AICTE Sponsored STTP

Under AQIS Scheme

On

Advance of Materials Design, Machining and Characterization (AMDMC-2020)

21st – 26th November, 2020

Coordinator

Dr. Pankaj Charan Jena

Associate Professor

Organized by

Department of Production Engineering
Veer Surendra Sai University of Technology
Burla, Odisha, 768018, India.
www.vssut.ac.in

ELIGIBILITY

The programme is open to all members of AICTE/UGC affiliated Institutions/Universities i.e. Faculty Members, Research Scholars, PG Students.

No course fee is charged for participants sponsored by AICTE/UGC approved institutions.

Selection and Certification Criteria:

Selection will be done based on first-cum-first-serve basis and the confirmed candidate will be notified on receipt of registration form latest by 19th November 2020. An online test will be conducted by the coordinator at the end of the program. The certificates shall be issued to those participants who have attended the program with minimum 80% attendance and scored minimum 60% marks in the test.

IMPORTANT DATES

The last date for receipt of duly filled e-applications in google form link is **18th November, 2020**. Intimation of selection of candidature will be communicated through e-mail/ WhatsApp by **19th November, 2020**.

Guidelines:-

Session time will be from 10:00 AM to 4:30 PM.

Registration Link:-

https://docs.google.com/forms/d/e/1FAIpQLScC-BacSPiStmXUVzt2gTCM_ezjHwxdUxjYiUMD28JhVFHeVg/viewform?usp=pp_url

SPEAKERS

The course lectures shall be delivered by the eminent speakers invited from NITs, IITs, IMMT, CMRIT, DRDO reputed industries and other premier institutions.

Patron:

Prof. Atal Chaudhuri

Honuorable Vice-Chancellor, VSSUT

Co-Patron:

Prof. U. R. Jena Das

Dean, CDCE

Advisory committee:

Prof. B. B. Pati, Dean

Prof. S. K. Swain, Dean

Prof. P. C. Swain, Dean

Prof. J. P. Panda, Dean

Prof. A. Nayak Coordinator, TEQIP

Chairman:

Dr. Kamal Pal

HOD, Production Engineering

Coordinator:

Dr. Pankaj Charan Jena

Steering committee/Project Monitoring committee (PMC):

Mrs. U Karlo, **(Chairperson)**
Dr. Pankaj Charan Jena, **Member Secretary**
Dr. Kamal Pal, HoD, PE (Ex-officio)
Prof. J.R. Mohanty, HoD, ME (Ex-officio)
Prof. D. Mishra, PE (Member, Subject Expert)
Prof. D. Dhupal, PE (Member, Subject Expert)
Dr. Sudhansu Ranjan Das, PE, Subject Expert

OBJECTIVES

This is to understand the importance of advanced material and to be well conversant with various types of materials such as composite, alloys, smart material etc.

- The recent use of advanced materials in industries like locomotive, automation and robotics.
- The fabrication techniques such as volume/weight fraction using in mixture rules to improve the mechanical and thermal properties will discussed.
- The recent developments in composite with different filler materials and its machinability study.
- Dynamical behaviour of composite structure will discuss.
- It will focus on FEA in manufacturing process. It will also provide recent advances of
- It will also provide recent advances of Production technology such as 3D printing, 3D Scanner, industrial Robot as industry demands.

COURSE CONTENTS

- Introduction to advanced materials and Applications
- Dynamics, Modelling and Simulation of advanced materials
- Surface engineering application for hard thin film coatings
- FEM in manufacturing Process
- State-of-the-art of non-traditional machining processes
- Optimization procedures in manufacturing using software
- Machining and Machinability of hard-to-cut and difficult-to-machine materials.
- Recent advances of production technology such as 3D printing, and industrial Robots.
- Sustainable manufacturing
- Micro/Nano manufacturing
- Advanced welding processes

ABOUT US

Veer Surendra Sai University of Technology (VSSUT), Odisha (formerly known as University College of Engineering (UCE), Burla) was formed by Odisha Act 9 of 2009 by upgrading to a Unitary State University, which came into force from 1st day of July 2009. VSSUT is located at the foothill of famous Hirakud Dam – longest in Asia. Burla is known as Intellectual Capital of Odisha with VSSUT, VSS Institute of Medical Science and Research, Sambalpur University, MCL, WESCO and IIM Sambalpur. It is located 12 KM away from Sambalpur railway station and 3 KM away from Hirakud railway station. VSSUT, Burla has carved a niche for itself among the best technical institutes in India and is a dream institute for many budding engineers.

The University offers B. Tech, M.Tech, Dual Degree, Int. M. Sc., MCA and Ph. Ds. The university is surrounded by a large number of Government, public and private industrial sectors such as OHPC, HINDALCO, NALCO, NTPC, OPTCL, Vedanta Aluminium Ltd. and Bhusan Steel Plant. The institute has an excellent placement record with a number of top ranking companies visiting the campus every year.

ABOUT THE DEPARTMENT

The Production Engineering department was started in the year 1996 and presently is rich heritage of academic excellence, innovative curriculum, effective classroom teaching, application oriented practices, well equipped laboratories and updated workshops, excellent placement record, industry institute interaction and top of the line faculty members with outstanding research abilities. Now, the department of Production runs B.Tech, M.Tech.(Manufacturing Systems Engineering), and Ph.D. Programme.

One Week AICTE Sponsored STTP on

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Relevance

Advanced materials are being used in many diverse industries and applications, such as, aerospace, marine, automotive, medical, energy, and recreation. Besides improving performance and saving weight, these materials provide the designer with the ability to tailor the mechanical and thermal properties of the structure. There is a need for machine tools and processes which can accurately and easily machine these materials with intricate and accurate shapes. More attention is therefore, directed toward machining processes where the mechanical properties of the workpiece material are not imposing any limits on the material removal process. In this regard, recent advances in modelling, design, machining and characterization of engineering materials are being the important aspects into practice as a possible alternative concerning machinability, shape complexity, surface integrity, and miniaturization requirements. Innovative machining techniques or modifications to the existing method by combining different machining processes are needed.

This short-term course will provide a wide knowledge of advanced materials and industrial applications. This course also provides different direction of on-going research and aims at enriching the knowledge of the participants with the latest technological developments and research trends in the field of modern manufacturing processes.

Contact for further information:

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