

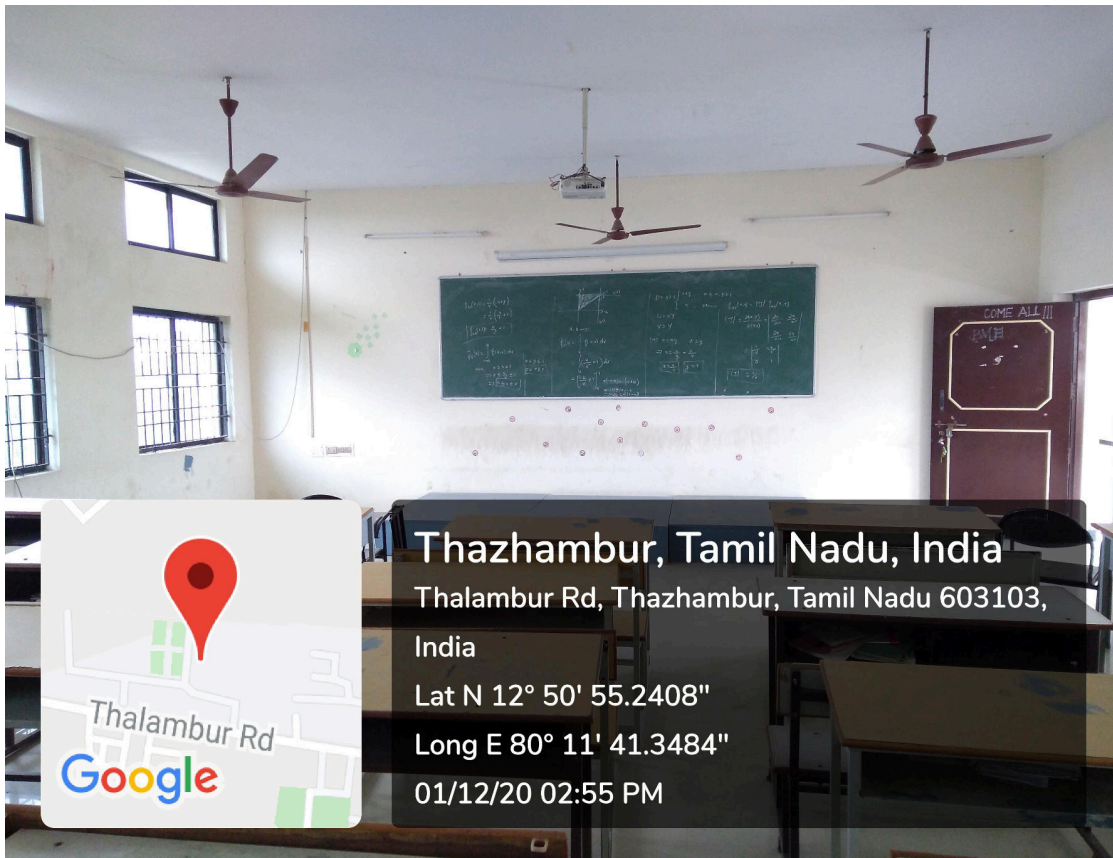


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LIST OF CLASS ROOM

All Class room are equipped with wall mounted LCD project and screen.

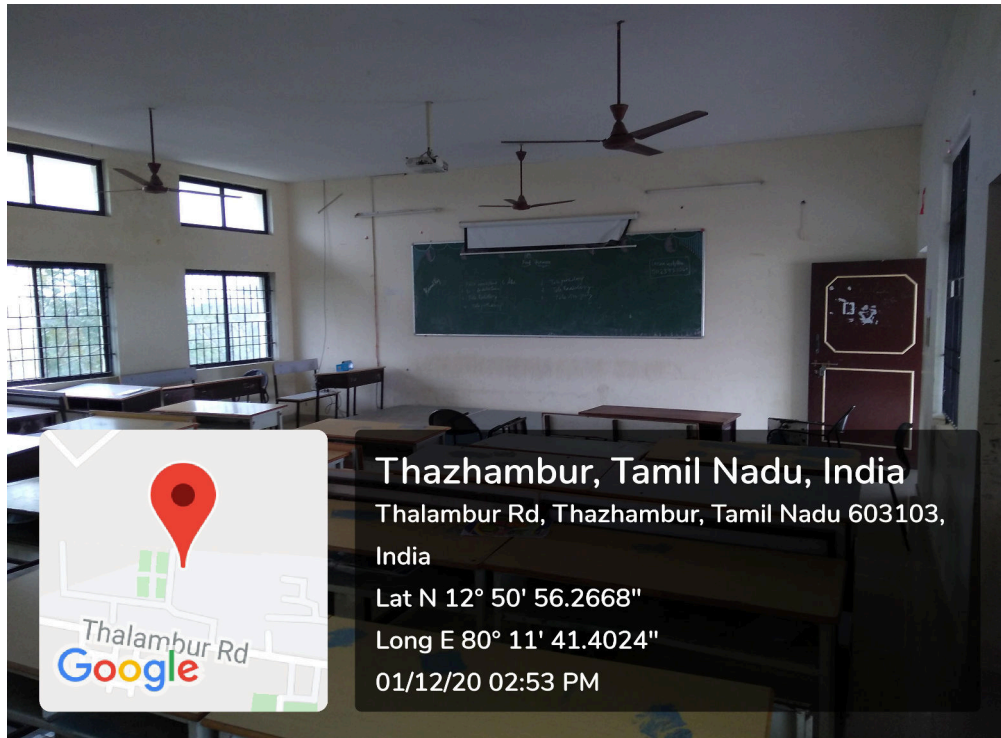
S.no	Class Room Number	Year-Department
1	LHW 301	STAFF ROOM
2	LHW 302	II-B.E-BME
3	LHW 303	III-B.E-BME
4	LHW 304	IV-B.E-BME
5	LHW 305	Project Room
6	Bio Chem Lab	
7	BMI Lab	



