

**University of Florida**  
**M.E. RINKER, Sr. SCHOOL OF CONSTRUCTION MANAGEMENT**  
**BCN 5737 ADVANCED ISSUES IN CONSTRUCTION SAFETY AND HEALTH**  
SPRING 2024 | Syllabus

**HONOR CODE:** Students are expected to comply with the spirit and intent of the University of Florida Honor Code, which states, “*We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.*”

**Instructor:** Idris Jeelani, PhD  
**Office:** Rinker 317  
**Email:** Mail tool in e-Learning in Canvas (preferred method)  
**Website:** UF e-Learning in Canvas  
**Office Hours:** By appointment  
**TA:** Ali Katooziani ([al.katooziani@ufl.edu](mailto:al.katooziani@ufl.edu)) and Zixian Zhu ([zhuzixian@ufl.edu](mailto:zhuzixian@ufl.edu))  
**TA office hours:** *Ali Katooziani (TBD), Zixian Zhu (TBD)*

**COURSE DESCRIPTION:** This graduate-level course offers an in-depth exploration of the critical aspects of construction safety and health. It encompasses a comprehensive study of the industry's regulatory framework, hazard management strategies, and effective risk assessment methodologies. The curriculum is designed to equip students with the knowledge to develop and implement robust safety management programs, understand the pivotal role of human factors in construction safety, and enhance safety training and education. Furthermore, the course delves into the leadership dynamics necessary to foster a positive safety culture in construction settings. It concludes with an examination of emerging trends and technologies shaping the future of construction safety. This course prepares students to address complex safety challenges and lead safety initiatives in the construction industry.

**PURPOSE OF COURSE:** This graduate-level course aims to deepen students' understanding of advanced construction safety and health management, fostering their ability to develop and lead effective safety strategies in the industry.

**COURSE LEARNING OUTCOMES (CLOs):**

Upon completion of the course, students will demonstrate the ability to:

1. Articulate the fundamental principles and historical trends in construction safety and health.
2. Understand, interpret, and apply OSHA standards and regulations, and be familiar with international regulations in the construction industry.
3. Apply different strategies to recognize, analyze, and manage construction hazards, and incorporate Prevention through Design (PtD) principles.
4. Apply various accident causation models and use techniques for risk assessment and quantification in construction.
5. Design safety management programs for construction projects, focusing on strategy, policy, and performance measurement.
6. Recognize the role of human behavior and perception in construction safety, and implement strategies to manage these factors.
7. Recognize the role of positive safety culture and effective leadership within construction safety management.
8. Be familiar with emerging technologies and trends, such as AI, robotics, VR, and wearables, in construction safety practices.

**INSTRUCTIONAL METHODS:** In-person lectures, guest lectures, class discussions, Reading assignments

- **Pre-Class Preparation Materials:** *Reading assignments* will help you prepare for the active learning activities and are critical aspect of learning the course content. Your completion of the reading will be worth 10% of your grade and will be assessed using Perusall.
- **Attendance to Live Classes** is required. There will be graded discussions, individual and group work, In Class Exercises in the class and students are encouraged to ask questions and participate.

**COURSE TENTATIVE SCHEDULE:**

<b>Week</b>	<b>Section</b>
Week 1	<b>Overview of Construction Safety and Health:</b> Introduction to safety and health principles in the construction industry, focusing on historical perspectives and current trends.
Week 2	<b>Regulatory Framework and Compliance:</b> Detailed examination of OSHA standards, international regulations, and compliance strategies in the construction industry.
Week 3-4	<b>Hazard Management in Construction:</b> Comprehensive study of identifying, analyzing, and managing construction hazards. Prevention through design (PtD)
Week 5	<b>Risk Assessment and Quantification:</b> Exploration of different accident causation models, and techniques for risk assessment and quantification in construction to evaluate and mitigate risks effectively.
Week 6-7	<b>Building a Safety Management Program:</b> Developing a framework for creating and implementing an effective safety management program in construction projects, including strategy, policy, and performance measurement with special emphasis on leading indicators.
Week 8	<b>Human Factors in Construction Safety:</b> Understanding the role of human behavior and perception in construction safety, and how to address these factors in safety management.
Week 9-10	<b>Safety Training and Education in Construction:</b> Methods and effectiveness of safety training and education in the construction industry, including adult learning principles.
Week 11	<b>Safety Culture and Leadership in Construction:</b> Developing and fostering a positive safety culture and effective leadership within construction safety management.
Week 12-14	<b>Emerging Trends and Technology in Construction Safety:</b> Investigating the impact of new technologies and current research trends in construction safety, such as AI, robotics, VR, and wearables.
<i>Exam Week</i>	Final Exam

**REQUIRED TEXTBOOKS**

N/A

**RECOMMENDED BOOKS**

1. **"Construction Safety and Health Management"** by **Ray Elliot:** This book offers a comprehensive view of safety management in construction, discussing both basic principles and more advanced topics.
2. **"Construction Safety"** by **Jimmie Hinze:** This book incorporates Dr. Hinze’s research conducted over the past 25 years and covering topics such as accident causation theories, contract provisions addressing safety, and the roles of project coordination and of designers.
3. **"Safety, Health, and Environmental Concepts for the Process Industry"** by **Michael Speegle:** While focused on the process industry, this book provides valuable insights into safety and health

management that are applicable to construction.

4. **"Occupational Safety and Health in the Construction Industry" by Charles D. Reese:** This text delves into the unique challenges and hazards of the construction industry, offering strategies for effective safety management.
5. **"Construction Safety Engineering Principles: Designing and Managing Safer Job Sites" by David V. MacCollum:** This book specifically addresses the concept of Prevention through Design (PtD) in construction safety.
6. **"Human Factors in Project Management: Concepts, Tools, and Techniques for Inspiring Teamwork and Motivation" by Zachary Wong:** Although broader than just safety, this book can help in understanding the human factors and team dynamics in construction projects.
7. **"Construction Safety Handbook: A Practical Guide to OSHA Compliance and Injury Prevention" by Mark McGuire Moran:** A useful reference for understanding OSHA regulations and how to implement them in construction projects.

