



**THIAGARAJAR COLLEGE OF ENGINEERING - MADURAI 625 015**  
**TCE-III**

<b>S.No</b>	<b>One credit course need analysis sheet</b>	
<b>1.</b>	<b>Name of the Course</b>	Nuclear Engineering
<b>2.</b>	<b>Name of the Industry</b>	Consultant
<b>3.</b>	<b>Name of the SIG associated with</b>	Thermal Engineering
<b>4.</b>	<b>Motivation for offering the course</b>	To expose the opportunities in the field of Nuclear power plant
<b>4.1</b>	<b>Feedback (If yes, Details of the feedback as per the annexure I)</b>	
	<b>From Recruiter</b>	<b>NO</b>
	<b>From Employer</b>	<b>NO</b>
	<b>From Alumni</b>	<b>NO</b>
	<b>From Academic Council members</b>	<b>NO</b>
	<b>From Board of Studies members</b>	<b>NO</b>
	<b>From Senior students</b>	<b>NO</b>
	<b>From current students</b>	<b>NO</b>
	<b>From Performance Assessment Committee</b>	<b>NO</b>
	<b>From Department Advisory committee</b>	<b>Yes</b>
<b>4.2</b>	<b>Faculty participation in Seminar/FDP (If yes, details)</b>	
	<b>At higher learning institutes</b>	
	<b>At Industry</b>	
<b>5.</b>	<b>Outcomes expected</b>	
	<b>Technology transfer</b>	
	<b>Student Internship</b>	<b>yes</b>
	<b>Placement</b>	<b>yes</b>
	<b>Organizing FDP/seminar at TCE</b>	
	<b>Collaborative research/consultancy projects</b>	<b>yes</b>
	<b>Faculty as Trainee/Trainer in the Industry</b>	
	<b>Joint publications</b>	
	<b>Setting up of Lab/Infrastructure</b>	



**THIAGARAJAR COLLEGE OF ENGINEERING - MADURAI 625 015**  
**TCE-III**

Course Schedule

Name of the Course: Nuclear Engineering

Name of the Industry: Consultant

Name of the Expert: Prof. C.Kothandaraman

Number of Students enrolled: 19

Name of the Faculty: M.S.Govardhanan

Date/Time/Venue: 19.03.2017 and 20.03.2017 , Dept.Seminar Hall

<b>Time</b>	<b>Topic</b>
	19.03.2017
9.00 to 10.30	National and international scenario on nuclear power Atoms, electrons, Protons, Nucleus, Neutrons, Scattering, Thermal neutrons, controlled and uncontrolled chain reactions Fission of nucleus, basis for power generation, future power generation by fusion
10.45 to 12.15	Nuclear power generating systems: Boiling water reactors (BWR), Pressurized water reactors (PWR), Pressurized heavy water reactors (PHWR)
12.15 to 13.45	Gas cooled thermal reactors (HTGR), Liquid metal cooled fast breed reactor (LMFBR), Light water breed reactor (LWBR)
14.15 to 15.45	Description of plant :Site characteristics, structures, components, equipment & systems, reactor
16.00 to 17.30	Coolant systems, safety features, instrumentation & controls, Electric power systems, auxiliary systems, radioactive waste management
	20.03.2017
9.00 to 12.30	Radiation Protection: History, units of radiation ( Roentgen, exposure rate, imparted energy, Rad, Rem ), Effects on the human cell
13.30 to 17.00	World's Nuclear reactors and plant operation : Nuclear plants in Limerick, south Texas and Kudan Kulam .Accidents occurred in three mile island plant, Chernobille and Fukushima plants and the variable causes ( cooling water loss, control rod drive failure and insufficient training of operating personnel) Plant operation in i) start-up ( cold, hot and normal) ii) shut down (unloading of turbine-generator, maintain steam generator level, Boron dilution) Preventive maintenance and corrective maintenance Safety Standards for Nuclear power plant

*M. S. Govardhanan*

**Signature of the Faculty coordinator**


**THIAGARAJAR COLLEGE OF ENGINEERING - MADURAI 625 015**

Course Instructor Feedback for One/Two credit course

**TCE-III**

Name of the Course: Nuclear Engineering

Name of the Industry: Consultant

Name of the Expert: Prof. C.Kothandaraman

Number of Students enrolled: 19

Name of the Faculty: M.S.Govardhanan

Date/Time/Venue: 19.03.2017 and 20.03.2017 , Dept.Seminar Hall

	Comments
Student attendance	100%
Level of the students in understanding the concepts	Good
Any suggestions regarding new content to be included as Prerequisites/Special electives	Nil
Hall/Lab arrangements	Good
Hospitality	Good