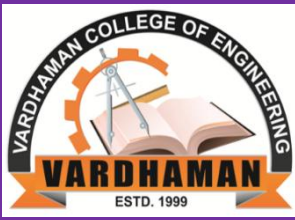


Vardhaman College of Engineering

Department of Mechanical Engineering

YANTRIK

News letter



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About the Department

Engineering advancements happening in the world's workshop, so with the standard of engineering consistently rising, mechanical engineering is creating ripples in the technology world.

The department is established in the year 2006 with an intake of 60 and the number is increased upto 90 in 2009 and 120 in 2013. The department is headed by Dr .B.Subbaratnam. Mechanical Engineering is a fast growing discipline in tune with the demands in the core areas of infrastructure and Manufacturing.

Vision of the Department

To be a premier center for producing competent mechanical engineers to cater the ever changing industrial demands and societal needs.

Mission of the Department

- To impart knowledge and skills in basic and applied areas of Mechanical Engineering through innovative learner-centric approach.
- To associate with industries and research organizations for gaining real time practical knowledge.
- To facilitate continuous learning based on dynamic needs of the society.

Program Educational Objectives (PEOs)

- Graduates make their way to the society with proper scientific and technical knowledge to identify, formulate and solve Mechanical Engineering problems.
- Graduates adapt to rapidly changing environment in the areas of Mechanical Engineering and explore possible profession in industry, academic, research and self-employment opportunities.
- Graduates excel in career by their team-working ability and communicate effectively to complete task with minimal resources.
- Graduates commit to professional and ethical practices encouraging diversity, continuous improvement and lifelong learning.

Program Specific Outcomes (PSOs)

- Demonstrate knowledge in the area of design, analysis and fabrication of mechanical systems.
- Apply learned concepts and management skills to associate professionally in industry or as an entrepreneur.

Student Articles

Magna and Ford test carbon-fiber subframes

Carbon-fiber reinforced polymers are the yin and yang of automotive light weighting. Their strength-to-weight ratio handily outperforms chrome-moly steel, heat-treated aluminum alloys and magnesium. The aerospace industry gobbles the strong, stiff and light composite for use in wing spars and plans to use it in entire primary structures (SpaceX's next-gen heavy launch vehicle) in the future. But CFRP's slow part-to-part cycle rates, relatively complex processing and unique failure modes have kept it from being a player in volumes of more than 150,000 units per year for automotive structural applications. Magna International and Ford Motor Co. believe CFRP holds promise in vehicle structures—specifically front and rear subframes. The companies are preparing to test a batch of prototype CFRP front subframes they developed collaboratively over the last two years. The prototype cradle, now being installed in Ford unibody development mules, is 34% lighter than a comparable steel fabrication typically used in passenger vehicles. It is 16% lighter than a comparable aluminum fabrication.

Comprising two main pieces—upper and lower moldings bonded and riveted together, along with four overmolded body-mount bushings—the CFRP cradle replaces 45 stamped-and-joined components in a benchmarked steel subframe. The bill of materials is reduced by 87%. “Ford challenged us with this concept, which is a continuation of our collaboration on the Multi-Materials Lightweight Vehicle project,” explained Grahame Burrow, President, Magna Exteriors. His team and Magna's Cosma chassis group worked closely with a Ford Research and Advanced Engineering team under Mike Whitens, in the subframe design. Magna orchestrated tooling and unveiled the first ‘shots’ at the 2017 JEC World composites show. Burrow expects subframe testing to proceed through 4Q17 when “real results from real vehicles” will be available. From an FEA perspective, “all the tests to date have performed at or better than a steel subframe,” noted Brian Krull, Magna Exteriors' Global Director of Innovation. “We're hoping to see those same results in physical testing.” He described the material's NVH performance as “excellent.” Beyond the initial CAE work, the vehicle-level phase will evaluate corrosion, stone chipping and bolt-load retention and crash performance.

**Subframe “perfect” for CFRP**

While Magna has extensive experience in carbon-fiber components for production, including the grille-opening reinforcement for Ford's Mustang Shelby Cobra GT500 and the hood of Cadillac's V-series sedans, the subframe project is the largest and most complex CFRP component yet developed, according to Burrow.

By
JAHNAVI .D
IV YEAR

EVENTS ATTENDED UNDER PROFESSIONAL SOCIETIES

S No	Name of the Event	Venue	Date	No of Students Participated
1	Video Quiz	PG Lab	16 th & 23 rd Mar 2018	62
2	Ideation Carp	Thermal Lab	2 nd Feb 2018	25
3	Debate	Thermal Lab	12 th & 19 th Jan 2018	29
4	Technical Quiz	Thermal Lab	12 th & 19 th Jan 2018	77

