**IE 498 RCR “Responsible Conduct of Research” Spring 2024**

 **1 hour of credit for undergraduate students and graduate students**

This course provides a broad overview of policies and practices for the responsible and ethical conduct of research, including ethical foundations, research integrity and misconduct, risk assessment, authorship and publication ethics, data management, conflicts of interest, and research with human and animal subjects.

**Instructors**: Dr. Patricia M. Jones, pmjones5@illinois.edu and Dr. Christopher Lehmann, clehmann@illinois.edu

**Office Hours**: By request. **Class website:**  <https://canvas.illinois.edu/courses/41656>

**Lecture/Discussion**: Mondays 3:00pm in 1302 Everitt Laboratory

**Textbook (optional):** Shamoo, AE and Resnik, DB (2022). *Responsible Conduct of Research* *(Fourth Edition)*. Oxford University Press. ISBN 978-0-19-754709-0

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| **Policy Reminders (and also see** [**https://studentcode.illinois.edu/**](https://studentcode.illinois.edu/)**)** * **Academic Integrity:** It is expected that your exams, quizzes, and assignments will contain only your own work. Any student who misrepresents their work in an exam, quiz, or assignment will receive a grade of zero on that exam, quiz, or assignment; other sanctions may also be pursued, as allowed by University policy.Academic Integrity Policy:[*http://provost.illinois.edu/policies/policies/academic-integrity/*](http://provost.illinois.edu/policies/policies/academic-integrity/)
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* **Students with Disabilities:** All reasonable accommodations required for students with disabilities provided, as ensured by Article 1, Part 1 of the Student Code. Please provide Dr. Jones with your DRES Letter of Accommodations by the end of the first full week of class regarding accommodations in order to ensure their availability.
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**Grading Scale: Straight: A:** 90+ A, **B:** 80-89, **C**: 70-79; **D**: 60-69; **F**: 59 and below.

**Grade Determination**

* 50% in-class exercises/”quizzes”: Each quiz worth 5 points. There are 14 total in the semester and your grade is based on the top 10. So, you can skip or drop four quizzes, and each of the rest is 5% of your final grade.
* 50% homework assignments: Each worth 5 points. There are 14 total in the semester and your grade is based on the top 10. So, you can skip or drop four homeworks, and each of the rest is 5% of your final grade.

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| **Item** | **Points out of Maximum Points** |
| In-class Exercises/Quizzes | (sum of top 10 scores) out of maximum 50 points |
| Homework | (sum of top 10 scores) out of maximum 50 points |
| Final Grade based on | Summation of all of the above, out of max 100 points |

**Schedule for Spring 2024**

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| **Dates**  | **Discussion Topic** |
| Jan 22 | 1. Foundations of moral reasoning and ethical decision making; values of honesty, transparency, integrity, inclusivity; teamwork, communication, mentorship
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| Jan 29 | 1. Foundations of safety engineering; hazards; HFACS; Risk management
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| Feb 5 | 1. Laboratory safety, Good Laboratory Practices, chemical safety, laser safety, hazard communication, OSHA
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| Feb 12 | 1. Research integrity and scientific misconduct
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| Feb 19 | 1. Responsible data management, traceability, privacy, and security
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| Feb 26 | 1. Intellectual property
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| March 4 | 1. Authorship and publication ethics, copyright
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| March 11 | *No class - Spring Break*  |
| March 18 | 1. Ethics of the computational (modeling, simulation, visualization, automation, and AI)
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| March 25 | 1. Ethics of data analysis, statistics, and image processing (aka “how to lie with statistics”)
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| April 1 | 1. Conflicts of interest and commitment, ethics of research funding
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| April 8 | 1. Research with human subjects
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| April 15 | 1. Research with animals
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| April 22 | 1. Special topics: genomic editing, defense, energy, environment....
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| April 29 | 1. Responsible innovation; societal and policy implications from scientific research
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