

Sri Venkateswara College of Engineering  
Department of Mechanical Engineering

To Dr. S.P  
Please explore the  
feasibility of giving  
credits and update.  
A. HOD/MEC  
26/06/2024

To,  
The Principal/SVCE

-----Through HOD/MEC -----

Respected Sir,

Can we give  
Some Credit  
to the students  
for undergoing this  
training?

Sub: Request for Approval to Conduct VMC Programming and Operations Training Course – reg.

A five-day training program on **VMC Programming and operations** is proposed for current 2<sup>nd</sup> year students of B.E (ME) and B.E (MN) from 03-07-2024 to 09-07-2024 (excluding Saturday and Sunday). This course aims to enhance the technical skills and industry readiness of our students, particularly those in the fields of mechanical engineering, manufacturing, and industrial technology. We are also planning to invite experts from industries for few sessions along with Hands-on training from our faculty members.

We seek your approval to conduct this training course for our students.

Sincerely,

Recommended & forwarded to the

Principal for approval. This Course is conducted at a free of cost to the students who had opted. Circular was floated to the students & 14 students out of 90 have opted to undergo this training program. Further if any students are willing, we will conduct as a separate batch. The honorarium for the invited experts from the Industries will be met out from the department budget.

Dr. S. Ponnuvel, ASP  
Dr. V. Sridharan, ASP  
Mr. M. Maheswaran, AP

Course Coordinators

To: HOD  
MEC

Approved

A. HOD/MEC  
26/6/24

A. HOD/MEC  
26/6/24



# Training on VMC Programming and Operations

03-09 JULY 2024



*Organised by*

## DEPARTMENT OF MECHANICAL ENGINEERING

(Accredited by National Board of Accreditation)

**SRI VENKATESWARA COLLEGE OF ENGINEERING**

(An Autonomous Institution)

(Approved by AICTE and Affiliated to Anna University, Chennai)

(Accredited by NAAC)

Sriperumbudur – 602 117. Website: [www.svce.ac.in](http://www.svce.ac.in)

Land Line: 044-27152000 (Extn: 400/401)

## ABOUT THE INSTITUTION:

Sri Venkateswara College of Engineering was established in the year 1985, with three academic departments. Ever since, it has grown into a premier institution imparting knowledge and excellence through academic, research and infrastructural developments. The college offers 19 programs in various Engineering disciplines. It is actively involved in many research projects funded by various industries and organizations, supported by well dedicated faculty, staff and student community. The institute is accredited by NAAC and Affiliated to Anna university as an Autonomous Institution.

## ABOUT THE DEPARTMENT:

The Department of Mechanical Engineering is one of the three major departments established during the beginning of the College. The department has well experienced faculty and staff members of proven ability and administrative skills. It has well equipped state-of-the-art laboratories that cater to the needs of the students. The department also takes up industrial consultancy works from various industries. One PG and two UG programmes are offered by the department. The UG programme: B.E (Mechanical Engineering) is accredited by **National Board of Accreditation (NBA) since 1998.**

## COURSE CONTENTS:

The following Laboratory and hands-on training sessions are included

1. Laboratory sessions in CNC Programming for VMC using SEENC mill software with detailed introduction to G & M codes and sample programs.
2. Hands-on training sessions in VMC with basics of machine construction and detailed explanation of control panel.
3. Work datum setting in the Fanuc controller software in VMC.

4. Hands on training in VMC operations (covering machine setting, tool setting and execution of programs).

SVCE.

**RESOURCE FACULTY:**

Technical staff members from the Department of Mechanical Engineering and Western Thomson Pvt. Ltd will train the participants, while the theoretical knowledge will be disseminated by the experienced faculty members of the department.

**WHO CAN PARTICIPATE?**

The course is primarily planned to enrich the operational skills of the students pursuing B.E in Mechanical Engineering and related branches of study.

