

## Requisition Letter

Date: 08/12/2018

From

The HOD

Department Of Mechatronics

Bharath Institute of Higher Education and Research

Selaiyur, Chennai-600073

To

The Dean Engineering

Bharath Institute of Higher Education and Research

Selaiyur, Chennai-600073

Respected Sir,

**Subject: Requisition for conducting Value added Course-reg**

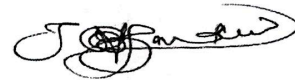
School of Mechanical Sciences has planned to conduct value added course on "Robotics and Control: Theory and Practice" on 21-01-2019. In this regard we kindly request you to grant permission for the same.

Thanking you



HOD/Mechatronics

**Dr. P. SENGOTTUVEL,**  
**PROFESSOR**  
**DEPARTMENT OF MECHATRONICS**  
**BHARATH UNIVERSITY,**  
**CHENNAI-600 073.**



Dean Engineering



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

Date: 02.01.2019

**Department of Mechatronics**

**Circular**

The Department of Mechatronics, BIHER is glad to conduct a 5 - day Value Added Program on “**COURSE ON ROBOTICS AND CONTROL: THEORY AND PRACTICE**” dated from 21.01.2019 for a period of 30 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. Senthil Kumar**  
Head Technical  
M&H Progressive Skill Pvt. Ltd, Chennai

Maximum No. of registration Allowed – 60

**\*First come first serve basis.**

**Program Coordinator:**

Mrs.V.G.VIJAYA

Assistant Professor

Mr.J. DHANASEKAR

Assistant Professor,

**E-Mail: vijayasaravanan84@gmail.com**

**Mobile: 8870136732**





# **Bharath**

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## Department of Mechatronics

### **COURSE ON COURSE ON ROBOTICS AND CONTROL: THEORY AND PRACTICE**

#### **OBJECTIVES:**

Robotics has stimulated a growing interest among a wide range of scholars, researchers and students due to its interdisciplinary characteristics. Through this course the participants will acquire the ability to conduct research, develop innovative designs in the field of systems engineering and control of robots and to direct the development of engineering solutions in new or unfamiliar environments by linking creativity, innovation and transfer of technology.

**[DAY: 1]**

#### **MODULE I**

**(6 Hrs)**

Simple manipulators: Two /three arm manipulators and their kinematics equations, Work space Homogeneous Transformation: Rotation, Translation, Composition of homogeneous transformations

**[DAY: 2]**

#### **MODULE II**

**(6 Hrs)**

Danavit-Hartimber Algorithm: D-H procedure for fixing joint coordinate frames, Robot parameters, Arm matrix, Inverse Kinematics for PUMA, SCARA manipulators.

**[DAY: 3]**

#### **MODULE III**

**(6 Hrs)**

Introduction to Robotic Exoskeletons ,Optimal Design of a Three Finger Exoskeleton for Rehabilitation Purpose

**[DAY: 4]**

#### **MODULE IV**

**(6 Hrs)**

Differential transformation and velocity of a frame: Derivative of a frame, Velocity, Jacobian, Inverse Jacobian, Trajectory Planning: Polynomial trajectory, Biped trajectory

**[DAY: 5]**

**MODULE V**  
**(6Hrs)**

Dynamics: Lagrangian method, Robot dynamics equation, Control: Robot dynamics equation as a control system, Trajectory tracking control, PD controller, Neural network control design





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## FEEDBACK FORM

- ❖ As part of a continuing improvement process, our college appreciates suggestions and inputs regarding the institution. We request you to sincerely answer these questions under assurance of complete confidentiality. Your interest in making our institution better is greatly appreciated.

Name of Department : 24520 Mechatronics

Date : 25-01-2019

Event / Speaker Name : Course on Robotics and control : Theory & Practice

- Please rate the session on the scale indicated. Your comments are most appreciated.

