



**NATIONAL INSTITUTE OF TECHNOLOGY, TIRUCHIRAPPALLI**  
**DEPARTMENT OF CHEMICAL ENGINEERING**

COURSE PLAN – PART I			
<b>Programme</b>	B.Tech. Chemical Engineering		
<b>Course Title</b>	MASS TRANSFER LAB		
<b>Course Code</b>	CLLR16	<b>No. of Credits</b>	2
<b>Course Code of Pre-requisite subject(s)</b>	CLPC 20, CLPC 24		
<b>Session</b>	July 2019	<b>Section (if, applicable)</b>	VII Semester
<b>Name of Faculty</b>	Dr.K.M.Meera S.Begum Dr.M.Matheswaran	<b>Department</b>	Chemical Engineering
<b>Email</b>	meera@nitt.edu matheswaran@nitt.edu	<b>Telephone No.</b>	0431-250 3109, 3120
<b>Name of Course Coordinator(s) (if, applicable)</b>	NA		
<b>E-mail</b>	NA	<b>Telephone No.</b>	
<b>Course Type</b>	<input type="checkbox"/> Core course	<input type="checkbox"/> Elective course	<input checked="" type="checkbox"/> ELR
<b>Syllabus (approved in BoS)</b>			
<b>Experiments on</b> 1. Diffusion studies 2. Wetted wall Tower 3. Simple Distillation 4. Steam Distillation 5. Surface Evaporation 6. Air Drying /7. Vacuum Drying 8. Leaching 9. Batch Adsorption 10. Recirculating Humidifier			
<b>COURSE OBJECTIVES</b>			
To provide the practical exposure for applying the concepts of mass transfer operations and estimate the mass transfer design parameters.			
<b>COURSE OUTCOMES (CO)</b>			
CO1 : The students must be able to verify the basics learnt in the theory and apply those concepts.			
CO2 : To interpret the data collected in the laboratory and evaluate the performance of mass transfer equipments.			
<b>Course Outcomes</b>	<b>Aligned Programme Outcomes (PO)</b>		
1. CO 1	1,2, 4, 5, 8, 9, 10, 11 and 12		
2. CO 2	1,2, 3, 4, 5, 6, 8, 9, 10, 11 and 12		

**COURSE PLAN – PART II**

**COURSE TEACHING AND LEARNING ACTIVITIES**

S.No.	Week/Contact Hours	Topic	Mode of Delivery
1.	1 <sup>st</sup> week	Determination of Diffusion coefficient for Liquid in Air and Mass Transfer Coefficient for Solid in Air	Experiment
2.	2 <sup>nd</sup> week	Determination of Mass Transfer coefficient using Wetted wall column	Experiment
3.	3 <sup>rd</sup> week	Verification of Rayleigh's equation in Simple distillation	Experiment
4.	4 <sup>th</sup> week	Determination of Thermal and Vaporisation efficiency in Steam Distillation.	Experiment
5.	5 <sup>th</sup> week	Determination of Mass Transfer coefficient in Surface Evaporation	Experiment
6.	6 <sup>th</sup> week	Studies on Air drying and Determination of Drying characteristics	Experiment
7.	7 <sup>th</sup> week	Studies on Vacuum drying and Determination of Drying characteristics	Experiment
8.	8 <sup>th</sup> week	Determination of Stage efficiency in Leaching	Experiment
9.	9 <sup>th</sup> week	Verification of Freundlich adsorption isotherm	Experiment
10.	10 <sup>th</sup> week	Recirculating Humidifier	Demonstration

**COURSE ASSESSMENT METHODS (shall range from 4 to 6)**

S.No.	Mode of Assessment	Week/Date	Duration	% Weightage
1.	Observation, calculations and Record in Lab classes	Average of valuation at each class	3 hours/class	60
2.	Final Assessment- Experiment	At the end of the course	2 hrs and 30 minutes	30
3.	Final assessment-Viva	At the end of the course	10 minutes	10

**Essesntial readings: Textbooks, Reference books etc.,**

Laboratory manual

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

- Students feedback through class committee meetings
- Questionnaire during final assessment examination

**COURSE POLICY (preferred mode of correspondence with students, policy on attendance, compensation assessment, , academic honesty and plagiarism etc.)**

**MODE OF CORRESPONDENCE (email/ phone etc):**

Faculty may be contacted by email.

**ATTENDANCE**

- 75% attendance 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 attending the final assessment and shall be awarded 'V' grade.

**COMPENSATION ASSESSMENT**

Those who are absent during the course on genuine (**medical and official only**) grounds will be allowed to **redo upto TWO experiments.**

**ACADEMIC HONESTY & PLAGIARISM**


- Possessing a mobile phone, carrying bits of paper, talking to other students, copying from others during final 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 constituted with the 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 policy against academic dishonesty shall be applicable for the current batches also.

**ADDITIONAL INFORMATION**

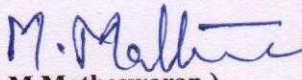
Breakage of glasswares to be replaced by the respective students.

**FOR APPROVAL**

Course Faculty : 1.

  
(Dr.K.M.Meera S.Begum)


2.

  
(Dr.M.Matheswaran )

CC-Chairperson :

  
(Dr.M.Arivazhagan)

HOD :

  
(Dr.K.M.Meera S.Begum)