

NTHU NES 541000, Fall 2014, Nuclear Reactor Engineering
反應器工程 (Graduate Level, Offered in English)

Instructor: Prof. Shao-Wen Chen, 陳紹文教授

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Lecture time: W3,W4, F3, F4; **Classroom:** ESS-503

Grades:

Homework: 15%, Final Project: 15% (1~3 persons as a group)

1st Midterm Exam: 23%, 2nd Midterm Exam: 23%, Final Exam: 24%

Note:

1. HW due: **1 week** after assigned.
2. **No plagiarizing! No copy!**

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Textbook: James H. Rust, 1979, "Nuclear Power Plant Engineering", Haralson Publishing Company, Buchanan, Georgia. ISBN: 0-934534-00-4.

References: Neil E. Todreas, Mujid Kazimi, "Nuclear Systems I & II", Hemisphere Publishing Corp., ISBN: 1-56032-051-6 & 1-56032-079-6

Tentative outline: (The following outline and dates are subject to change due to unexpected events or other issues.)

1. Chapter 1 Descriptions of Nuclear Reactors (2 hours)
2. Chapter 2 Thermodynamics of Nuclear Power Plants (6 hours)
3. Chapter 3 Fluid Flow Concepts (6 hours)

1st Midterm Exam, 10/22, 6:00pm, ESS503 (Expected)

4. Chapter 4 Fluid System Analysis (7 hours)
5. Short Introductory Presentations (5 minutes/each group)
6. Chapter 5 Heat Generation in Nuclear Reactors (7 hours)

2nd Midterm Exam, 12/3, 6:00pm, ESS503 (Expected)

7. Chapter 6 Heat Transfer in Nuclear Power Systems (5 hours)
8. Chapter 7 Reactor Thermal-Hydraulics Analysis (5 hours)
9. Chapter 8 Stress Analysis in Nuclear Reactor Systems (2 hours)
10. Chapter 9 Fluid Transients (2 hours)
11. Final Project Presentations (20 minutes/each group; also submit slides and report)

Final Exam, 1/14, 6:00pm, ESS503 (Expected)