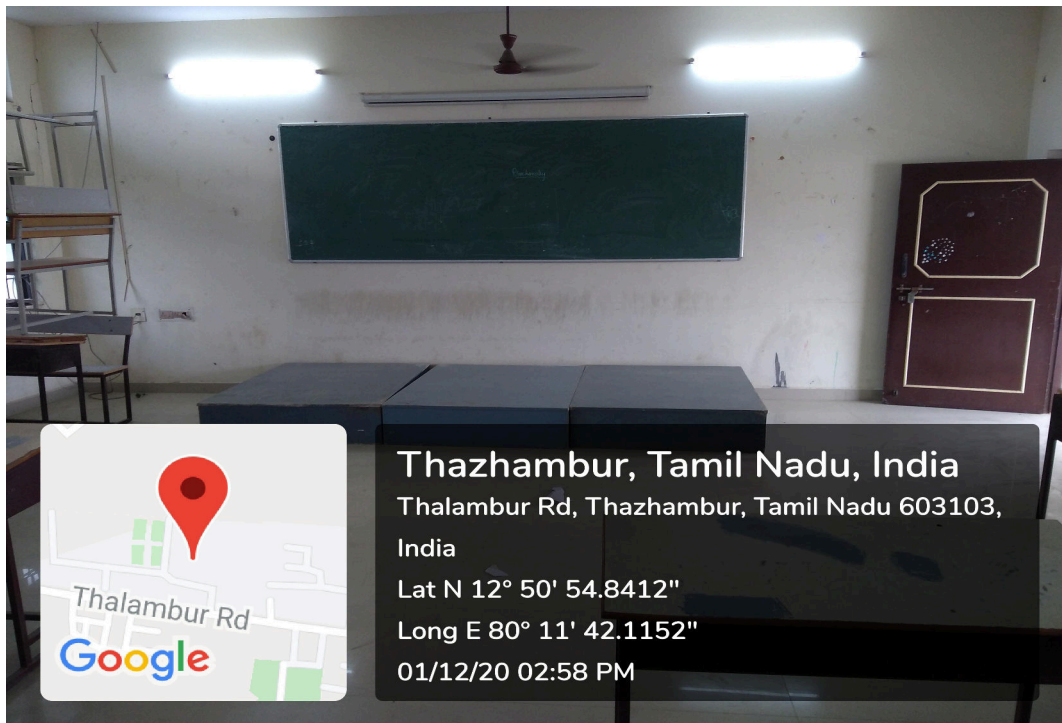
II-B.E-BME



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III-B.E-BME



IV-B.E-BME



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Bio Chem Lab



BME Lab



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LIST OF LABORATORY

EVEN SEMESTER LABORATORY

S.No.	Name of the Laboratory	No. of students per setup(Batch Size)	Name of the Important equipment
1	Bio Chemistry Lab	Max 30/Batch	i) Weighing Balance ii) Colorimeter
2	Biomedical Instrumentation Lab	Max 30/Batch	i) Audiometer ii) Spirometer
3	Digital Communication Lab	Max 30/Batch	i) Digital Trainer Kit ii) CRO
4	Microprocessor Lab	Max 30/Batch	i) 8051 Microcont-roller ii) Stepper motor kit
5	Project Lab	60/Batch	Systems Specification enclosed



