



Code: MRCL

MIRACLE EDUCATIONAL SOCIETY

GROUP OF INSTITUTIONS (B.Tech, M.Tech, MBA & MCA)

(Approved by AICTE & Affiliated to JNTU Kakinada)

Miracle City, Bhogapuram - 535 216 Vizianagaram Dist., AP

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MEMORANDUM OF UNDERSTANDING

CENTRE OF EXCELLENCE IN MARITIME & SHIP BUILDING,
Visakhapatnam

AND

MIRACLE EDUCATIONAL SOCIETY GROUP OF INSTITUTIONS,
MIRACLE CITY, BHOGAPURAM, VIZIANAGARAM DISTRICT.

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Empowering People through Innovative Educational Services

This Memorandum of Understanding (hereinafter referred to as "MoU") is entered into this agreement on this day 30-JULY, 2019 by and between

CENTRE OF EXCELLENCE IN MARITIME & SHIPBUILDING (hereinafter referred to as "CEMS"), located at NSDRC, Gandhi gram, Visakhapatnam – 530 005, India is a well-funded startup in skill development for imparting training with industry 4.0 focus on advanced Design, Automation, Manufacturing and Maintenance, Repair & Overhaul(MRO) domains which caters for all industrial sectors.. It is promoted by Indian Register of Shipping in partnership with Siemens and support from Sagarmala, Ministry of Shipping/Govt. of India with an aim to provide globally relevant skilled technical manpower in the latest manufacturing technologies for ship building/repair and high-end manufacturing sectors.

CEMS is a dedicated Centre for facilitating professional development and skill enhancement in maritime, infrastructure and manufacturing sectors. It is aimed to build competency in the fields of design, automation, manufacturing and maintenance with focus on industry 4.0 requirements by imparting right skills and create skilled manpower pool to cater to current and future industrial landscape of the country, thereby providing better employment opportunities to students and work force.

AND

MIRACLE EDUCATIONAL SOCIETY GROUP OF INSTITUTIONS (hereinafter referred to as "MRCL") located at Miracle City, Bhogapuram, Vizianagaram is a self-financing institute established by a non-profit making society, named Miracle Educational society, and recognized by AICTE with a vision to evolve into and sustain as a Centre of Excellence in Technological Education and Research with a holistic approach. The mission of MRCL is (i) to produce high quality engineering graduates with the requisite theoretical and practical knowledge and social awareness to be able to contribute effectively to the progress of the society through their chosen field of endeavour; (ii) to undertake Research & Development, and extension activities in the fields of Science and Engineering in areas of relevance for immediate application as well as for strengthening or establishing fundamental knowledge.

AND TOGETHER HEREAFTER REFERRED AS PARTIES

Whereas the first party **CEMS, Visakhapatnam**, will provide 50 courses across 18 specializations; covering 770 modules out of which 271 will be tools and algorithm based courses while 500 will be process and sector based.

And whereas the second party **MRCL, Vizianagaram**, is an Educational Institution providing education in various U.G and P.G programmes including certificate courses in Engineering. It has the vision and mission to impart quality education of International standards with a major focus on conducting skill development and outreach programmes.

The first party, namely **CEMS, Visakhapatnam**, has excellent infrastructure, qualified trainers and man power to impart skill training and to offer Diploma and Certificate courses as follows: -



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Diploma in following courses

