



THIAGARAJAR COLLEGE OF ENGINEERING - MADURAI 625 015
TCE-III

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



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Course Schedule

Name of the Course: Basics of HVAC

Name of the Industry: ADES, Chennai

Name of the Expert: Regobert

Number of Students enrolled: 15

Name of the Faculty: M.S.Govardhanan

Date/Time/Venue: 22nd and 23rd October 2016, Dept.Seminar Hall

Time	Topic
22 nd October 2016	
9.00 to 10.30	Definition of HVAC, Energy usage of HVAC, Scope of Energy saving, HVAC and environment, Greenhouse effect, Global warming, Ozone Layer Depletion, Basic HVAC terminologies
10.45 to 12.15	Refrigeration cycle, Components of Refrigeration Cycle. Different types of Compressors,
12.15 to 13.45	Comfort conditions, Different types of Heat Load, Building Survey, Sources of Heat, SHGC and U value of Glass, Factors to be considered before deciding on AC
14.15 to 15.45	Life Cycle Cost, Total cost of ownership, Star Rating of Air-conditioners, Energy Conservation Building Codes, Refrigerant Phase out Schedule, Indoor Air Quality – IAQ, Sick Building Syndrome – SBS, ASHRAE standard 62.1, Green Buildings, LEED Certification, Categories of HVAC System like Unitary, Semi-Central, Central HVAC and its Selection, Air-Cooled Systems – Water Cooled Systems
16.00 to 17.30	Variable Refrigerant Flow Systems – VRF, Vapour Absorption Systems, Air Distribution System and its Design Study of Cost verses Benefit of different systems, Installation procedures of different types of HVAC System, Electrical Safety Precautions, Different types of Maintenance activities, Safety at Work.
23 rd October 2016	
9.00 to 12.30	Detailed heat load estimation as done in industry
13.30 to 18.00	Estimation heat load by students for different types of building

Signature of the Faculty coordinator


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Course Instructor Feedback for One/Two credit course

TCE-III

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	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