**SELECTION PROCEDURE:**

A maximum of 15 participants will be selected on first come first served basis. The course is offered at free of cost for the students

**ORGANISING COMMITTEE:**

Conveners : Dr. S. Ramesh Babu  
Professor & Head  
Department of Mechanical Engineering  
SVCE  
Dr. M. Mohandass  
Associate Professor & AHOD  
Department of Mechanical Engineering  
SVCE

Coordinators: Dr. S. Ponnuvel  
Associate Professor  
Department of Mechanical Engineering  
SVCE.  
Dr. V. Sridharan  
Associate Professor  
Department of Mechanical Engineering  
SVCE.  
Mr. M. Maheswaran  
Assistant Professor  
Department of Mechanical Engineering

**Sri Venkateswara College of Engineering**  
**Department of Mechanical Engineering**  
**Training Course on VMC Programming and Operations**  
**(03/07/2024 - 09/07/2024)**

Schedule

Day	Time	Activity	
03/07/2024	8:30 AM - 12:00 PM	Session 1: Introduction to SEENC Mill software, Basic Coding	
		- Overview of programming languages (G-code, M-code)	
		- Hands-on exercises on simple commands	
	12:45 PM to 3:15 PM	Session 2: Practical Coding Practice	
		- Writing and executing basic CNC programs	
		- Troubleshooting common coding errors	
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04/07/2024	8:30 AM - 12:00 PM	Session 3: CNC Machine Fundamentals	
		- Overview of VMC setup and operation	
		- Safety protocols and machine controls	
	12:45 PM to 3:15 PM	Session 4: Introduction to Control panel of VMC, datum setting.	
		-----	
		-----	
05/07/2024	8:30 AM - 12:00 PM	VMC Training by WT group (Resource person: Mr. Surya, Production Engineer)	
		12:45 PM to 3:15 PM	Case studies & Discussion by WT group (Resource person: Mr. Surya, Production Engineer)
			- Q&A session with the expert
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08/07/2024	8:30 AM - 12:00 PM	Session 7: Hands-on Practice on VMC & Demonstration in Denford mill trainer kit	
		Operating the VMC under supervision	
		12:45 PM to 3:15 PM	Practical exercises on machining in VMC & Denford mill trainer kit & Evaluation
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09/07/2024	8:30 AM - 12:00 PM	Session 9:	
		Practical exercises on machining in VMC & Denford mill trainer kit	
		Practical exercises on machining in VMC & Denford mill trainer kit	
	12:45 PM to 3:15 PM	CNC Programming – Auto generation of Machining codes & Practice	
		MCQ Test	
		Valedictory function	

*(Handwritten signature)*  
 (Course coordinator)

## **Topics Covered in the Training Program**

**(03/07/2024 - 09/07/2024)**

- 1. Introduction to SEENC Mill Software**
  - Basic Coding
  - Overview of Programming Languages (G-code, M-code)
  - Hands-on Exercises on Simple Commands
- 2. Practical Coding Practice**
  - Writing and Executing Basic CNC Programs
  - Troubleshooting Common Coding Errors
- 3. VMC Machine Fundamentals**
  - Overview of VMC Setup and Operation
  - Safety Protocols and Machine Controls
- 4. Introduction to Control Panel of VMC**
  - Hands-on training in VMC Datum Setting
- 5. VMC Training by Western Thomson Group**
  - In-depth VMC Operations
  - Practical Insights
- 6. Hands-on Practice on VMC**
  - Operating the VMC under Supervision
  - Demonstration using Denford Mill Trainer Kit
- 7. Practical Exercises on Machining in VMC & Denford Mill Trainer Kit**
- 8. Hands-on training in auto-generation of Machining Codes using CAPS mill software**

Sri Venkateswara College of Engineering

Department of Mechanical Engineering

Training course on VMC Programming and Operations

Attendance Sheet

Date: 03.07.2024-05.07.2024, 08.07.2024-09.07.2024 (5 Days)

