



Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed - to - be - University under section 3 of UGC Act 1956)



Requisition Letter

10.04.2022

FROM

The HOD
Department of Mechatronics
Bharath Institute of Higher Education and Research
Selaiyur-Chennai- 73

TO

The Dean Engineering
Bharath Institute of Higher Education and Research
Selaiyur-Chennai- 73

Respected Sir,

Subject: Requisition for conducting Value Added course reg.

The school of Mechanical sciences had planned to conduct a value added course on the topic " Course on Mobile Robotics" dated from 15.04.2022 to 19.04.2022. In this regard, I request you to kindly grant permission for conducting the same.

Thanking You

Dean Engineering



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Date: 10.04.2022

Department of Mechatronics

Circular

The Department of Mechatronics, BIHER is glad to conduct a 5 - day Value Added Program on “**Course on mobile robotics**” dated from 15.04.2022 for a period of 25 hours. Those who are interested to participate do register your name with the program coordinator mentioned below.

Resource persons:

Dr.P.Sengottuvel,
Professor,
BIHER

Mr. Karthik
Robosapiens pvt Ltd
Chennai.

Maximum No. of registration Allowed – 35

***First come first serve basis.**

Program Coordinator:

Mrs.G.VASUMATHI
Assistant Professor

Mr.JAIRAJESH
Assistant Professor,

E-Mail: arun08v@gmail.com

Mobile: 9962133365



Department of Mechatronics

“Course on mobile robotics”

OBJECTIVES:

Mobile robots are now enabling human beings to physically reach and explore uncharted territories in the Universe. Be a place as distant as Mars, in abyssal depths of ocean, or shrouded by thick glaciers of Antarctic, mobile robots help exploring everything; yet this is just the beginning. Even in day to day life autonomous cars hold a potential to revolutionize transportation and domestic mobile robots help humans in cleaning, elderly help, etc. National defense is an area replete with the use of mobile robots. This course will present various aspects of design, fabrication, motion planning, and control of intelligent mobile robotic systems. The focus of the course is distributed equally on the computational aspects and practical implementation issues and thereby leads to a well rounded training.

[DAY: 1]MODULE I Robot locomotion (5 Hrs)

Types of locomotion, hopping robots, legged robots, wheeled robots, stability, maneuverability, controllability

[DAY: 2]Mobile robot kinematics and dynamics: (5 Hrs)

Forward and inverse kinematics, holonomic and nonholonomic constraints, kinematic models of simple car and legged robots, dynamics simulation of mobile robots

[DAY: 3]MODULE III Perception (5 Hrs)

Proprioceptive/Exteroceptive and passive/active sensors, performance measures of sensors, sensors for mobile robots like global positioning system (GPS), Doppler effect-based sensors, vision based sensors, uncertainty in sensing, filtering;

[DAY: 4] Localization: (5 Hrs)

Odometric position estimation, belief representation, probabilistic mapping, Markov localization, Bayesian localization, Kalman localization

[DAY: 5]MODULE V Introduction to planning and navigation (5 Hrs)

path planning algorithms based on A-star, Dijkstra, Voronoi diagrams, probabilistic roadmaps (PRM), rapidly exploring random trees (RRT), Markov Decision Process (MDP), stochastic dynamic programming (SDP);