EXTRA-CURRICULAR ACTIVITIES ORGANIZED

S No	Name of the Event	Venue	Date	No of Students Participated
1	Foot Ball	Vardhaman College Of Engineering	2 nd & 3 rd March 2018	14
2	Volley Ball	Vardhaman College Of Engineering	2 nd & 3 rd March 2018	11
3	Throw Ball	Vardhaman College Of Engineering	2 nd & 3 rd March 2018	8
4	Basket Ball	Vardhaman College Of Engineering	2 nd & 3 rd March 2018	6
5	Kho-Kho	Vardhaman College Of Engineering	2 nd & 3 rd March 2018	9
6	Shuttle	Vardhaman College Of Engineering	2 nd & 3 rd March 2018	6
7	Cricket	Vardhaman College Of Engineering	2 nd & 3 rd March 2018	14
8	Chess	Vardhaman College Of Engineering	2 nd & 3 rd March 2018	16
9	Carroms	Vardhaman College Of Engineering	2 nd & 3 rd March 2018	18

S.No		Name of Co-curricular Activity	Organized Period	No. of students participated
1	MESA -2K17	Video Quiz	16 th & 23 rd Mar 2018	62
		Ideation Carp	2 nd Feb 2018	25
		Debate	12 th & 19 th Jan 2018	29
		Technical Quiz	12 th & 19 th Jan 2018	77

EXTRA-CURRICULAR ACTIVITIES ATTENDED

S No	Name of the Event	Venue	Date	No of Students Participated
1	Youth India- The Game Changers	Ignition Minds International Foundation, Hyderabad.	12 th Jan 2018	7
2	Voters day Awareness Program	JNTU Hyderabad	22 nd Jan 2018	01
3	Youth Festival	JNTU Hyderabad	3 rd Feb 2018	07

FACULTY RESEARCH PUBLICATIONS: (JOURNALS)

Sl.No	Manuscript Title
1	M. Vishnu Vardhan , Dr. G. Sankaraiah, Dr. M. Yohan, "Effect of cryogenic treatment of tungsten carbide tools on cutting force and power consumption in CNC milling process" Production and Manufacturing Research(Taylor & Francis), Vol-6(1) ,pp. 149-170, Feb,2018.
2	Subramanyam B., K. ChinnaMaddaiah, N. Anuradha, K. Deepak , V. Mahidhar Reddy, "Thermo Structural Analysis of Structural Plates", International Journal of Mechanical and Production Engineering Research and Development, ISSN (Print): 2249-6890 ISSN (Online): 2249-8001, Vol.8-1, pp. 93-100, February 2018.
3	N. Anuradha, Subramanyam. B, K. ChinnaMaddaiah , K. Deepak & V. Mahidar Reddy, "Fatigue Analysis of Pulley, by Using Finite Element Analysis", International Journal of Mechanical and Production Engineering Research and Development, ISSN (Print): 2249-6890 ISSN (Online): 2249-8001, Vol.8-1, pp. 101-104, February 2018.
4	K. ChinnaMaddaiah, N. Anuradha, Subramanyam. B, K. Deepak & V. Mahidar Reddy, "Transient Analysis of Wind Turbine Blades", International Journal of Mechanical and Production Engineering Research and Development, ISSN (Print): 2249-6890 ISSN (Online): 2249-8001, Vol.8-1, pp. 119-126, February 2018.
5	B Venkatesh , Bharti Malvi , Manish Roy and Pallab Sarkar , "Effect of welding conditions on erosive wear of hard-faced Co-based alloy layer", Journal of Engineering Tribology,2018, DOI: 10.1177/1350650117753916

Faculty Research Publications : Conferences

Sl. No	Manuscript Title
1	S.Venukumar , P. Sarkar, J. Sai Sashank, P. Sampath and K Saikiran, Microstructural and mechanical properties of Inconel 718 TIG weldments , International Conference on Emerging Trends in Materials and Manufacturing Engineering (IMME17), 10-12 March ,NIT, Trichy, Published in Materials Today: Proceedings,2018, Vol(5),pp. 8480–8485.
2	Sai Sashanka, P.Sampatha, P Sai Krishnaa, R Sagara, S.Venu kumar and S. Muthukumaran, Effects of friction stir welding on microstructure and mechanical properties of 6063 aluminium alloy, International Conference on Emerging Trends in Materials and Manufacturing Engineering(IMME17),10-12 March ,NIT, Trichy, Published in Materials Today: Proceedings,2018, Vol(5),pp. 8348--8353.

Participation of Faculty in FDP/STTPs/Workshops/Guest Lectures

S. No	Name of faculty	Title of Event	Seminar/ FDP STTPs/ Workshop Attended	Venue	Period	No. of Days	Faculty Attended	Relevancy Of Training Program
1.	E.Manoj Kumar	Advancements in Thermal Engineering	STTP	GRIET-Hyderabad	19 th -24 th Feb -2018	06	01	Thermal Engineering
2.	P. Rama Krishna Reddy	Advancements in Thermal Engineering	STTP	GRIET-Hyderabad	19 th -24 th Feb -2018	06	01	Thermal Engineering
3.	G.Ravi Chandra	Design Of Machine Elements	FDP	CMRIT-Hyderabad	07 th -14 th Feb -2018	06	01	Machine Design
4.	CH. Chandra Mouli	Design Of Machine Elements	FDP	CMRIT-Hyderabad	07 th -14 th Feb -2018	06	01	Machine Design

E-Gallery :



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