Time: FN : 8.30 AM to 12.00 Noon , AN: 12.45 PM to 3.15 PM

Name	Register Number	Branch	03.07.2024		04.07.2024		05.07.2024		08.07.2024		09.07.2024	
			FN	AN	FN	AN	FN	AN	FN	AN	FN	AN
Sudharsan V	2127221001038	ME	Vd	Vd	Vd	Vd	Vd	Vd	Vd	Vd	Vd	Vd
Aakash Nagappan N	2127221002001	MN	N. Aditya N. Aditya	N. Aditya N. Aditya	N. Aditya N. Aditya	N. Aditya N. Aditya	N. Aditya N. Aditya	N. Aditya N. Aditya	N. Aditya N. Aditya	N. Aditya N. Aditya	N. Aditya N. Aditya	N. Aditya N. Aditya
Adithya N Kumar	2127221002002	MN	AN	AN	AN	AN	AN	AN	AN	AN	AN	AN
K Aravinda Krishnan	2127221002005	MN	Vd	Vd	Vd	Vd	Vd	Vd	Vd	Vd	Vd	Vd
Harish Raahul MK	2127221002016	MN	Harish	Harish	Harish	Harish	Harish	Harish	Harish	Harish	Harish	Harish
Kishore B	2127221002020	MN	the	the	the	the	the	the	the	the	the	the
R. Rohith Ram	2127221002030	MN	Prithi	Prithi	Prithi	Prithi	Prithi	Prithi	Prithi	Prithi	Prithi	Prithi
Sanjay R	2127221002031	MN	Prithi	Prithi	Prithi	Prithi	Prithi	Prithi	Prithi	Prithi	Prithi	Prithi
Lokesh P	2127221002023	MN	Prithi	Prithi	Prithi	Prithi	Prithi	Prithi	Prithi	Prithi	Prithi	Prithi

*Signature of Coordinator*  
Course Coordinators

**Sri Venkateswara College of Engineering**  
**Department of Mechanical Engineering**  
**Training Course on VMC Programming and Operations**

**(03/07/2024 - 09/07/2024)**

**Report**

The training program conducted from the 3rd to the 9th of July, 2024 (Excluding Saturday and Sunday), covered a comprehensive range of topics focusing on SEENC Mill software, CNC machine fundamentals, and practical exercises with VMC and Denford mill trainer kits. This structured program provided participants with both theoretical knowledge and hands-on experience to enhance their proficiency in CNC programming and machine operation.

**Day 1 (03/07/2024):**

The program commenced with an introduction to SEENC Mill software. Basic coding was the primary focus, and an overview of essential programming languages, specifically G-code and M-code, was provided. Participants were engaged in hands-on exercises, practicing simple commands to build foundational skills. The session in the afternoon emphasized practical coding practice where attendees wrote and executed basic CNC programs. Troubleshooting common coding errors was also a significant component, ensuring that participants could identify and rectify issues independently.

**Day 2 (04/07/2024):**

The second day delved into the fundamentals of CNC machines. The morning session provided an overview of VMC (Vertical Machining Center) setup and operation. Detailed discussions on safety protocols and machine controls ensured that participants understood the importance of safety while operating complex machinery. The afternoon session introduced the control panel of the VMC, explaining the intricacies of datum setting. This session was crucial for understanding the precise operations required for effective machine use.

**Day 3 (05/07/2024):**

The third day was dedicated to VMC training, conducted by the WT group with Mr. Surya, a Production Engineer, serving as the resource person. This session provided in-depth knowledge and practical insights into VMC operations. The afternoon session included case studies and discussions led by Mr. Surya, where participants could engage in a Q&A session, allowing them to clarify doubts and gain a deeper understanding of the practical applications of VMC.

**Day 4 (08/07/2024):**

After a break, the training resumed with a hands-on practice session on the VMC and a demonstration using the Denford mill trainer kit. Participants operated the VMC under supervision, ensuring they applied the theoretical knowledge gained in previous sessions. The afternoon session focused on practical exercises in machining using both the VMC and Denford mill trainer kit. An evaluation was conducted to assess the participants' proficiency and understanding of the concepts and skills learned.

**Day 5 (09/07/2024):**

The final day continued with practical exercises in machining using the VMC and Denford mill trainer kit. CNC programming was highlighted, with a specific focus on the auto-generation of machining codes, which is critical for efficient and accurate machining processes. The afternoon session included further practical exercises to reinforce learning, followed by an MCQ test to evaluate the participants' knowledge comprehensively. The program concluded with a valedictory function, celebrating the successful completion of the training.

Throughout the program, participants were provided with a blend of theoretical instruction and practical application, ensuring a holistic understanding of CNC programming and machine operation. The inclusion of expert-led sessions, hands-on practice, and evaluations ensured that the participants were well-equipped with the necessary skills and knowledge to excel in their respective fields. This training program not only enhanced technical skills but also emphasized the importance of safety and precision in machining operations.