S.NO	Parameters	Below Average	Average	Good	Excellent	Outstanding
1.	The Topic					
	The choice of topic was relevant to me				✓	
2.	The Lecturer / Speaker					
	Self-confidence				✓	
	Communication skills					✓
	Doubts/ queries were answered satisfactorily				✓	
3.	The Content (Topic)					
	Refers to latest developments in the field				✓	
	Career oriented					✓
	Innovative learning, if any				✓	

- Overall, how would you rate this Guest Lecture / Workshop / Seminar / Event/Value added course?

1. Below Average	2. Average	3. Good	4. Excellent	5. Outstanding
		✓		

- Comments (If any):

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## FEEDBACK FORM

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Name of Department : MECHANICS

Date : 25/02/2019

Event / Speaker Name : ROBOTICS AND D. CONTROL - THEORY AND PRACTICE

- Please rate the session on the scale indicated. Your comments are most appreciated.

S.NO	Parameters	Below Average	Average	Good	Excellent	Outstanding
1.	The Topic					
	The choice of topic was relevant to me				✓	
2.	The Lecturer / Speaker					
	Self-confidence			✓		
	Communication skills			✓	✓	
	Doubts/ queries were answered satisfactorily			✓		
3.	The Content (Topic)					
	Refers to latest developments in the field				✓	
	Career oriented				✓	
	Innovative learning, if any			✓		✓

- Overall, how would you rate this Guest Lecture / Workshop / Seminar / Event/Value added course?

1. Below Average	2. Average	3. Good	4. Excellent	5. Outstanding
			✓	

- Comments (If any):

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## Model Certificate

   **Bharath**   
INSTITUTE OF HIGHER EDUCATION AND RESEARCH  
BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY

**CERTIFICATE OF PARTICIPATION**

This is to certify that  
**Prof./Dr./Mr./Ms. AJITHRAJ S (U17AM025 )**  
Of  
**BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY, BIHER, CHENNAI.**  
He/She has Participated in a Seminar On " **ROBOTICS AND CONTROL: THEORY AND PRACTICE** " Organized by the School of Mechanical Sciences , Department of Mechatronics ,  
on **21<sup>st</sup> JAN 2019**

  
**Coordinator**  
**Mrs. V.G. VIJAYA**

  
**Convener**  
**Dr. P. Sengottuvel**

  
**Dean-Engineering**  
**Dr. J. Hameed Hussain**

**Certificate No : BIST/MT/VAC/035**





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## Department of Mechatronics

**Value added course -ROBOTICS AND CONTROL : THEORY AND  
PRACTICE**







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**Department of Mechatronics**

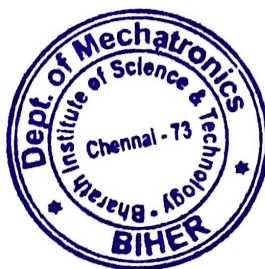
**Value Added Course -COURSE ON ROBOTICS AND CONTROL :**  
**THEORY AND PRACTICE**

**PARTICIPANTS LIST**

S.No	Reg.No	Name	Department
1.	U17MT001	PRASANNA KUMAR R	Mechatronics
2.	U17MT002	NATARAJAN M A	Mechatronics
3.	U17MT003	SAGAR AMIRDHARAJ A	Mechatronics
4.	U17MT004	CHETHANASAI K V	Mechatronics
5.	U17MT005	MOHAMMED JUZER	Mechatronics
6.	U17MT006	JAISINGH ALAN JEROME J	Mechatronics
7.	U17MT007	SELVAMANI S	Mechatronics
8.	U17MT008	ARAVINTHRAJ V J	Mechatronics
9.	U17MT009	SUDAKAR S R	Mechatronics
10.	U17MT010	HARI PRASANTH D	Mechatronics
11.	U17MT012	TAMILSELVAN A	Mechatronics
12.	U17MT013	ARUN KUMAR C K	Mechatronics
13.	U17MT014	MOHAN PIRASATH M	Mechatronics
14.	U17MT015	BAGIYARAJ D	Mechatronics
15.	U17MT016	MANOJ KUMAR P	Mechatronics
16.	U17MT017	DINESHKUMAR A	Mechatronics
17.	U17MT018	DINESH G	Mechatronics