Sl No	Course	Modules Covered	Eligibility
1	CAD	Essentials for Designers, Sketching Fundamentals, Synchronous Modelling Fundamentals, NX Sheet Metal, Drafting Essentials, Intermediate Design & Assemblies, Advanced Assembly Design, Class A Free Form Modelling, Engine Design, Laminate Composites	B.Tech- Mechanical
2	CAE & NVH (Noise, Vibration & Harshness)	CAE-Advanced Simulation Process & Solutions, Thermal & Flow Analysis, Motion Analysis, Laminate Composite, Advance Thermal & Flow Analysis, Advanced Finite Element Analysis (FEA), NVH- Vibration Measurements and Analysis, Modal Testing and Analysis, Acoustics Measurements and Analysis, Acoustics NVH Simulation Multi body dynamics.	
3	PLM	Essentials for Designers, Advanced Simulation Process, Basics of RobCAD, TCUA - Using TC, TCUA - Installation, TCUA - Integration for NX users, TCUA- Application & Data Model Administration	
4	Robotics & DM	Process Designers Basic, Process Designers General Assemblies, Tecnomatix – RobCAD, Tecnomatix – Flow, Industrial Robotics Basics-KUKA & Robotics Application – 1) Material Handling, 2) MIG Welding, 3) PLASMA Cutting	
5	Mechatronics Concept Design (MCD)	PLC Programming ,Essentials for Designers, MCD , HMI, Mechatronics	
6	CAM & CNC	NX CAM Manufacturing Fundamentals, NX CAM Turning Manufacturing Process, Turning NC Programming, Milling NC Programming, TURNING- Operating and Machining, MILLING- Operating and Machining	
7	Maintenance Repair & Overhaul (MRO)	Welding, Pneumatics, Hydraulics, Pumps, Piping System	
8	Industrial Automation & Mechatronics	PLC Programming, HMI & NETWORKING , Designing SCADA System, Mechatronics	B.Tech- ECE / EEE
9	Process Automation	PLC Programming, HMI & NETWORKING, Designing SCADA System & Process Instrumentation	
10	Mechatronics Concept Design(MCD)	PLC Programming, Essentials for Designers , MCD, HMI & NETWORKING & Mechatronics	
11	Distributed Control System(DCS)	PLC Programming, HMI & NETWORKING, Designing SCADA System, Process Instrumentation & Simatic PCS 7 Basics	
12	Electrical Drives & Switch Gears	AC/DC Drives, Low Voltage Switchgear, Power systems & Induction Motors	B.Tech- EEE



a. Certificate Courses

SI No	Course Name	Domain	Total Duration (hrs)
1	Essentials for Designers	CAD	40
2	Sketching Fundamentals	CAD	16
3	Synchronous Modelling Fundamentals	CAD	8
4	NX Sheet Metal	CAD	16
5	Drafting Essentials	CAD	24
6	Intermediate Design & Assemblies	CAD	40
7	Advanced Assembly Design	CAD	24
8	Class A Free Form Modelling	CAD	40
9	NX CAM Manufacturing Fundamentals	CAM	32
10	NX CAM Turning Manufacturing Process	CAM	32
11	Engine Design	CAD	35
12	Advanced Simulation- Process	CAE	24
	Advanced Simulation-Solutions	CAE	16
13	TCUA - Using TC	PLM	32
14	TCUA - Installation	PLM	40



15	TCUA - Integration for NX users	PLM	8
16	TCUA- Application & Data Model Administration	PLM	40
17	Tecnomatix – Process		
	Process Designers Basic	DM	24
	Process Designers General Assemblies	DM	16
18	Tecnomatix – RobCAD	DM	
	Robcad Basics		16
	Robcad Advanced Modeling and Kinematics		16
19	Tecnomatix – Flow	DM	
	Factory CAD		24
	Factory Flow		16
20	Vibration Measurements and Analysis	CAE	20
21	Modal Testing and Analysis	CAE	30
22	Acoustics Measurements and Analysis	CAE	30
23	Acoustics NVH Simulation	CAE	20
24	Advanced Finite Element Analysis (FEA)	CAE	20



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25	Multi body dynamics	CAE	30
26	Nesting Productivity Improvement	Nesting	40
27	Turning NC Programming	CNC	32
28	Milling NC Programming	CNC	32
29	840Dsl		
	TURNING- Operating and Machining	CNC	32
	MILLING- Operating and Machining	CNC	32
30	Basics of PLC	Automation	50
31	Basics of HMI & NETWORKING	Automation	40
32	Basics of SCADA	Automation	50
33	Basics of Mechatronics	Mechatronics	50
34	Welding	welding	60
35	Industrial Robotics Basics-KUKA	Robotics	40
36	Robotics Applications		
	Industrial Robot Application(KUKA)- Material Handling	Robotics	40
	Industrial Robot Application(KUKA)- MIG Welding	Robotics	40
	Industrial Robot Application(KUKA)- PLASMA Cutting	Robotics	40