Dr. S. Ponnuvel, ASP/MEC  
Dr. V. Sridharan, ASP/MEC  
Mr. M. Maheswaran, AP/MEC

Course Coordinators



**Sri Venkateswara College of Engineering**

**Department of Mechanical Engineering**

**Training course on VMC Programming and Operations (03/07/2024 -09/07/2024)**

Total Marks (100)Name	Register Number	Competency percentage
Sudharsan V	2127221001038	90
Aakash Nagappan N	2127221002001	92
Adithya N Kumar	2127221002002	95
K Aravinda Krishnan	2127221002005	94
Harish Raahul MK	2127221002016	90
Kishore B	2127221002020	87
R. Rohith Ram	2127221002030	92
Sanjay R	2127221002031	86
Lokesh P	2127221002023	87

  
Course Coordinators

**Sri Venkateswara College of Engineering**  
**Department of Mechanical Engineering**

**Training course on VMC Programming and Operations (03/07/2024 -09/07/2024)**





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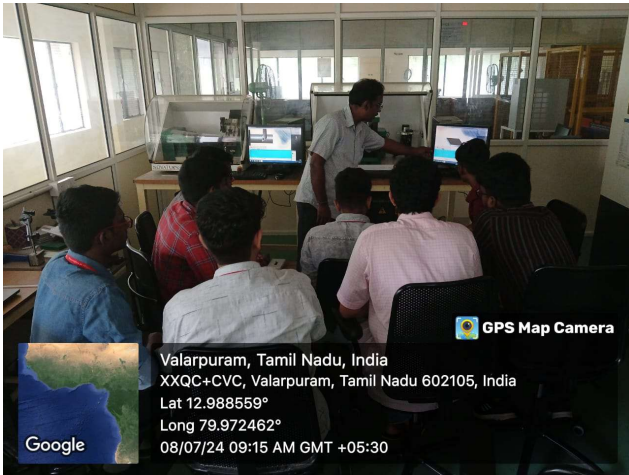
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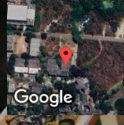
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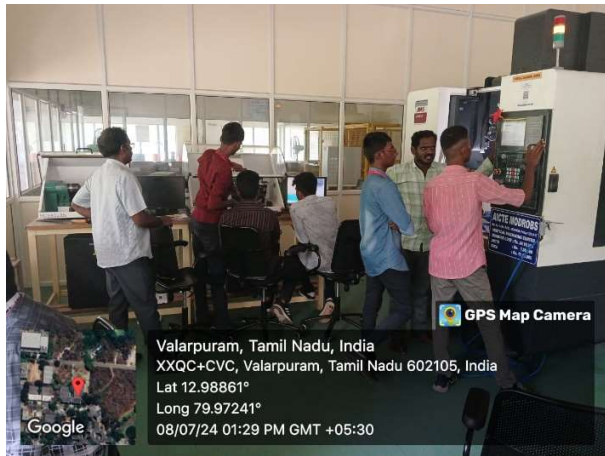
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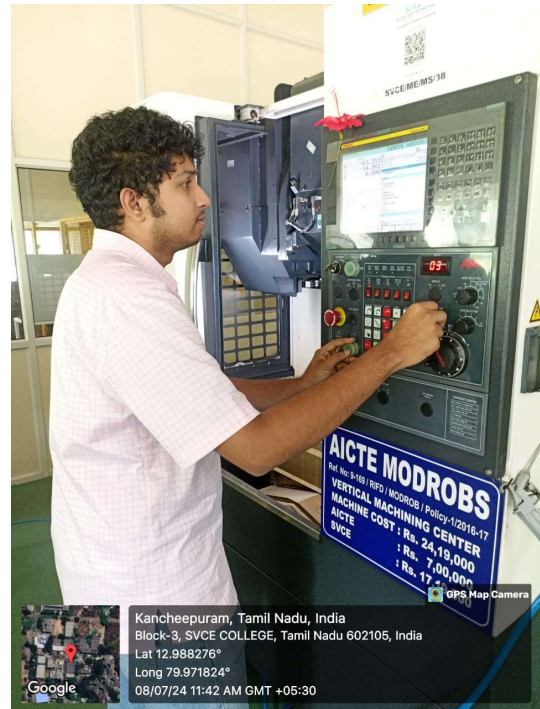
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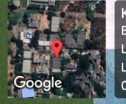
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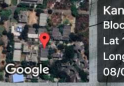
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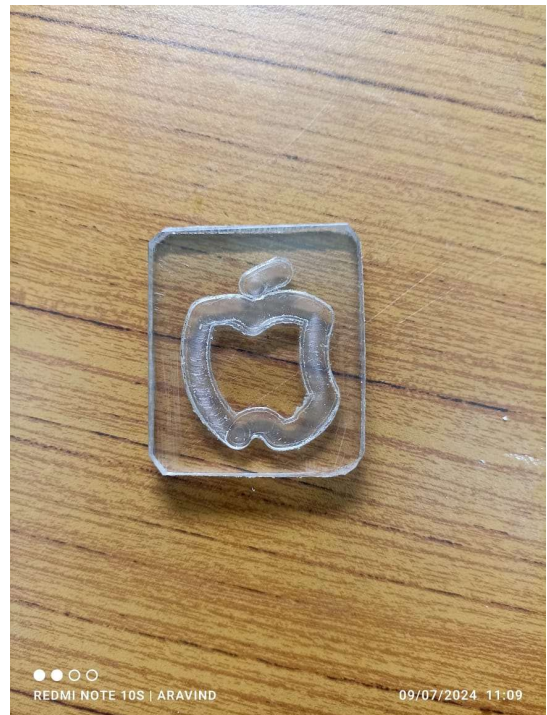


