

Semiconductor skills development through SEMulator3D (Part-1)

Program Schedule

1st May 2025, Thursday

Time	Event
8:30 AM – 9:30 AM	Registration (Ground Floor CeNSE Seminar Hall)
9:30 AM – 10:00 AM	Introductory Session – Ms. Sabiha Sultana (Ground Floor CeNSE Seminar Hall)
10:00 AM – 10:30 AM	Introductory Session – Prof. Sushobhan Avasthi
10:30 AM – 10:45 AM	Tea Break
10:45 AM – 11:30 AM	NNfC Safety Protocol – Ms. Shruti Hegde
11:30 AM – 12:15 PM	Introduction to Wet Etch Bay – Dr. Rekha M
12:15 PM – 1:00 PM	Introduction to Furnaces – Mr. Saleem Ahmed B

1:15 PM – 2.00 PM: Lunch Break (Ground Floor Parking Area)

Time	Event
2:00 PM – 2:45 PM	Introduction to Thin Films – Mr. Chandan H B (First Floor Multimedia Classroom = FF-11)
2:45 PM – 3:30 PM	Introduction to Lithography – Mr. Ajeya Shettar
3:30 PM – 4:15 PM	Introduction to Dry Etch – Ms. Santhra M L
4:15 PM – 4:30 PM	Tea Break
4:30 PM – 5:30 PM	Introduction to Modules – Ms. Sabiha Sultana

2nd May 2025, Friday

Time	Event
9:30 AM – 10:15 AM	Overview of Electrical Characterization – Mr. Kumar M P (Ground Floor CeNSE Seminar Hall)
10:15 AM – 11:00 AM	Overview of AFM – Mr. Prajwal R V
11:00 AM – 11:15 AM	Tea Break
11:15 AM – 12:00 PM	Overview of SEM – Dr. Rashmitha Keshava Devadiga
12:00 PM – 12:45 PM	Overview of FTIR / UV Vis Spectroscopy – Ms. Poojitha Pai S

1:00 PM – 2.00 PM: Lunch Break (Ground Floor Parking Area)

Time	Event
2:00 PM – 2:45 PM	Overview of LDV – Mr. Vishwas S (Ground Floor CeNSE Seminar Hall)
2:45 PM – 3:45 PM	Overview of FIB – Dr. Nagabhushan J Choudhari
3:45 PM – 4:00 PM	Tea Break
4:00 PM – 5:00 PM	Overview of TEM – Mr. Ambresh M

Holiday – 3rd May 2025, Saturday

Holiday – 4th May 2025, Sunday

Note: Lunch will be provided at Greenpath Eco Hotel

5th May 2025, Monday

MOSFET – Batch 1 09:30 AM – 1:00 PM	MOSFET - Batch 2 9:30 AM – 1:00 PM	MOSFET - Batch 3 9:30 AM – 1:00 PM
Fabrication Session - 1 RCA 1 μ m Oxidation Ellipsometer (NNFC)	Characterization Session - 1 SEM / FIB (MNCF)	Characterization Session - 1 AFM / FTIR / UV Vis Spectroscopy (MNCF)

1:00 PM – 2:00 PM: Lunch Break (Ground Floor Parking Area)

MOSFET - Batch 1 2:00 PM – 5:00 PM	MOSFET - Batch 2 2:00 PM – 5:00 PM	MOSFET - Batch 3 2:00 PM – 5:00 PM
Fabrication Session - 2 S-D lithography SiO ₂ wet etch Diffusion (loading) (NNFC)	Characterization Session - 2 AFM / FTIR / UV Vis Spectroscopy (MNCF)	Fabrication Session - 1 RCA 1 μ m Oxidation Ellipsometer (NNFC)

6th May 2025, Tuesday

MOSFET - Batch 1 9:30 AM – 1:00 PM	MOSFET - Batch 2 9:30 AM – 1:00 PM	MOSFET - Batch 3 9:30 AM – 1:00 PM
Fabrication Session - 3 PSG etch + inspect 50nm ALD Al₂O₃ Gate Litho Gate oxide wet etch (NNFC)	Lab Visit: Gas Sensor Lab Annexe Labs Packaging Lab (Second Floor SF-31, SF-30, SF-32 & SF-33, TF-32)	Characterization Session - 2 SEM / FIB

