

**“Nuclear Power in Space”
Gerald Kulcinski
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Prerequisites (preferred)

**-Senior or Graduate Status in Engr. or Physics
-At least one course in Materials, Nuclear or Atomic
Physics, Heat Transfer, and Thermodynamics**

Book(Reference Only)

- 1) “Space Nuclear Power” J. A. Angelo & D. Buden Orbit
Book Company, 1985, ≈ \$40 + Shipping**
- 2) “A Critical Review of SPACE NUCLEAR POWER AND
PROPULSION, 1984-1993”, ed., Mohamed S. EL-Genk,
AIP Press, New York, 1994.**
- 3) “Nuclear Power from Underseas to Outer Space”, J.
W. Simpson, American Nuclear Society Press, La Grange
Park, IL, 1995**

-Class notes on Web

<http://silver.neep.wisc.edu/~neep602/SPRING00/neep602.html>

Grading

- Exams - 60%**
(2-1 hr exams, 30% ea.)
- Term paper-30%**
- Class Participation - 10%**

26-Apr-00			
Syllabus For NEEP 602-Spring-2000			
Nuclear Power in Space			
Room 235 Materials Science			
8:50-9:40			
Date	#	Day	Topic
24-Jan	1	M	Introduction
26-Jan	2	W	Need For Nuclear Power in Space
28-Jan	3	F	History Of Nuclear Power in Space
31-Jan		M	No Class
2-Feb		W	No Class
4-Feb	4	F	Nuclear Principles
7-Feb	5	M	RTG-Fuel
9-Feb	6	W	RTG-General Principles
11-Feb	7	F	RTG-General Principles
14-Feb	8	M	RTG-Energy Conversion-RTG
16-Feb	9	W	Thermionic Energy Conversion
18-Feb	10	F	Energy Conversion Dynamic cycles
21-Feb	11	M	Energy Conversion Dynamic cycles
23-Feb	12	W	Propulsion Fission
25-Feb	13	F	Propulsion Fission
28-Feb	14	M	Orbital Mechanics for Nuclear Propulsion-(Dr. Santarius)
1-Mar	15	W	Propulsion Fusion-(Dr. Santarius)
3-Mar	16	F	Exam-1
6-Mar	17	M	Review Exam-1
8-Mar	18	W	Heat Pipes/Heat Rejection-(pick topic for term paper)
10-Mar	19	F	Heat Pipes/Heat Rejection
13-Mar		M	Spring Break
15-Mar		W	Spring Break
17-Mar		F	Spring Break
20-Mar	20	M	SP-100 Overall Design
22-Mar	21	W	SP-100 Overall Design
24-Mar	22	F	SP-100 Evolution
27-Mar	23	M	SP-100 Evolution
29-Mar	24	W	SP-100 Fuel
31-Mar	25	F	SP-100 Fuel
3-Apr	26	M	Detailed outline of term paper due plus Discussion
5-Apr	27	W	SP-100-Materials
7-Apr	28	F	SP-100-Materials
10-Apr	29	M	SP-100 Power Conversion
12-Apr	30	W	No Class
14-Apr	31	F	SP-100 Power Conversion
17-Apr	32	M	Exam-2
19-Apr	33	W	Review Exam-2
21-Apr		F	Good Friday-Recess
24-Apr	34	M	Soviet Reactors
26-Apr	35	W	Soviet Reactors-Topaz
28-Apr	36	F	Multi MW Reactors
1-May	37	M	Multi MW Reactors
3-May	38	W	Radiation Effects
5-May	39	F	Safety
8-May	40	M	Presentation of Term Papers
10-May	41	W	Presentation of Term Papers
12-May	42	F	Presentation of Term Papers
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