



CENTRE FOR ACADEMIC COURSES
ANNA UNIVERSITY
CHENNAI - 600 025

Off: 22357077 / 73

22357074

Fax / Dir : 22352272



Dr. S. HOSIMIN THILAGAR
DIRECTOR

Letter No:4034/AU/VA/CAC/2022

To
The Controller of Examinations
Anna University
Chennai - 25.

Sir,

Sub : A.U. - CAC - Non – Autonomous Colleges affiliated to Anna University - Value Added Course - Reg.

Ref : Letter No.AUC005/2022-2023/Odd, dated: 17.06.2022.

With reference to the letter cited, the following Value Added Courses offered by Jansons Institute of Technology, Coimbatore, Non – Autonomous Colleges affiliated to Anna University are allotted the Course Code as detailed below.

SL. No.	Code Allotted	Title	Credits			
			L	T	P	C
1.	MVA024	Additive Bioprinting	2	0	0	2
2.	MVA025	Autonomous Vehicles	2	0	0	2

This is for your kind information and necessary action at your end.

Yours faithfully,


13/7/2022
DIRECTOR

Copy to:

1. The Chairperson, Faculty of Mechanical Engineering, A.U., Ch -25.
2. The Principal, Jansons Institute of Technology, Karumathampatti, Coimbatore – 641 659.
3. The Stock File – CAC.



Lr.No.AUC004/2022-2023/Odd

17.06.2022

To

The Director,
Centre for Academic Courses,
Anna University: Chennai,
Chennai - 600025

Sir,

Sub: Requesting approval for conducting Value Added Course for the Academic Year 2022-2023 Odd Semester - Reg.


- Ref: 1. Anna University Regulation 2017 UG.
2. Guidelines for conducting value added course.

We are hereby sending the proposal for conducting value added course for third year students in the Department of Mechanical Engineering. Proposal comprising the Syllabus, Schedule and Details of faculty handling the courses are framed as per the guidelines given under the reference cited above.

We request your kind approval for conducting the same.

Thanking you,




PRINCIPAL
Dr. V. Nagarajan
PRINCIPAL
Jansons Institute of Technology
Coimbatore - 641659.

Encl:

1. Syllabus for VAC, schedule and details of faculty handling the course for Department of Mechanical Engineering as said above.

Copy To:

The Controller of Examinations,
Office of Controller of Examinations,
Anna University: Chennai,
Chennai - 600025

JANSONS INSTITUTE OF TECHNOLOGY

Approved by AICTE & Affiliated to Anna University
An ISO 9001:2015 Certified Institution

Karumathampatti, Coimbatore - 641 659 Tamil Nadu, INDIA

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R2017

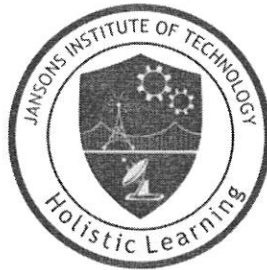
Value Added Course

“JME501 – Autonomous Vehicles”

AY 2022 - 2023

Odd Semester

Department of Mechanical Engineering



JANSONS INSTITUTE OF TECHNOLOGY

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Accredited by NAAC and ISO 9001:2015 certified Institution
Karumathampatti, Coimbatore, Tamil Nadu - 641659

16.06.2022,
Karumathampatti.

From

The Head of the Department,
Department of Mechanical Engineering,
Jansons Institute of Technology,
Karumathampatti,
Coimbatore – 641 659.

To

The Principal,
Jansons Institute of Technology,
Karumathampatti,
Coimbatore – 641 659.

Respected Sir,

Sub: Proposal for the Value Added Course “JME501 – Autonomous Vehicles” – reg.,

As per the guidelines of Anna University, the Department of Mechanical Engineering have proposed to offer a Two Credit Value Added Course (VAC) titled, “JME501 – Autonomous Vehicles” for the 2020-2024 Batch students (R2017).

Have herewith, attached the syllabus, committee members and the course schedule for your kind perusal.

Thanking you.

Yours truly,



Dr.M.Muthukumar

Dr.M.Muthukumar M.E.,Ph.D
Professor & Head
Dept. of Mechanical Engineering
Jansons Institute of Technology
Karumathampatti, Coimbatore - 641 659.



Dr.V.Nagarajan
PRINCIPAL
Jansons Institute of Technology
Coimbatore - 641659.

