

NTHU NES 541000, Fall 2021
Nuclear Reactor Engineering
反應器工程 (Graduate Level, Offered in English)

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

Office: 李存敏館 607 (LTM-607); **Tel:** 34169; **E-mail:** chensw@mx.nthu.edu.tw

Lecture time: W3,W4, F3, F4; **Classroom:** LTM-203

Grades:

Homework: 15%, Final Project: 15%

Midterm Exam: 35%, Final Exam: 35%

Note:

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

TA: TBD ; **Office:** LTM-510

E-mail: TBD ; **Tel:** 34299

NTHU iLMS Website: <http://lms.nthu.edu.tw/>

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)
4. Chapter 4 Fluid System Analysis (7 hours)

Midterm Exam, 11/3 (Wed.), 10:00am, LTM-203 (Expected)

5. Chapter 5 Heat Generation in Nuclear Reactors (7 hours)
6. Chapter 6 Heat Transfer in Nuclear Power Systems (5 hours)
7. Chapter 7 Reactor Thermal-Hydraulics Analysis (5 hours)
8. Chapter 8 Stress Analysis in Nuclear Reactor Systems (2 hours)
9. Chapter 9 Fluid Transients (2 hours)
10. Final Project Presentations (15 minutes; also submit slides and report)

Final Exam, 1/12 (Wed.), 10:00am, LTM-203 (Expected)