**HOMEWORK POLICY:** Assignments will be accepted up to the established time. Any Assignment turned in after the deadline will be graded at 50% of the original credit. Any assignment turned in more than 48 hours late will not be accepted, and the student will receive a 0 (zero) on the assignment. All work turned in for this course is expected to be of professional quality in content and presentation.

**COURSE GRADING:**

Safety Moment	05%
Quizzes (4-5 Quizzes)	20%
Reading Assignments	10%
Final Exam	25%
Project	25%
In-class exercises/Discussions	15%
<b>Total</b>	<b>100%</b>

**Grade Scale:** Grades will be given according to the following scale.

Letter Grade	Numeric Grade	Letter Grade	Numeric Grade
A	≥ 93	C	≥ 73 AND < 77
A-	≥ 90 AND < 93	C-	≥ 70 AND < 73
B+	≥ 87 AND < 90	D+	≥ 67 AND < 70
B	≥ 83 AND < 87	D	≥ 63 AND < 67
B-	≥ 80 AND < 83	D-	≥ 60 AND < 63
C+	≥ 77 AND < 80	F	<60

**UNIVERSITY POLICY ON ACCOMMODATING STUDENTS WITH DISABILITIES:** Students requesting accommodation for disabilities must first register with the Dean of Students Office (<http://www.dso.ufl.edu/drc/>). The Dean of Students Office will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation. You must submit this documentation prior to submitting assignments (discussion, term paper, extra credit) or taking the quizzes or exams. Accommodations are not retroactive, therefore, students should contact the office as soon as possible in the term for which they are seeking accommodations.

**IN-CLASS RECORDING**

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a

criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A “class lecture” is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

Publication without permission of the instructor is prohibited. To “publish” means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

### **UNIVERSITY HONESTY POLICY**

UF students are bound by The Honor Pledge which states, “*We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.”*” The Conduct Code (<https://sccr.dso.ufl.edu/process/student-conduct-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. If you have any questions or concerns, please consult with the instructor or TAs in this class.

**UNIVERSITY POLICY ON ACADEMIC MISCONDUCT:** Academic honesty and integrity are fundamental values of the University community. Students should be sure that they understand the UF Student Honor Code at <http://www.dso.ufl.edu/students.php>. The Honor Code will be applied in the class. We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity. On all work submitted for credit by students at the university, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” It is Rinker School policy that any incident of cheating, copying, or other attempts to deceive will be penalized by course failure.

**NETIQUETTE, COMMUNICATION COURTESY POLICY:** All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions and chats. Detailed guide is available at <http://teach.ufl.edu/wp-content/uploads/2012/08/NetiquetteGuideforOnlineCourses.pdf>

### **COMMITMENT TO A SAFE AND INCLUSIVE LEARNING ENVIRONMENT**

The University of Florida values broad diversity within our community and is committed to individual and group empowerment, inclusion, and the elimination of discrimination. It is expected that every person in this class will treat one another with dignity and respect regardless of gender, sexuality, disability, age, socioeconomic status, ethnicity, race, and culture.

If you feel like your performance in class is being impacted by discrimination or harassment of any kind, please contact your instructor or any of the following:

- Your academic advisor or Graduate Program Coordinator
- Jennifer Nappo, Director of Human Resources, 352-392-0904, [jpennacc@ufl.edu](mailto:jpennacc@ufl.edu)
- Curtis Taylor, Associate Dean of Student Affairs, 352-392-2177, [taylor@eng.ufl.edu](mailto:taylor@eng.ufl.edu)
- Toshikazu Nishida, Associate Dean of Academic Affairs, 352-392-0943, [nishida@eng.ufl.edu](mailto:nishida@eng.ufl.edu)

## **STUDENT PRIVACY**

There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see: <https://registrar.ufl.edu/ferpa.html>

**GETTING HELP WITH E-LEARNING WEBSITE:** In the case you have technical difficulties with e- Learning in Canvas, please contact the UF Help Desk at: [Learning-support@ufl.edu](mailto:Learning-support@ufl.edu); (352) 392-HELP - select option 2; <https://lss.at.ufl.edu/help.shtml> . If your technical difficulties will cause you to miss a due date/time, you **MUST** report the problem to the UF Help Desk **before** the due date/time.

## **SOFTWARE USE**

All faculty, staff, and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

**CELLPHONES.** Cellphone use is not allowed in classrooms. Use of cellphones during class will discount attendance. Use of cellphones during an exam will result in failing the exam.

**LAPTOPS & TABLETS.** These devices should only be used to take notes related to lectures. Use of these devices for social media or any other unrelated purposes during class hours will result in a penalty of 10 points for every incident.

## **COMMUNICATION**

- Use the e-Learning in Canvas environment to send an email to the instructor and teaching assistant. Do not e-mail the course instructor and teaching assistant outside of the e-Learning in Canvas system because emails received outside of e-Learning will not receive a response. Please allow 36 hours for a response to your email. The instructor and teaching assistant reserve the right not to respond to course inquiries on the weekend.
- You are responsible for addressing grades/omissions within one week of the grade being posted on e-Learning in Canvas. After one week, the grade/input stands for the class regardless of cause or circumstance.

**Note from the instructor:** *The syllabus represents my current plans and objectives. As we go through the semester, those plans may need to change to enhance the class learning opportunity. Such changes, communicated clearly, are not unusual and should be expected.*