

Administrative Master Syllabus

Course Information

Course Title	Nuclear Power Plant Systems I
Course Prefix, Num. and Title	NUCP 2470 Nuclear Power Plant Systems I
Division	Vocational Science
Department	Nuclear Power Technology
Course Type	WECM Course
Course Catalog Description	Study of components and systems used in nuclear power plants and their relationship to protecting the reactor core. Topics include valve packing and gland adjustment, electrical safety, electrical switchgear components, procedures, acid and caustic transfer, various cooling water systems, steam systems, electrical distribution and more. Includes lab.
Pre-Requisites	ENER 1350 or PTAC 1302; NUCP 1370 and NUCP 1373
Co-Requisites	Enter Co-Requisites Here.

Semester Credit Hours

Total Semester Credit Hours (SCH): Lecture Hours:	4:3:2
Lab/Other Hours	
Equated Pay Hours	4
Lab/Other Hours Breakdown: Lab Hours	
Lab/Other Hours Breakdown: Clinical Hours	2
Lab/Other Hours Breakdown: Practicum Hours	Enter Practicum Hours Here.
Other Hours Breakdown	List Total Lab/Other Hours Here.

Approval Signatures

Title	Signature	Date
Department Head:		
Division Chair:		
VPI:		

Additional Course Information

Topical Outline: Each offering of this course must include the following topics (be sure to include information regarding lab, practicum, and clinical or other non-lecture instruction).

TOPICAL OUTLINE	DEDICATED INSTRUCTIONAL TIME
Limiter Valve Act.	3
Switchgear Components	4
Verbal Communications	1.5
Closure Requirements	1
Waterhammer	1
Valve Packing and Gland Adjustment	1
Valve and Valve Position	4
Electrical Safety	1
Acid and Caustic Transfer	1
Fire Protection	2
Pressurized Gas Distribution	2
Administrative Procedures	5
Plant Procedures	1
Plant Communications	2
Offsite Electrical Distribution	4
Non-Class 1E 13.8/4.16 KV Electrical	3
Aux Fuel Oil Storage and Transfer	2
Auxiliary Steam	4
Circulating Water	2
Condensate Storage and Transfer	2
Demineralizer and Demineralizer Theory	6

Lab Work:

Pant tours and / or PowerPoint.

The course will feature an integrated lab to enhance the lectures.

Learning Outcomes – Upon successful completion of this course, students will:

1. Explain fundamental theory concepts used in classical, atomic and nuclear physics and the neutron life cycle.
2. Explain properties of materials used in a Nuclear Reactor Plant.
3. Describe basic nuclear power plant primary systems.

Methods of Assessment:

Periodic written quizzes and exams.

Exam analysis will be performed to identify weaknesses in program.

Required text(s), optional text(s) and/or materials to be supplied by the student:

Course specific text will be specified and/or industry specific handouts will be provided.

Suggested Course Maximum:

35

List any specific or physical requirements beyond a typical classroom required to teach the course.

None, except lab use as needed for lecture demonstration.

Course Requirements/Grading System: Describe any course specific requirements such as research papers or reading assignments and the generalized grading format for the course.

1. Quizzes, homework assignments, and class participation 25%
2. Cross Disciplinary Skills (Lab, project, attendance, cooperation, work ethic, safety, teamwork, housekeeping, attitude, etc.) 25%
3. Mid-term Exam 25%
4. Final Examination 25% 90 to 100: A 80 to 89: B 70 to 79: C 60 to 69: D 0 to 59: F

90 to 100: A

80 to 89: B

70 to 79: C

60 to 69: D

0 to 59: F

Note: For the additional NUCP certificate, the student must complete the course with a minimum of 80%.



Curriculum Checklist:

- Administrative General Education Course** (from ACGM, but not in WCJC Core) – No additional documents needed.
- Administrative WCJC Core Course** – Attach the Core Curriculum Review Forms
 - Critical Thinking
 - Communication
 - Empirical & Quantitative Skills
 - Teamwork
 - Social Responsibility
 - Personal Responsibility
- WECM Course** – If needed, revise the Program SCANS Matrix and Competencies Checklist