More than three decades since the emergence of the environmental justice (EJ) movement in the U.S., environmental injustices continue to unfold within and beyond the borders of this nation. These include new narratives of pollution and sustainability, as well as new forms of injustices associated with climate change, natural disasters, urban development, and policies that affect minority, indigenous, lower income, and other socially marginalized communities.

EJ has now evolved into an essential component of the language of environmental activism, academic research, political debate, and policy making within the U.S. and around the world. This online seminar course will examine concepts, theories, debates, methods, analytic tools, policies, and case studies that contribute to our understanding of EJ and social vulnerability to environmental hazards. We will also explore the diverse ways in which environment and social difference are intertwined, and the social justice implications of this interrelationship. The course is thus intended to serve as a means for conceptualizing the racial/ethnic and socioeconomic dimensions of environmental issues, as well as the environmental aspects of economic and social justice concerns.

The course begins with an introduction to the EJ movement, academic research, and public policy, as well as definitions and scope of EJ (Unit 1). The next phase will focus on examining and understanding the nature, character, and social dimensions of various environmental hazards. The last few decades have been characterized by the emergence of various hazards that affect the health and welfare of people. The dangers may come in many forms: toxic chemical releases from industrial facilities, contamination by hazardous waste in landfills, chronic air pollution, heatwaves, nuclear power plant accidents, as well as natural disasters such as hurricanes and floods. We will begin this phase by examining the research literature on the perception of environmental risks, social amplification of risk, and behavioral responses (Unit 2), risk communication, public policy formation, and determination of acceptable levels of risk (Units 2 and 3), as well as management systems and constraints in mitigating risks and hazards (Unit 3). These themes will be illustrated through examples that focus on specific hazards such as toxic chemicals (Units 4 and 5), hazardous and electronic waste (Unit 6), nuclear power hazards (Unit 7), chronic air pollution (Unit 8), heatwaves (Unit 8), and disasters caused by natural events (Unit 9). We will then examine various methodologies for evaluating social inequalities in the distribution of environmental hazards and related health risks, including cross-sectional and longitudinal/historical approaches, as well as geographic information systems (GIS)-based techniques, online screening tools, and statistical methods that are used for assessing and analyzing EJ. We will end by exploring newly emerging trends (e.g., climate justice, energy justice, and food justice), as well as the future of EJ research and policy (Unit 11).
Course Objectives

• Introduce key concepts and theories of environmental justice (EJ), environmental risk perception, social amplification, risk assessment, and risk communication.

• Understand the nature and social implications of various hazards such as toxic chemicals, hazardous waste, nuclear waste, air pollution, heatwaves, and flooding, as well as explore policy initiatives for managing such hazards and their adverse social impacts.

• Explore the racial/ethnic and socioeconomic dimensions of various environmental issues, as well as the environmental aspects of economic and social justice concerns.

• Provide a critical overview of the empirical research literature on environmental justice analysis in the U.S.

• Introduce data sources, tools, and techniques for assessing environmental risk and EJ.

• Examine the use of qualitative, quantitative, and mixed methods approaches, including GIS and internet-based tools, for EJ assessment.

Course Requirements and Evaluation

This course is designed using a modular format where each week is packaged as a single module or learning unit on the Blackboard course website, so that all reading materials, assignments, discussion handouts, and/or discussion forums are located in a single area (Unit) for a given week. The course will be run as an interactive seminar at the graduate level. In other words, it is structured around a set of readings from academic books and journals that will form the basis for all assignments and discussions. These discussions will take place in 10 virtual (synchronous) class sessions and one online discussion forum, as described in more detail later in this section. Students are expected to actively participate by completing all reading assignments, submitting written commentaries, and engaging in thoughtful discussion of the assigned readings in weekly class discussions. The course does require an intensive and substantial level of engagement with the reading material. All students are expected to participate in a manner that demonstrates adequate reflection and understanding of the subject matter, respect for colleagues in the class, and a willingness to learn and grow. Everyone should feel comfortable sharing their thoughts freely during the virtual class meetings and in the online discussion forums. There are no formal prerequisites for this course, although prior knowledge of qualitative methods, elementary statistics, and/or GIS could be helpful in understanding some of the assigned readings. Specific course requirements are described in more detail below:

Virtual class session: This class requires you to participate in 11 scheduled class sessions (including the Course Introduction on January 19, 2022) that will be held synchronously and online via Blackboard Collaborate Ultra every Wednesday evening. Blackboard Collaborate Ultra runs in your browser, so no additional software is needed. To participate in these virtual meetings, you will need to use a desktop computer/laptop/tablet with a webcam (or a smartphone) that has an internet connection. Each virtual class meeting will begin at 6:00 pm and should end by 8:00 pm. If you are unable to attend a class session, please let me know so that accommodations can be made when appropriate.