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SRI VENKATESWARA COLLEGE OF ENGINEERING  
FEEDBACK FROM THE SPEAKER - GUEST LECTURE

DEPARTMENT :

Name of the Speaker	: G. SURYA
Designation	: Engineer - production
Institution/University/Organisation	: Precialp precision India PVT Limited
Mobile / E-mail	: 7094881276 / surya.g.161998@gmail.com
Title of the Lecture	: VMC Machin programming
Date	: 05/07/24
Time	: 9:00 AM - 3:00 PM
Venue	: S.V.C
Comments by the Speaker	: Students give more support to me he have more knowelds about maching I hope to give knowldya <sup>more</sup> to our students.
Suggestions for improvement	: 1. give sto. student more practical examplet about machis display work area.
Signature of the Speaker	: G. surya

  
Signature of Coordinator

  
Signature of HOD 5/7/24

# VMC Programming and Operations - Feedback

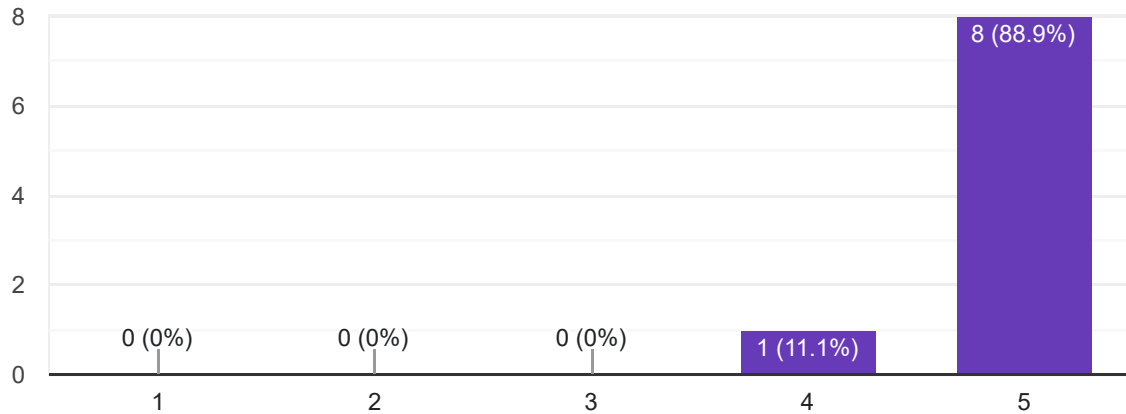
9 responses

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On a scale of 5, rate the content of the programme.

