

**Faculty of Engineering & Technology, SRM University, Kattankulathur-603203**  
**School of Mechanical Engineering**  
**Department of Mechanical Engineering**  
**Course Plan**

**M. Tech [Computer Integrated Manufacturing]**

**Course Code: ME2214**

**Course title: COMPUTER AIDED PROCESS PLANNING**

**Semester: II**

**Academic year: 2013-14 / Even Semester**

**Section details:**

Class	Room No.	Details of faculty member				
		Name	Room No.	Intercom	e-mail id	Student contact time
M. Tech [CIM]	HITECH 505/1	J.SANTHAKUMAR	MEC 101	1814	Santhakumar.j@ktr.srmuniv.ac.in	Mon 12.30 – 1.30 pm

**Direct assessment details:**

Name of assessment	Topics	Tentative date	Duration (minutes)
Cycle test	Process Planning, approaches to process planning – Study of a typical process planning – role of process planning in CAD / CAM integration-Concurrent Engineering. Tolerance concepts – Geometric Tolerancing – Drafting Practices in Dimensioning and Tolerancing – Geometric Transformation – Data Structure – GT coding , DCLASS , OPITZ system ,MICLASS system	18.02.14	100
Surprise test	Variant Process Planning , Generative Process planning, Process Capability Analysis	04.03.14	15
Term paper	Production families – CAM I, CAPP,MIPLAN, APPAS, AUTOPLAN and PRO, CPPP	11.03.14	100
Model examination	Full syllabus	22.04.14	3 hrs

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**ME2214- COMPUTER AIDED PROCESS PLANNING**

Sl. No	Title	References
1	Process Planning	R1
2	Approaches to process planning	R1
3	Study of a typical process planning	R1
4	Role of process planning in CAD / CAM integration	R1
5	Concurrent Engineering	R1
6	Tolerance concepts – Geometric Tolerancing	R5
7	Drafting Practices in Dimensioning and Tolerancing	R5
8	Geometric Transformation – Data Structure	R5
9	GT coding	R5
10	DCLASS	R5
11	OPITZ system	R5
12	MICLASS system	R5
13	Decision tables and Decision Trees – Process Planning	R5
14	Variant Process Planning	R5
15	Generative Process planning	R5
16	AI – Geometric modeling for Process Planning	R5
17	Process Capability Analysis	R5
18	Logical Design of Process Planning	R5
19	Manufacturing System component, Production Volume	R5
20	Production families – CAM I	R5
21	CAPP, MIPLAN,	R5
22	APPAS, AUTOPLAN	R5
23	PRO, CPPP	R5
24	Genetic algorithm in CAPP	R5
25	Hand simulation in GA	R5
26	Practical use of CAPP in real Manufacturing area	R5
27	Expert systems	R5
28	Fuzzy Logic in Process Planning	R2
29	Totally integrated process planning	R5
30	Case study	R5

## REFERENCE BOOKS

1. George Chryssolouris, Manufacturing systems: Theory and Practice, 2<sup>nd</sup> edition, Springer science + Business Media, Inc.
2. Rao, 'Computer Aided Manufacturing', Tata McGraw Hill Publishing Company, 2000
3. Nanua Singh, 'Systems approach to Computer integrated Design and Manufacturing', John Wiley & sons, 1996.
4. Gideon Halevi and Roland. D. Weill , 'Principles of Process Planning, A logical approach', Chapman & Hall 1995.
5. Tien – Chien Chang, Richard. A. Wysk, 'An introduction to Automated process planning system', Prentice Hall, 1985.



Signature of Faculty

Signature of HOD