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37	Basics of Process Instrumentation	P.I	50
38	SIMATIC PCS 7 Basics	P.I	50
39	Basics of AC/DC Drives	Electrical	40
40	Basics of Low Voltage Switchgear-1	Electrical	40
41	Basics of Power systems	Electrical	40
42	Pneumatics	Pneumatics & Hydraulics	60
43	Hydraulics	Pneumatics & Hydraulics	60
44	Virtual Reality	Virtual Reality	50
45	Pumping System	Pumping	50
46	Piping System	Piping	40
47	Radar systems	Radar	60
48	Laminate Composites	CAD	8
49	Dimensional Accuracy Control	Dimensional Accuracy Control	40
50	Hull Design	CAD	120

Whereas the second party, MRCL has established all the curriculum related laboratories and has employed very highly qualified faculty to train the students both in theory and practice with the best administrative and academic management. MRCL has set best objectives to impart quality and high standard education. Internship and practical training are included in the curriculum as mandatory.



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COMMITMENT OF THE FIRST PARTY, CEMS

- A. To train the students of B.Tech. M.Tech. and MCA for various courses as per mutually agreed timings and fees.
- B. To permit them to undergo practical training under the supervision of a person in charge.
- C. To permit them to get hands on training in the available equipment.
- D. To train the Faculty of MRCL at 50% discounted rates indicated at (A) above.
- E. To offer certificates to the programs conducted by CEMS.

COMMITMENT OF THE SECOND PARTY, MRCL

- A. To permit first party to conduct orientation program.
- B. To permit the technical staff / faculty of the first party to MRCL to take the training in theory from the qualified faculty.
- C. To give priority in admissions for the technical staff of the first party to upgrade their qualification subjected to the eligibility and admission criteria.
- D. To take all the initiatives to send only disciplined candidates for taking practical training from the first party.
- E. To allow members of the first party to take training in MRCL depending on mutual convenience of the two parties.
- F. To popularize facilities of CEMS for students of other than MRCL and to motivate for undergoing internships to make them eligible for employment.
- G. To offer expertise of qualified faculty to the first party in the areas of common interest.


It is important for both parties to this agreement to be reasonable in every aspect of activity undertaken by both parties to achieve common goals. Rates specified will be reviewed every year from January onwards.

It is also important for both parties to respect each other without any conflict and without any legal complications. In the case of unforeseen and unexpected problems arising in any one of the two parties or both parties, it is important to address and settle them by mutual discussion only.

In the event of noncompliance by any one of the parties or both the parties to the agreement, it may be terminated in writing with one month notice from either side amicably without any conflict.



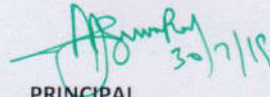
The purpose of the MOU is strictly limited to the expression of the parties to the mutual understanding and cooperation and is not intended to impose any legal obligations of any nature on either party.


30/7/19

CHIEF OPERATING OFFICER

Centre Of Excellence In Maritime &
Ship Building, Visakhapatnam




30/7/19

PRINCIPAL

Miracle Educational Society Group Of
Institutions, Miracle City, Bhogapuram,
Vizianagaram District.

Director & Principal
Miracle Educational Society
Group of Institutions, Bhogapuram,
Vizianagaram Dist - 535216, A.P.



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 **CENTRE OF EXCELLENCE
IN MARITIME & SHIPBUILDING (CEMS)**
COMPETENCIES, EMPLOYABILITY, METHODOLOGY & SKILLS
CREATING COMPETENCIES FOR INDUSTRY 4.0
(An Initiative by Govt. of India / Ministry of Shipping, Sagarmala)

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B.Tech M.Tech MBA MCA

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Director & Principal

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