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Department of Mechatronics

Value Added Course - Course on mobile robotics

PARTICIPANTS LIST

S.No	Reg.No	Name	Department
1.	U16ME093	MACHUNURU PRASAD KUMAR	Mechanical Engineering
2.	U16ME094	GOPAL KUMAR	Mechanical Engineering
3.	U16ME098	PRAJEESH S NAIR	Mechanical Engineering
4.	U16ME100	NAGIREDDY AJAYKUMAR	Mechanical Engineering
5.	U16ME101	VIJAY	Mechanical Engineering
6.	U16ME104	MULLAGURA BHARATH KUMAR	Mechanical Engineering
7.	U16ME105	CHALLA CHARANKUMAR	Mechanical Engineering
8.	U16ME106	RAJEEV KUMAR	Mechanical Engineering
9.	U16ME107	MANOJ	Mechanical Engineering
10.	U16ME113	PYNKHLAINBORLANG	Mechanical Engineering
11.	U16ME115	GUNA	Mechanical Engineering
12.	U16ME119	PALAPALA	Mechanical Engineering
13.	U16ME093	MACHUNURU PRASAD KUMAR	Mechanical Engineering
14.	U16ME094	GOPAL KUMAR	Mechanical Engineering
15.	U16ME098	PRAJEESH S NAIR	Mechanical Engineering
16.	U16ME100	NAGIREDDY AJAYKUMAR	Mechanical Engineering
17.	U16AME102	RAMACHANDRAN M	Automobile Engineering
18.	U16AME002	LIBIN BOBBY	Automobile Engineering

19.	U16AM005	VASANTHKUMAR R	Automobile Engineering
20.	U16AM014	KARMUGILAN V	Automobile Engineering
21.	U16AM008	PALAPANDALA	Automobile Engineering
22.	U16AM012	MOHAMED IMTHIAZ	Automobile Engineering
23.	U16AM017	AMAL PHILIP GEORGE	Automobile Engineering
24.	U16MT010	SAKTHI	Mechatronics
25.	U16MT011	MELVINE ROHAN	Mechatronics
26.	U16MT014	SARATHKUMAR	Mechatronics
27.	U16MT015	SOMENDRAN	Mechatronics
28.	U16MT018	RATHISH KRISHNAN	Mechatronics
29.	U16MT501	MUGILAN	Mechatronics
30.	U16MT502	VIGNESHWAR	Mechatronics
31.	U16MT503	KARUPHIN KAWIN J	Mechatronics
32.	U16MT701	CHANDRASEKAR	Mechatronics
33.	U16MT702	CHIRANJEEVI	Mechatronics
34.	U16MT703	VIGNESH	Mechatronics
35.	U16MT704	AJITH	Mechatronics

BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY
DEPARTMENT OF MECHATRONICS

CERTIFICATE OF PARTICIPATION

This is to certify that

MANOJ

of Bharath Institute of Science and Technology

had attended the 5 day Value Added Program on "Course on mobile robotics"

organized by the Department of Mechatronics-

Bharath Institute of Higher Education and Research, Chennai on 15/4/2022 TO 19/4/2022

G.v. for

ghm

Mrs. G. VASUMATHI/Mr. JAI RAJESH

Coordinators

Dr. P. Sengottuvel

Resource Person



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BHARATH INSTITUTE OF SCIENCE &
TECHNOLOGY

Selayur, Chennai - 73.

DEPARTMENT OF MECHATRONICS

VALVE ADDED COURSE
FEEDBACK FORM

Date: 20.04.2022

NAME	Palapandala				
	REGISTER.NO				
COURSE TITLE	U16AM008				
	Mobile Robotics				
	POOR	FAIR	GOOD	VERY GOOD	EXCELLENT
OVERALL PROGRAM					✓
THE SPEAKER					✓
AUDIO,VISIAL AIDS, TECHNOLOGY USED					✓
PRESENTATION HAND OUTS					✓


STUDENT SIGNATURE



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DEPARTMENT OF MECHATRONICS

VALVE ADDED COURSE
FEEDBACK FORM

Date: 20.04.22

NAME	VASANTH KR. R.				
REGISTER.NO	U16AM005				
COURSE TITLE	MOBILE ROBOTICS				
	POOR	FAIR	GOOD	VERY GOOD	EXCELLENT
OVERALL PROGRAM				✓	
THE SPEAKER					✓
AUDIO,VISIAL AIDS, TECHNOLOGY USED					✓
PRESENTATION HAND OUTS					✓

Vasanth
STUDENT SIGNATURE



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Department of Mechatronics

Course on mobile robotics

