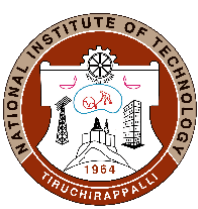


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DEPARTMENT OF MECHANICAL ENGINEERING

COURSE PLAN – PART I			
Name of the programme and specialization	M.Tech, Thermal Power Engineering		
Course Title	Boiler Auxiliaries and Performance Evaluation		
Course Code	ME 632	No. of Credits	3
Course Code of Pre-requisite subject(s)			
Session	Jan 2021 - Apr 2021	Section (if, applicable)	
Name of Faculty	Dr. AR. Veerappan	Department	Mechanical
Official Email	aveer@nitt.edu	Telephone No.	+91 9443995121
Name of Course Coordinator(s) (if, applicable)			
Official E-mail		Telephone No.	
Course Type (please tick appropriately)	<input type="checkbox"/> Core course	<input checked="" type="checkbox"/> Elective course	
Syllabus (approved in BoS)			
<p>Boiler types – Specification – Circulating systems - Efficiency calculation - Balance diagram – Drum Internals – Desuperheaters.</p> <p>Fuel and Ash handling Equipment – Mills - Specification – Selection – Operation – Maintenance.</p> <p>Feed pumps – Different types, Specifications, Operation and maintenance aspects - Fans, blowers – Applications – Performance requirements, Selection, Operation and maintenance.</p> <p>Dust cleaning equipment – Selection criteria – Design, operation and maintenance of electro static precipitators, Bag filters.</p> <p>Soot blowers – Various types and their constructional features – Specifications – Selection – Operation and Maintenance.</p>			
COURSE OBJECTIVES			
<ol style="list-style-type: none"> 1. To understand the concepts of boiler types, circulation system and desuperheaters 2. To understand the types of fuel and ash handling equipment 3. To learn feed pumps and air draft system 			



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4. To familiarize with the working principal of electrostatic precipitator

5. To learn soot blowers selection, operation and maintenance

MAPPING OF COs with POs

Course Outcomes	Programme Outcomes (PO) (Enter Numbers only)
1. To understand the concepts of boiler types, circulation systems and desuperheaters	1, 2, 3
2. To describe the feed pumps and air draft system	1,2,3,4
3. To familiarize with the working principal of electrostatic precipitator	1,2,3,4

COURSE PLAN – PART II

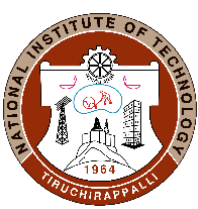
COURSE OVERVIEW

Boiler Auxiliaries and Performance Evaluation covers the concept of boiler and its types, fuel and ash handling equipments. This course will introduce students to the fundamentals feed pumps, dust cleaning equipments and soot blowers specifications, selections and performance evaluation. Also this course introduce operation and maintenance of power plant equipments.

COURSE TEACHING AND LEARNING ACTIVITIES

(Add more rows)

S.No.	Week/Contact Hours	Topic	Mode of Delivery
1	1st week	Boiler types – Specification	Online (MS Teams)
2	2 nd week	Circulating systems - Efficiency calculation	Online (MS Teams)
3	3 rd week	Balance diagram - Drum Internals – Desuperheaters	Online (MS Teams)
4	4 th week	Fuel and Ash handling Equipment	Online (MS Teams)
5	5 th week	Mills - Specification – Selection	Online (MS Teams)
6	6 th week	Mills - Operation – Maintenance.	Online (MS Teams)



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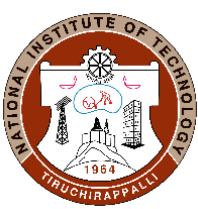
7	7 th week	Feed pumps – Different types, Specifications	Online (MS Teams)
8	8 th week	Feed pumps - Operation and maintenance aspects	Online (MS Teams)
9	9 th week	Fans, blowers – Applications – Performance requirements, Selection, Operation and maintenance.	Online (MS Teams)
10	10 th week	Dust cleaning equipment – Selection criteria	Online (MS Teams)
11	11 th week	Design, operation and maintenance of electro static precipitators, Bag filters.	Online (MS Teams)
12	12 th week	Soot blowers – Various types and their constructional features	Online (MS Teams)
13	13 th week	Soot blowers - Specifications – Selection	Online (MS Teams)
14	14 th week	Soot blowers - Operation and Maintenance.	Online (MS Teams)

COURSE ASSESSMENT METHODS (shall range from 4 to 6)

S.No.	Mode of Assessment	Week	Duration	% Weightage
1	CT1	6 th	1.5 hrs	20
2	Assignment 1	-		15
3	CT2	10 th	1.5 hrs	20
4	Assignment 2	-		15
CPA	Compensation Assessment*	As per the academic schedule		20
6	Final Assessment *			30

***mandatory; refer to guidelines on page 4**

COURSE EXIT SURVEY (mention the ways in which the feedback about the course shall be assessed)



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Feedback about the course shall be collected from the students during the last week of the period

COURSE POLICY (including compensation assessment to be specified)

MODE OF CORRESPONDENCE

Email: aveer@nitt.edu, Mobile: +91 9443995121

COMPENSATION ASSESSMENT POLICY

One compensation assessment in the form of viva voce shall be conducted for the students failed in appearing for assessment I, II or both I & II.

ATTENDANCE POLICY (A uniform attendance policy as specified below shall be followed)

- At least 75% attendance in each course is mandatory.
- A maximum of 10% shall be allowed under On Duty (OD) category.
- Students with less than 65% of attendance shall be prevented from writing the final assessment and shall be awarded 'V' grade.

ACADEMIC DISHONESTY & PLAGIARISM

- Possessing a mobile phone, carrying bits of paper, talking to other students, copying from others during an assessment will be treated as punishable dishonesty.
- Zero mark to be awarded for the offenders. For copying from another student, both students get the same penalty of zero mark.
- The departmental disciplinary committee including the course faculty member, PAC chairperson and the HoD, as members shall verify the facts of the malpractice and award the punishment if the student is found guilty. The report shall be submitted to the Academic office.
- The above policy against academic dishonesty shall be applicable for all the programmes.

ADDITIONAL INFORMATION, IF ANY

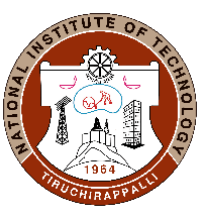
FOR APPROVAL

Course Faculty

CC- Chairperson

C.T. Ravi Sankar

HOD



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Guidelines

- a) The number of assessments for any theory course shall range from 4 to 6.
- b) Every theory course shall have a final assessment on the entire syllabus with at least 30% weightage.
- c) One compensation assessment for absentees in assessments (other than final assessment) is mandatory. Only genuine cases of absence shall be considered.
- d) The passing minimum shall be as per the regulations.

B.Tech. Admitted in				P.G.
2018	2017	2016	2015	
35% or (Class average/2) whichever is greater.		(Peak/3) or (Class Average/2) whichever is lower		40%

- e) Attendance policy and the policy on academic dishonesty & plagiarism by students are uniform for all the courses.
- f) Absolute grading policy shall be incorporated if the number of students per course is less than 10.
- g) Necessary care shall be taken to ensure that the course plan is reasonable and is objective.