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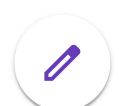
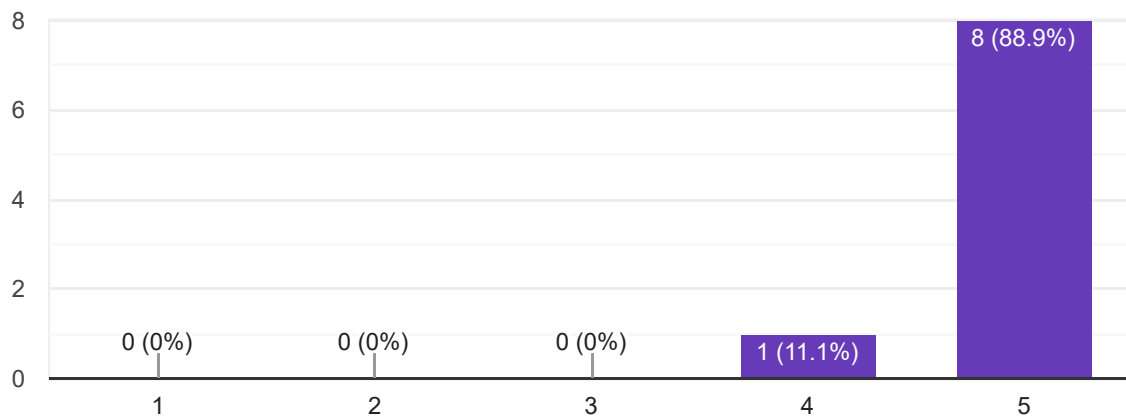
9 responses



On a scale of 5, rate the practice offered during the programme.

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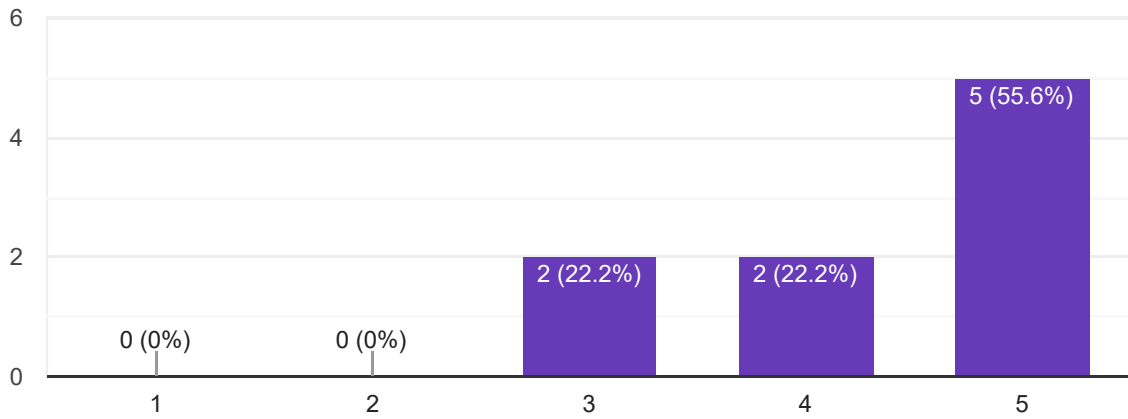
9 responses



On a scale of 5, rate the session handled by the Industrial expert



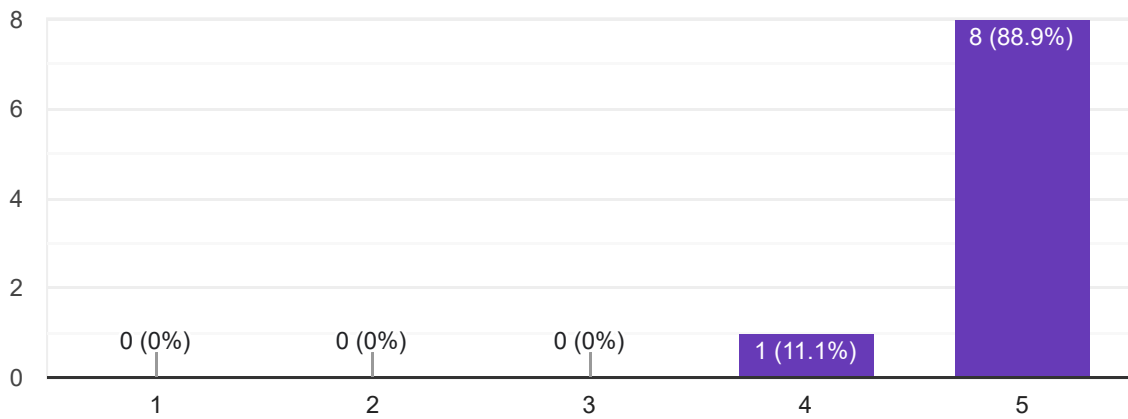
9 responses



On a scale of 5, rate the training on Denford Mill trainer.