Leading class discussion: For Units 1 to 11 (except for Unit 5), each student is required to team up with another student(s) to lead our virtual class discussion. Students leading class
discussion (discussion leaders) will be required to: (a) summarize, synthesize, and critically evaluate the assigned readings; and (b) outline key issues and questions that can be used to generate class discussion. The use of class discussion handouts is mandatory. Discussion leaders are required to send me their handout document (class discussion outline and questions) via email at least 24 hours before our online class meeting (by 6:00 pm that Tuesday). I will post this document on the Blackboard course website under a link within the Unit webpage called Discussion Handout. The class discussion of each assigned reading should not exceed 20-25 minutes. Discussion leaders should begin with a brief introduction or summary (no more than 5 minutes) of each reading, but most of the time should be spent on discussion questions that include and/or extend the topics covered in the readings. At least 4-5 discussion questions must be included for each reading. You are required to include meaningful questions that generate debate and discussion, and not questions that only require reproducing information from the readings. Discussion leaders are responsible for moderating the class discussion and making sure that we do not spend too much class time on any single reading. You will be graded on the following: 1) submitting handout document on time; 2) preparing an adequate number of meaningful questions that encompass all the assigned readings; 3) the quality of their discussion questions (in terms of stimulating thinking, accuracy, and depth); and 4) leadership during the virtual class discussion. A sign-up spreadsheet, available on the Blackboard course website during the first week, will allow students to choose the Unit for which they wish to co-lead the virtual class discussion.

**Moderating online discussion forum:** For Unit 5 (movie week), the assigned feature film will be discussed using the Discussion Forum available on the Blackboard course website. Each student will be required to post one discussion question based on the assigned reading/video for this Unit. Each discussion question must be posted as a new Thread within the Discussion Forum. These discussion questions are required to be posted before 6:00 pm Tuesday, February 22. All students are also required to post a short answer or response to at least two threads in the Discussion Forum. The Discussion Forum will remain open until 6:00 pm Friday, February 25, the deadline for posting responses.

**Weekly commentaries:** Students in the class who are not leading the weekly discussions are required to actively participate in the class discussions and submit a written commentary (not to exceed 3 pages with font size of 12 points) of the readings assigned for that Unit to the instructor. Each commentary must be prepared using Microsoft Word and uploaded through the link for the Unit commentary available on Blackboard. These commentaries will be due at 6:00 pm every Wednesday. I will attempt to grade and return them (with my feedback) on the Blackboard course website within seven days of the posted deadlines. Late work will not be accepted or graded, with the exception of documented family or medical emergencies. The weekly commentary should include the following components:

1. **First section:** summarize (in your own words) the central thesis/ideas/arguments of each assigned article. Each central argument should be no more than a few sentences. What is the most significant idea(s) that each author is trying to communicate?

2. **Second section:** integrate the key ideas provided by the assigned readings for that week and assess their broader relevance. You should briefly describe the theme or topic that links the readings together and discuss this theme(s). Use ideas, examples, or data from
the authors to explain and support your points. You could also discuss what you have learned about the theme/topic, and how the material is relevant or meaningful to you.

3. **Third section**: provide a critical assessment of ideas, arguments, and/or data presented in the readings. You do not necessarily have to critically evaluate all of the readings, but discuss what specific authors could have done to strengthen her/his arguments, whether there are other perspectives that could have better addressed the topic, and if you agree with the assumptions and/or implications of the arguments provided, with adequate justification. You may tie your critical assessment with your own views or experiences.

**Research paper**: The final course requirement is the preparation and submission of a research paper. Students are expected to work individually on a topic of their own choosing that is related to one of the research themes/topics explored in class. Students are expected to use peer-reviewed journal articles and academic books as their sources. The paper could contribute to your own research agenda (i.e., Masters or PhD), but this is not a requirement. Students using this course for the Graduate Certificate in GIST must complete an applied final project where they apply GIS-based methodologies to conduct EJ analysis in a particular study area (case study paper). Students who select this option need to notify the instructor at the beginning of the semester and must have completed an introductory GIS course before enrolling in this class. Completion of the final research paper will proceed in three steps:

1. A one-page proposal must be submitted approximately a month (exact date to be announced in class) before the final paper due date, to enable me to provide guidance and suggestions. You are welcome to meet with me earlier in the semester to discuss and/or finalize your research topic.