1:00 PM – 2.00 PM: Lunch Break (Ground Floor Parking Area)

MOSFET - Batch 1 2:00 PM – 5:00 PM	MOSFET - Batch 2 2:00 PM – 5:00 PM	MOSFET - Batch 3 2:00 PM – 5:00 PM
Characterization Session - 1 SEM / FIB (MNCF)	Fabrication Session - 1 RCA 1μm Oxidation Ellipsometer (NNFC)	Characterization Session - 3 Probe Station 2 (MNCF)

7th May 2025, Wednesday

MOSFET - Batch 1 9:30 AM – 1:00 PM	MOSFET - Batch 2 9:30 AM – 1:00 PM	MOSFET - Batch 3 9:30 AM – 1:00 PM
Lab Visit: Gas Sensor Lab Annexe Labs Packaging Lab (Second Floor SF-31, SF-30, SF-32 & SF-33, TF-32)	Characterization Session - 3 TEM (MNCF)	Fabrication Session - 2 S-D lithography SiO₂ wet etch Diffusion (loading) (NNFC)

1:00 PM – 2.00 PM: Lunch Break (Ground Floor Parking Area)

MOSFET - Batch 1 2:00 PM – 5:00 PM	MOSFET - Batch 2 2:00 PM – 5:00 PM	MOSFET - Batch 3 2:00 PM – 5:00 PM
Characterization Session – 2 AFM / FTIR / UV Vis Spectroscopy (MNCF)	Fabrication Session - 2 S-D lithography SiO₂ wet etch Diffusion (loading) (NNFC)	Fabrication Session - 3 PSG etch + inspect 50nm ALD Al₂O₃ Gate Litho Gate oxide wet etch (NNFC)

8th May 2025, Thursday

MOSFET - Batch 1 9:30 AM – 1:00 PM	MOSFET - Batch 2 9:30 AM – 1:00 PM	MOSFET - Batch 3 9:30 AM – 1:00 PM
Characterization Session – 3 Probe Station 2 (MNCF)	Fabrication Session - 3 PSG etch + inspect 50nm ALD Al ₂ O ₃ Gate Litho Gate oxide wet etch (NNFC)	Fabrication Session - 4 Metal deposition Metal litho (background) Metal etch RIE demonstration Annealing (background) (NNFC)

1:00 PM – 2:00 PM: Lunch Break (Ground Floor Parking Area)

MOSFET - Batch 1 2:00 PM – 5:00 PM	MOSFET - Batch 2 2:00 PM – 5:00 PM	MOSFET - Batch 3 2:00 PM – 5:00 PM
Characterization Session – 4 TEM (MNCF)	Fabrication Session - 4 Metal deposition Metal litho (background) Metal etch RIE demonstration Annealing (background) (NNFC)	Lab Visit: Gas Sensor Lab Annexe Labs Packaging Lab (Second Floor SF-31, SF-30, SF-32 & SF-33, TF-32)

9th May 2025, Friday

MOSFET - Batch 1 9:30 AM – 1:00 PM	MOSFET - Batch 2 9:30 AM – 1:00 PM	MOSFET - Batch 3 9:30 AM – 1:00 PM
Fabrication Session - 4 Metal deposition Metal litho (background) Metal etch RIE demonstration Annealing (background) (NNFC)	Characterization Session - 4 Probe Station 2 (MNCF)	Characterization Session - 4 TEM (MNCF)

1:00 PM – 2:00 PM: Lunch Break (Ground Floor Parking Area)



Hands-on Workshop on “Semiconductor Fabrication & Characterization”

Centre for Nano Science and Engineering
Indian Institute of Science, Bangalore-560012
Tel: 080-2293 3542 Email: workshop.inup@iisc.ac.in



Time	Event
2:00 PM – 5:00 PM	<u>SEMulator 3D Software Installation and running basic examples:</u> (First Floor Multimedia Classroom = FF-11)
5:00 PM – 5:30 PM	Interaction Session + Next Steps
5:30 PM – 6:00 PM	Feedback & Valedictory

