

AICTE Sponsored
Short Term Course on
Structural Analysis and Design of
Pressure Vessels (SAADPVs)

5 - 12 February 2018

Organized by



Department of Ocean Engineering
Indian Institute of Technology Madras
Chennai (TN) - 36, PIN - 600 036, India.

www.oec.iitm.ac.in

Sponsored by



AICTE, New Delhi - 110 070, India

www.aicte-india.org

Course Coordinator

Dr. R. Sharma, Associate Professor, Department of
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Research gate profile: www.researchgate.net/profile/R_Sharma3

About the institution

IIT Madras is a premier centre for teaching, research and industrial consultancy in the country. The campus is situated in lush green environment and the weather in the month of February is expected to be pleasant with temperatures around 28 °C (max) and 20 °C (min). On campus guest house and hostel accommodations will be provided for the participants based upon availability.

About the course

Since the first wide use of pressure vessels (e.g. submarines, underwater vehicles, pressure chambers and boilers) in World War I, their presence has increased in all large navies and coastal nations. They are important for both civilian applications including marine science, salvage, exploration and facility inspection/maintenance and military applications including attacking enemy surface ships or submarines, aircraft carrier protection, blockade running, ballistic missile platform, reconnaissance, conventional land attack and covert insertion of special forces. Additionally, they can be modified to perform more specialized tasks such as search-and-rescue operations or undersea cable repair. Based on their wider operational capabilities they are employed in navies, coastal protection/patrol forces, tourism and undersea mining/archaeology activities, etc. The technical expertise in the area of pressure vessel design and engineering is very limited, both at the global and national level. Even the premier institutions in India, including IIT Madras, who otherwise have pioneered research in various areas related to pressure systems, have not built any significant research base in pressure vessel related areas. In fact most of our educational institutions lack even primary understanding of pressure vessel design and engineering. To build a research and knowledge base in the area of 'Pressure Vessel Design and Engineering (PVDaE)' and to initiate first concrete effort in continuous educational training, we are operating this short term course on 'Structural Analysis and Design of Pressure Vessels' with financial support from the AICTE, India.

... about the course

The primary aim to propose this course is to start academic and industrial research in the area of 'PVDaE'. The course is planned to build and share the knowledge base that exists and being developed by the academicians and researchers across the world. The main objective of the short term course is to introduce the basic and advanced elements that govern the structural analysis and design of PVs. Various leading experts will be delivering lectures and contributing their articles on specialized topics on structural analysis and design of PVs during the proposed course.

Course contents

The tentative list of topics to be covered in this course is:

- Introduction about pressure vessels,
- Basic principles of structural analysis,
- Branches and ends of pressure vessel,
- Local loading and local attachments,
- Flanges, and Pipe bends,
- Matrix and computer analyses of pressure vessels,
- Stiffness and flexibility matrices,
- Equilibrium and compatibility conditions,
- Equilibrium methods,
- Issues in computer implementation,
- Externally pressurized vessels,
- Creep effect analysis,
- Analysis of ligament stresses, and
- Applications in design and analysis of pressure vessels like submarines, underwater vehicles, pressure chambers and boilers, etc.

Important dates

Last date of registration: Jan. 22, 2018

Intimation of selection: Jan. 24, 2018

Course dates: 5 - 12 February 2018

Participation certificate

Certificate of participation will be issued to all the participants only after successful completion of the course.

How to apply?

- By e-mail: Scanned copy of the filled in application form duly endorsed by the forwarding authority to be mailed at rajivatri@gmail.com and cc to the rajivatri@yahoo.com by Jan. 22, 2018.

- By post: Dr. R. Sharma, Associate Professor, Department of Ocean Engineering, Indian Institute of Technology Madras, Chennai (Tamil Nadu) - 600 036, India.

- Application format is given in this brochure.

Note 1: Along with the application, the applicants have to send a demand draft for 1000 Rs. drawn on any of the nationalized/private banks in favor of "Indian Institute of Technology Madras" as a caution deposit towards confirmation of their participation.

Note 2: For the selected participants, the caution money shall be refunded on the last day of the course only if the participant joins the course.

Note 3: For the non-selected participants, the caution money shall be refunded on the day of selection and will be sent by speed post.

Note 4: Please send your duly filled-in application form and demand draft to the course coordinator at the earliest.

Course notes

Course notes and other supplementary materials will be provided to all the selected participants.

Financial Assistance

Limited number of - first 30 - participants from AICTE approved engineering institutions will be eligible for to and fro railway fare via the shortest route in III AC class between the place of work and Chennai, India. Furthermore, they will be provided free lodging and boarding in the institute guest house/hostels during the period of the course.

Note 5: Only the candidates attending the course in full will be eligible for TA.

Note 6: For all other participants no TA, lodging and boarding support will be paid by the IIT Madras, India.

Registration fee for industry and other persons

All other interested participants need to pay a registration fee of 20, 000 Rs. (i.e. registration fee = 16400 Rs. and GST = 3600 Rs.).

For students the registration fee is: 10, 000 Rs. (i.e. registration fee = 8200 Rs. and GST = 1800 Rs.).

This fee is to be paid by a demand draft drawn on any of the nationalized/private banks in favor of "Indian Institute of Technology Madras".

Note 7: These participants will not receive any TA, lodging and boarding support.

Course assistants

The following course assistants can be contacted for any clarification needed on doubts or in case any other detail or information is needed:

- Mr. B. K. Tiwari, e-mail: trybktiwari@gmail.com

- Mr. P. P. Sahoo, e-mail: patit.lucky@gmail.com

Also, the course coordinator can be contacted.

AICTE Sponsored Short Term Course on "Structural Analysis and Design of Pressure Vessels (SAaDPVs)", 5-12 February 2018

REGISTRATION FORM

1. Name (block letter):
2. Designation & pay scale:
3. Organization:
4. Address for communication:

Ph. No.: Fax No.:

E-mail:

5. Highest Academic Qualification:

6. Specialization:

7. Experience (in years):

(a) Teaching:

(b) Industrial:

8. Amount of TA required as per entitlement mentioned in the brochure (only for AICTE approved college teachers):

9. Mastery in Matlab™: Novice/Medium/Expert user

Please register me for the course on "SAaDPVs" to be held at IIT Madras, India.

Place:

Date:

(Signature of the applicant)

SPONSORSHIP

Prof./Dr./Mr./Ms./Mrs. _____ is an employee of our institute and his/her application is hereby sponsored. The applicant will be permitted to attend the short term course on "SAaDPVs" at IIT Madras during date of STC, if selected.

Date: (Signature of Sponsoring Authority)

Designation:

Official Seal:

DD No.: Date:

Bank:

Amount: 1000 Rs.