2. Each student will record a *presentation* of her/his research paper at the end of the semester that will be discussed in the Final Paper Discussion Forum on the Blackboard course website. You are required to upload your presentation as a PowerPoint document with voice narration at least 48 hours before this class (deadline: 6:00 pm Monday, April 25). Your narrated PowerPoint presentation must not exceed 10 minutes. Each student will also need to provide feedback on two PowerPoint presentations (excluding their own) in the Final Paper Discussion Forum. This implies that every student will need to review two other student presentations to prepare their feedback. I will randomly assign two student discussants to each presentation and post this information on Blackboard. The feedback from each discussant on each presentation should include at least two questions (required) and one suggestion for improvement (optional). The Final Paper Discussion Forum will remain open from Tuesday, April 26 to Saturday, April 30. Students will need to respond to questions on their presentation in the Final Paper Discussion Forum. The feedback received on each presentation should be also be addressed and incorporated in the final written research paper.

3. The final written version of the research paper needs to be submitted on or before 6:00 pm on Wednesday, May 4 (tentative deadline). The text should be double-spaced, 12-point font, with 1 inch margins, and at least 3,500 words in length (but no more than 5,000). It also needs a reference list (in addition to the 3,500 or more words of text) and in-text citations (using APA style). You are expected to use peer-reviewed journal articles and scholarly books as your sources.
All formal written work for this class should adhere to the APA style as described in the *Publication Manual of the American Psychological Association* (6th edition). Information on the APA style has been summarized in a PDF document (*APA Guide*) that can be found under ‘Course Documents’ on the Blackboard course website.

**Course Evaluation and Grading**

The final course grade* will be computed on the basis of the following components/weights:

- Participation in virtual class meetings and discussion forums: 10%
- Weekly commentaries of assigned readings: 32%
- Leading virtual class discussion of assigned readings: 18%
- Final research paper: 40%; comprising:
  - Outline: 2%
  - Presentation and feedback: 10% & 5%
  - Written paper: 23%

*A= 90%-100% / B= 80%-89% / C= 70%-79% / D= 60%-69% / F= 59% and lower.

**Course Communication**

Since this is an online class, we are not going to meet or see each other in the ways you may be accustomed to. However, there are several ways through which we can keep the communication channels open. These are listed below:

**Email:** UTEP e-mail is the easiest and quickest way to reach me. If you contact me via email [ichakraborty@utep.edu], I will make every attempt to respond within 24 hours of receipt. When e-mailing me, make sure to email from your UTEP student account and please put the course number in the subject line. In the body of your e-mail, clearly state your question. At the end of your e-mail, be sure to include your first and last name. You need to send me an email to schedule an appointment for a meeting via phone or Blackboard Collaborate Ultra.

**Virtual meeting:** One-on-one online (virtual) meetings with me can be scheduled for any issues or questions related to the course via email. These will be held on the course website via Blackboard Collaborate Ultra. Blackboard Collaborate Ultra runs in your browser, so no additional software is needed. It is also accessible via your mobile device. If you want to be heard and/or seen, you will need a microphone and/or webcam. Click here for "Collaborate Ultra Help for Participants." Keep in mind that anyone in the virtual session can hear/see you if you use a microphone/webcam. If you need to talk to me privately, make sure to use the private chat option. Here is a quick tutorial on how to do so. To participate in a virtual meeting, click on the Blackboard Collaborate link on the Blackboard course website and then simply "Join" the session.

**Announcements and Home Page:** You are required to check posted ‘Announcements’ as well as the ‘Home Page’ of our Blackboard course website frequently for important course-related messages, reminders, and updates.
Technology Requirements

Course content is delivered via the Internet through the Blackboard learning management system. Ensure your UTEP e-mail account is working and that you have access to the Web and a stable web browser. *Google Chrome* and *Mozilla Firefox* are the best browsers for Blackboard; other browsers may cause complications. When having technical difficulties, update your browser, clear your cache, or try switching to another browser.

You will need to have access to a computer/laptop, scanner, a webcam, and a microphone. You will need to download or update the following software: *Microsoft Office, Adobe Acrobat Reader, Windows Media Player, QuickTime,* and *Java.* Check that your computer hardware and software are up-to-date and able to access all parts of the course. If you do not have a word-processing software, you can download Word and other *Microsoft Office* programs (including Excel, PowerPoint, Outlook and more) for free via UTEP’s Microsoft Office Portal. Click the following link for more information about *Microsoft Office 365* and follow the instructions.