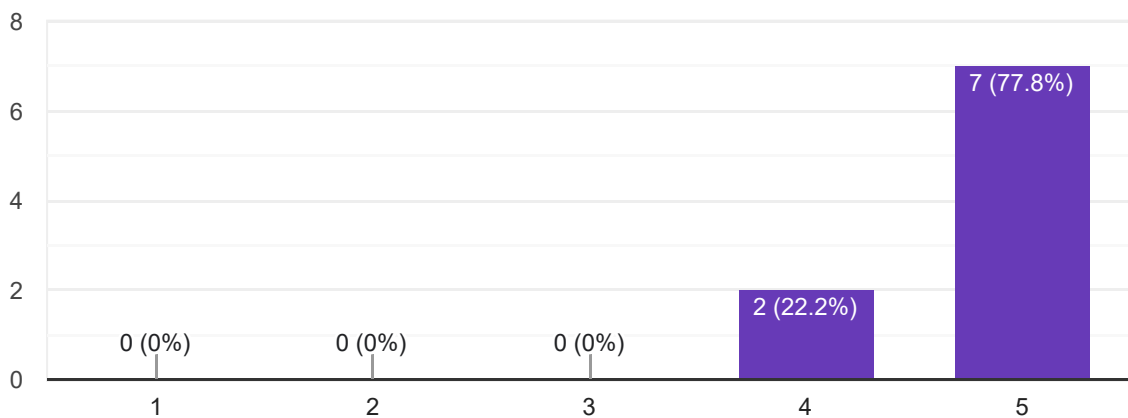
9 responses



On a scale of 5, rate the improvement made by you in VMC programming and operations.



9 responses



Describe your experience in the programme briefly.

9 responses

Hands on experience in VMC which useful for carrer

It was a perfect hands on experience on the vmc machine and denford mill trainer and gained knowledge about g and m codes

Enjoyable. Knowledgeable. Eyeopening.

Experience was quite was good from the first day,the hands on experience was interesting and very knowledgeable

I have learnt about the simulation in software as well as in vmc ,overall the program is eye opening session to industrial automation

Really had a good experience in attending the vmc program conducted by our college. we had the hands on experience on vmc and denford milltrainer and mainly got seriousness about learning and getting the real time experience. Awaiting for the next session.

It was a great experience, had gain a lot of new things and enchanced my knowledge about vmc programming and its operations. It would be great if we had frequent workshops like this. Also it will be good if lunch is provided apart from meals.

The VMC training program has been a valuable experience for me. I've had the opportunity to enhancing my skills in various aspects of VMC.The hands-on exercises have been instrumental in deepening my understanding on VMC

This five days practice gives an such an wonderful hands on experience and we have confidence in handling VMC machine in basic level



Give your suggestions for improvement of the programme.

9 responses

If possible give us industrial training

More number of faculties or lab assistants would be appreciated

Different work piece materials and deciding feed rate and cutting speed for better finish.

It will be great if next time it happens on any industry

My suggestion is to increase the number of days of training to get wide knowledge about the variety of operations,tools, workpiece material that can be worked in VMC ,and even programming

-

it would be goo if the workshop extends for few more days

Need more practice session to improve the hands of on experience on the machine

This is enough for ours sir







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Google Forms





## Speaker Details

	<p>Mr. G. Surya Engineer – Production Precipalp Precision India Pvt Ltd (Western Thompson Group)</p>
	<p>Mr. N. Subash, Instructor, CAM Lab, SVCE</p>
	<p>Mr. J. Baskar, Instructor, CAD Lab, SVCE</p>
	<p>Dr. S. Ponnuel, ASP/MEC, SVCE</p>
	<p>Dr. V. Sridharan, ASP/MEC, SVCE</p>
	<p>Mr. M. Maheswaran, AP/MEC, SVCE</p>