

NPRE 457
Safety Analysis of Nuclear Reactor Systems
 Spring 2026

1. Please read the assigned-reading lecture-notes chapters.
2. Then answer the corresponding written assignment,
3. For questions about the assignments, please access the teaching assistants by email:
<https://www.mragheb.com/NPRE%20402%20ME%20405%20Nuclear%20Power%20Engineering/talist.htm>
4. Submit the corresponding written assignment through email to <https://canvas.illinois.edu>
5. Please use either the Word or pdf formats
6. In case of internet “rationing” (e. g. to health and government authorities), instability, or collapse through overload, please read the lecture notes and submit the corresponding assignments. Already-taken tests and submitted assignments would be used in assessing the final grade.

Threat of Nuclear War:

- <https://www.youtube.com/watch?v=HSC7Lp1nvx8>
<https://www.youtube.com/watch?v=M7hOpT0IPGI>

Regrettably, some 3,278 colleges and universities across the USA have been impacted by the Covid-19 pandemic, with many temporarily closing their campuses and switching to online classes, affecting more than 22 million students.

To all and everyone we wish good health and well-being.

Number	Date Assigned	Due Date	Description		
1	1/21	1/28	Reading assignment Preface Written Assignment Generate the corresponding fraction of land area required to provide for the energy needs in the USA using different energy options. Hint: The USA existing power flux is 0.4 Watts / m ²		
			Energy option	Power flux [Watts / m ²]	Fraction of Land area needed
			Energy crops, biomass, plants	0.5	
			Wind power	2.5	
			Solar Photo Voltaic panels, (PV)	5.0-20.0	
			Concentrated thermal solar power, deserts	15.0-20.0	
			Nuclear electricity	1,000.0	
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First Midterm			
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Second Midterm			
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NPRE 457 Spring 2026 Third Exam			

Assignments Policy

Assignments will be turned in at the beginning of the class period, one week from the day they are assigned.

They need to be submitted earlier when tests are scheduled.

The first five minutes of the class period will be devoted for turning in, and returning graded assignments.

Late assignments will be assigned only a partial grade. Please try to submit them on time since once the assignments are graded and returned to the class, late assignments cannot be accepted any more.

If you are having difficulties with an assignment, you are encouraged to seek help from the teaching assistants (TAs) during their office hours. Questions may be e-mailed to the TA's, but face-to-face interaction is more beneficial.

Although you are encouraged to consult with each other if you are having difficulties, you are kindly expected to submit work that shows your individual effort. Please do not submit a copy of another person's work as your own. Copies of other people's assignments are not conducive to learning, and are unacceptable.

For further information, please read the detailed assignments guidelines.