If you encounter technical difficulties beyond your scope of troubleshooting, please contact the UTEP Help Desk as they are trained specifically in assisting with technological needs of students. Please do not contact me for this type of assistance.

Netiquette

As you may already know, online communication can be challenging. It is possible to miscommunicate what you mean or to misunderstand what others mean given the lack of body language and immediate feedback. Therefore, please keep these netiquette (network etiquette) guidelines in mind. Failure to observe them may result in disciplinary action.

1. Respect and courtesy must be provided to classmates and to the instructor at all times. No harassment or inappropriate postings will be tolerated.
2. When reacting to someone else’s message, address the ideas, not the person. Post only what anyone would comfortably state in a face-to-face situation.
3. Blackboard is not a public internet venue; all postings to it should be considered private and confidential. All postings are intended for students and professor only. Please do not copy documents and paste them to a publicly accessible website, blog, or other space.

Textbook

There are no textbooks for this course. All the assigned readings are available for viewing and downloading as PDF documents that can be accessed through the webpage for each Unit on the *Blackboard* course website.
## Course Schedule and Deadlines: Spring 2022

<table>
<thead>
<tr>
<th>Unit</th>
<th>Topic</th>
<th>Format</th>
<th>Dates</th>
<th>Ex Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Course introduction</td>
<td>Virtual class</td>
<td>Jan 19</td>
<td>n/a</td>
</tr>
<tr>
<td>1</td>
<td>Introduction to the EJ movement, research, and policy</td>
<td>Virtual class</td>
<td>Jan 26</td>
<td>Jan 26</td>
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<tr>
<td>2</td>
<td>Environmental risk perception and social amplification</td>
<td>Virtual class</td>
<td>Feb 2</td>
<td>Feb 2</td>
</tr>
<tr>
<td>3</td>
<td>Environmental risk assessment and communication</td>
<td>Virtual class</td>
<td>Feb 9</td>
<td>Feb 9</td>
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<tr>
<td>4</td>
<td>Toxic chemical hazards</td>
<td>Virtual class</td>
<td>Feb 16</td>
<td>Feb 16</td>
</tr>
<tr>
<td>5</td>
<td><em>Movie week: Film TBD</em></td>
<td>Diss. Forum</td>
<td>Feb 22-25</td>
<td>n/a</td>
</tr>
<tr>
<td>6</td>
<td>Hazardous waste</td>
<td>Virtual class</td>
<td>Mar 2</td>
<td>Mar 2</td>
</tr>
<tr>
<td>7</td>
<td>Nuclear hazards</td>
<td>Virtual class</td>
<td>Mar 9</td>
<td>Mar 9</td>
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<tr>
<td>8</td>
<td>Air pollution and Urban heat</td>
<td>Virtual class</td>
<td>Mar 23</td>
<td>Mar 23</td>
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<tr>
<td>9</td>
<td>Natural hazards and disasters</td>
<td>Virtual class</td>
<td>Mar 30</td>
<td>Mar 30</td>
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<tr>
<td>10</td>
<td>EJ metrics and methods: Cross-sectional and longitudinal analysis</td>
<td>Virtual class</td>
<td>Apr 6</td>
<td>Apr 6</td>
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<tr>
<td>11</td>
<td>New directions and emerging topics</td>
<td>Virtual class</td>
<td>Apr 13</td>
<td>Apr 13</td>
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<tr>
<td></td>
<td>Student presentation discussions</td>
<td>Diss. Forum</td>
<td>Apr 26-30</td>
<td>Apr 25</td>
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<tr>
<td></td>
<td>Final written paper</td>
<td></td>
<td>May 4</td>
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*Virtual class:* These sessions will be held at 6:00 pm Wednesday on *Blackboard Collaborate*. Discussion leaders will need to email their Discussion Handout to me by 6:00 pm on the previous day (Tuesday). Each student will need to serve as a discussion leader once (Units 1-4 and 6-11).

*Ex:* Weekly commentary for each Unit will be due at 6:00 pm Wednesday. PowerPoint document for final paper presentation to be uploaded by 6:00 pm Monday, April 25.
Supplementary Course Information

ACADEMIC INTEGRITY: Academic dishonesty is prohibited. It includes, but is not limited to, cheating, plagiarism, and collusion. Cheating may involve copying from or providing information to another student, possessing unauthorized materials during a test, or falsifying research data on reports. Plagiarism occurs when someone intentionally or knowingly represents the words or ideas of another person as one’s own. Collusion involves collaborating with another person to commit any academically dishonest act. It is expected that UTEP students will understand and subscribe to the ideal of academic integrity and that they will be willing to bear individual responsibility for their work. Materials submitted to fulfill academic requirements must represent a student’s own efforts. Any act of academic dishonesty attempted by a UTEP student is unacceptable and will not be tolerated. Violations will be taken seriously and will be referred to the Dean of Students Office for possible disciplinary action, as per UT Board of Regents’ Rules and Regulations and UTEP’s Handbook of Operating Procedures. Students may be suspended or expelled from UTEP for such actions. Refer to https://www.utep.edu/student-affairs/osccr/student-conduct/ for more information.