18.	U17MT020	SHARAN A P	Mechatronics
19.	U17MT001	PRASANNA KUMAR R	Mechatronics
20.	U17MT002	NATARAJAN M A	Mechatronics
21.	U17ME021	DARAM PRITHVI RAJ	Mechanical
22.	U17ME045	JEYABHARATHI	Mechanical
23.	U17ME066	YETTELLA BHUVANESWARA REDDY	Mechanical
24.	U17ME072	CHITTIREDDY	Mechanical
25.	U17ME075	VEDURUPARTHY KANAKA VENKATA SURESH	Mechanical
26.	U17ME090	LOKIREDDY VENKATA SHIVA KUMAR	Mechanical
27.	U17ME101	KATTA GOPI KRISHNA	Mechanical
28.	U17ME102	HARISH	Mechanical
29.	U17ME120	SUDDAPALLI JASWANTH SAI KUMAR	Mechanical
30.	U17ME125	BURRAREDDYPALLE	Mechanical
31.	U17ME131	DASARI	Mechanical
32.	U17ME135	VEMULA CHANDU PRASAD	Mechanical
33.	U17ME140	PONKAM VARUN KUMAR	Mechanical
34.	U17ME144	ANNA PRUDHVI GOUTAM	Mechanical
35.	U17ME149	SIRAMMAGARI SASI KUMAR REDDY	Mechanical
36.	U17ME163	NALLA SRINATH REDDY	Mechanical
37.	U17ME171	KARRI PAVAN KALYAN	Mechanical
38.	U17ME173	NALAJAM MOHAN SAI	Mechanical
39.	U17ME178	ENUKONDA NIVAS RAJU	Mechanical
40.	U17ME192	YADHAVA SURYA	Mechanical
41.	U17AM002	PRAVEEN KUMAR G	Automobile

42.	U17AM003	ALIHUSSAIN MURTAZA	Automobile
43.	U17AM004	NAVEEN KUMAR U	Automobile
44.	U17AM005	SUNDERJI G	Automobile
45.	U17AM006	RANJITH R	Automobile
46.	U17AM007	YOGESHWARAN K	Automobile
47.	U17AM009	KARTHICK Y	Automobile
48.	U17AM011	GUTTULA DEEPAK	Automobile
49.	U17AM012	ABINASH N	Automobile
50.	U17AM013	SURAKANI PAVAN SAI .	Automobile
51.	U17AM014	KUMBHAR RAHUL	Automobile
52.	U17AM015	KUTHE SOURABH SURESH .	Automobile
53.	U17AM016	SHAJAHAN S	Automobile
54.	U17AM017	ARUN R	Automobile
55.	U17AM018	DEVANATHA M	Automobile
56.	U17AM020	RITHISHKRISHNA D V	Automobile
57.	U17AM021	SHAIK REHAMAN	Automobile
58.	U17AM022	MARTHA CHAITANYA	Automobile
59.	U17AM023	BIRADAR GANESH	Automobile
60.	U17AM025	AJITHRAJ S	Automobile





## Requisition Letter

Date: 21/10/2018

From  
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Bharath Institute of Higher Education and Research  
Selaiyur, Chennai-600073

To  
The Dean Engineering  
Bharath Institute of Higher Education and Research  
Selaiyur, Chennai-600073

Respected Sir,

**Subject: Requisition for conducting Value added Course-reg**

School of Mechanical Sciences has planned to conduct value added course on "Advanced Robotics for Engineering" on 26-11-2018. In this regard we kindly request you to grant permission for the same.

Thanking you



HOD/Mechatronics

**Dr. P. SENGOTTUVEL,**  
**PROFESSOR**  
**DEPARTMENT OF MECHATRONICS**  
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