ANNA UNIVERSITY, CHENNAI
B.E. MECHANICAL ENGINEERING
REGULATIONS – 2017
Value Added Course Syllabus

JME501	Autonomous Vehicles	L	T	P	C
		3	0	0	2

Objectives:

- To provide basic concepts in Autonomous Vehicles
- To select the hardware and software used for autonomous vehicle
- Familiarize the students in the vehicle modeling and control

Unit I: Introduction to Autonomous Driving **6**

Technologies Overview - Autonomous Driving Algorithms - Autonomous Driving Client System - Autonomous Driving Cloud Platform

Unit II: Autonomous Vehicle Localization **6**

Localization with GNSS - Localization with LiDAR and High-Definition Maps - Visual Odometry - Dead Reckoning and Wheel Odometry - Sensor Fusion

Unit III: Perception in Autonomous Driving **6**

Introduction – Datasets – Detection - Stereo, Optical Flow, and Scene Flow - Tracking

Unit IV: Decision, Planning and Control **6**

Behavioral Decisions - Motion Planning - Feedback Control

Unit V: Client Systems and Cloud Platform for Autonomous Driving **6**

Autonomous Driving: A Complex System - Operating System for Autonomous Driving - Computing Platform. Cloud Platform – Infrastructure, Simulation, Model Training

Total Periods : 30

OUTCOMES:

Upon the completion of this course the students will be able to

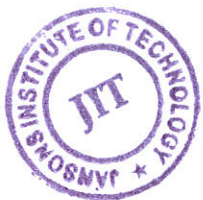
- CO1:** Explain about the Autonomous vehicles.
CO2: Select the hardware and software requirements for the Applications
CO3: Apply the current industry practices for vehicle development

TEXT BOOKS:

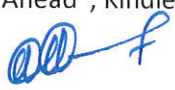
1. Michael E. McGrath, "Beginner's Guide to Autonomous Vehicles (Self-Driving Cars)," Kindle Edition, 2019
2. Eugene Carandang, "Autonomous Vehicle Lidar Guide: Knowledge Beginners Need Should Know", Kindle Edition, 2021

REFERENCE BOOKS:

1. Sreevatsan Bhaskaran, Kai Zhou, Andrew Baab and Ronald, "CalhounAutonomous Vehicle Lidar: A Tutorial" Kindle Edition, 2019
2. Hod Lipson and Melba Kurman, "Driverless: Intelligent Cars and the Road Ahead", Kindle edition, 2017



Dr. V. Nagarajan
PRINCIPAL
Jansons Institute of Technology
Coimbatore - 641659.
Dept. of Mechanical Engineering
Jansons Institute of Technology


Dr. M. Muthukumar M.P., Ph.D
Professor & Head

Details of Faculty

Faculty Handling the VAC : Mr.F.Alexander / Asst. Prof / Mech

Evaluation Committee

- i. Faculty Handling VAC : Mr.F.Alexander / Asst. Prof / Mech
- ii. Senior Faculty - VAC coordinator : Dr.M.M.Matheswaran / Asst. Prof / Mech
- iii. HoD : Dr.M.Muthukumaran / Professor / Mech

Dr.M.Muthukumaran M.E.,Ph.D
Dept. of Mechanical Engineering
Jansons Institute of Technology
Karumathampatti, Coimbatore -641 659.



Dr.V.Nagarajan
PRINCIPAL
Jansons Institute of Technology
Coimbatore - 641659.



17.06.2022

Lr.No.AUC006/2022-2023/Odd

To

The Director,
Centre for Academic Courses,
Anna University: Chennai,
Chennai - 600025

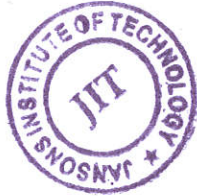
Sir,

Sub: Requesting approval for conducting Value Added Course for the Academic Year 2022-2023 Odd Semester - Reg.

Ref: 1. Anna University Regulation 2017 UG.
2. Guidelines for conducting value added course.

We are hereby sending the proposal for conducting value added course for third and final year students in the Department of Civil Engineering. Proposal comprising the Syllabus, Schedule and Details of faculty handling the courses are framed as per the guidelines given under the reference cited above.

We request your kind approval for conducting the same.



Thanking you,


PRINCIPAL
Dr. V. Nagarajan
PRINCIPAL
Jansons Institute of Technology
Coimbatore - 641659.

Encl:

1. Syllabus for VAC, schedule and details of faculty handling the course for Department of Civil Engineering as said above.

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Anna University: Chennai,
Chennai - 600025

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