LATE AND MISSING WORK: Assignments will be allowed to be turned in late only in the event of a documented medical or family emergency. If you do encounter an emergency, you must notify the instructor on or before the due date. Documentation could include a note from a physician, a hospital admittance slip, or correspondence from an academic advisor or the Dean of Students. Foreseeable excused absences (such as participation in university-sanctioned events) also require documentation as well as notifying the instructor at least one week in advance. In the case of foreseeable absences, you must turn work in early rather than late. In each of these situations it is the student’s responsibility to communicate with the instructor.

ALTERNATIVE MEANS OF SUBMITTING WORK IN CASE OF TECHNICAL ISSUES: I strongly suggest that you submit your work with plenty of time to spare in the event that you have a technical issue with the course website, network, and/or your computer. I also suggest you save all your work (answers to discussion points, quizzes, exams, and essays) in a separate Word document as a back-up. This way, you will have evidence that you completed the work and will not lose credit. If you are experiencing difficulties submitting your work through the course website, please contact the UTEP Help Desk. You can email your back-up document as a last resort.

INCOMPLETE GRADES: Incomplete grades (I) will not be given in this course except under exceptional circumstances, based on written documentation, and at the discretion of the instructor.

SPECIAL FACILITIES: The University is committed to providing reasonable accommodations and auxiliary services to students, staff, faculty, job applicants, applicants for admissions, and other beneficiaries of University programs, services and activities with documented disabilities in order to provide them with equal opportunities to participate in programs, services, and activities in compliance with sections 503 and 504 of the Rehabilitation Act of 1973, as amended, and the Americans with Disabilities Act (ADA) of 1990 and the Americans with Disabilities Act Amendments Act (ADAAA) of 2008. Reasonable accommodations will
be made unless it is determined that doing so would cause undue hardship on the University. Students requesting an accommodation based on a disability must register with the UTEP Center for Accommodations and Support Services (CASS). Contact the Center for Accommodations and Support Services at 915-747-5148, or email them at cass@utep.edu, or apply for accommodations online via the CASS portal.

PLAGIARISM DETECTING SOFTWARE: Some of your course work and assessments may submitted to SafeAssign, a plagiarism detecting software. SafeAssign is used review assignment submissions for originality and will help you learn how to properly attribute sources rather than paraphrase.

COPYRIGHT STATEMENT FOR COURSE MATERIALS: All materials used in this course are protected by copyright law. The course materials are only for the use of students currently enrolled in this course and only for the purpose of this course. They may not be further disseminated.

COVID-19 ACCOMMODATIONS: Students are not permitted on campus when they have a positive COVID-19 test, exposure or symptoms. If you are not permitted on campus, you should contact me as soon as possible so we can arrange necessary and appropriate accommodations.

COVID-19 PRECAUTIONS: You must STAY AT HOME and REPORT if you (1) have been diagnosed with COVID-19, (2) are experiencing COVID-19 symptoms, or (3) have had recent contact with a person who has received a positive coronavirus test. Reports should be made at screening.utep.edu. If you know of anyone who should report any of these three criteria, you should encourage them to report. If the individual cannot report, you can report on their behalf by sending an email to COVIDaction@utep.edu.

For each day that you attend campus—for any reason—you must complete the questions on the UTEP screening website (screening.utep.edu) prior to arriving on campus. The website will verify if you are permitted to come to campus. Under no circumstances should anyone come to class when feeling ill or exhibiting any of the known COVID-19 symptoms. If you are feeling unwell, please let me know as soon as possible, and alternative instruction will be provided. Students are advised to minimize the number of encounters with others to avoid infection.

Wear face coverings when in common areas of campus or when others are present. You must wear a face covering over your nose and mouth at all times in this class. If you choose not to wear a face covering, you may not enter the classroom. If you remove your face covering, you will be asked to put it on or leave the classroom. Students who refuse to wear a face covering and follow preventive COVID-19 guidelines will be dismissed from the class and will be subject to disciplinary action according to Section 1.2.3 Health and Safety and Section 1.2.2.5 Disruptions in the UTEP Handbook of Operating Procedures.