirements of academic honesty as quizzes and exams.

**References**
https://www.niu.edu/citl/resources/guides/instructional-guide/classroom-debates.shtml