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LIST OF LABORATORY

ODD SEMESTER LABORATORY

S.No.	Name of the Laboratory	No. of students per setup(Batch Size)	Name of the Important equipment
1	Bio Chemistry Lab	Max 30/Batch	i) Microscope ii) Centrifuge
		Max 30/Batch	i) Hemocytometer ii) Hemoclobinom-eter
2	Biomedical Instrumentation Lab	Max 30/Batch	i) Patient Monitoring System ii) Sphygmomano-meter iii) ECG Simulator
3	VLSI Lab	Max 30/Batch	Systems Specification enclosed
		Max 30/Batch	Systems Specification enclosed
4	EDC Lab	Max 30/Batch	i) Function Generator(1Mhz) ii) Dual Trace Oscilloscope (20Mhz) iii) Digital Multimeter
5	Project Lab	Max 30/Batch	Systems Specification enclosed



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WELL EQUIPPED LABORATORIES

S.No.	Name of the Laboratory	No. of students per setup (Batch Size)	Name of the Important equipment
1	Centre for Excellence Siemens Healthineers	60	X-ray Tube, Scintillation Counter
2	Project Laboratory	60	Systems Specification enclosed
3	Oncology Mechanics Laboratory	30	Computer Hardwares and Softwares

SYSTEM CONFIGURATION

Lab Name	Systems Specification	No. of Equipment
VLSI Lab	LENOVO/Intel i5 Processor/7 th Generation/8GB DDR4 RAM/1TB HDD	30
BMI Lab	HCL/Intel Pentium Core2 Duo processor/2.9GHZ/2GB DDR RAM/320GB HDD	5
Oncology Mechanics Lab	DELL OptiPlex 3800 ST Desktop/Intel Core i3@4150/8GB DDR3,500GB HDD,DVD RW	30
Project Lab	LENOVO/Intel i5 Processor/7 th Generation/8GB DDR4 RAM/1TB HDD	30



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ADDITIONAL FACILITIES CREATED FOR IMPROVING THE QUALITY OF LEARNING EXPERIENCE IN LABORATORIES

Laboratories have been purported to promote a number of goals for students, most of which are the goals of clinical science and medical instrumentation in general

Sr No	Facility Name	Details	Reason(s) for creating facility	Areas in which students are expected to have enhanced learning
1	Centre for Excellence Siemens Healthineers	Biomedical Equipments	To give practical exposure to students on major Biomedical Equipments	Radiological Equipments, Diagnostic and Therapeutic Equipments
2	Onco Mechanics Lab	Research	CLRI Projects coordination	Biomechanics, Rehabilitation Engineering
3	Niranjan Ultrasound	Ultrasound Equipments	To give practical exposure to students on ultrasound Equipments	Radiological Equipments, Diagnostic and Therapeutic Equipments
4	PEP CONNECT	Siemens online tutorial	Virutal exposure to all Radiology equipment	Radiological Equipments, Diagnostic and Therapeutic Equipments
5	Modelling and Simulation	Labview, Xilinx, Simulink, CAD, FEM	Virutal exposure to Modelling and Verilog programming	Signal Processing, Image Processing & System design
6	EEG Toolbox	Simulation	Psychophysiological Research	Diagnostic and Therapeutic Equipments,



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				Signal Processing
7	Aaranya Biosciences	ELISA Reader	Biochemical and Pathological Analysis	Pathology and Microbiology
8	Internet Facility LAN	100Mbps	Self-learning / Seminars / Presentations / Solve Assignments	Web Programming/ Computer Networks/Grid and Cloud Computing/ IT Essential Lab

LABORATORIES: OVERALL AMBIANCE

Overall Ambience:

1. Department has Full furnished with well-equipped equipment's which shall cater to all UG courses as per curriculum requirements.
2. Conditions of chairs/benches are in good condition. Chair with desk are provided for individual students in Labs.
3. Department has experienced faculty to educate them in all the fields of engineering.
4. All the labs are conducted and evaluated every week. .
5. Laboratory manual are distributed to students.
6. Sufficient number of windows is available for ventilation and natural light and every lab has one exit.
7. Lighting system is very effective, along with the natural light in every corner of the rooms.
8. Each Lab is equipped with white/black board, computer, Internet, and such other amenities.
9. Research laboratory/dept library is available 24X7 for all faculties and students to carry research work and projects.
10. Exclusively, a project lab has been provided for the students to carry out their mini and major project work.



Department of Biomedical Engineering PROJECT LABORATORY AND FACILITIES

Sl. No	Facilities	Details	Utilization
1	Personal Computers	Lenovo i5, 1TB HDD, 8GB RAM, Windows 10	Students and faculties can use this system to download research articles
2	Internet Facility	100 Mbps (1:1 Sharing)	Students and faculties can browse through internet to get information related to subject and research from internet.
3	LCD Projector	Project Laboratory is well equipped with LCD projector for demonstrating sessions	Faculties use this facility to show demonstrative videos, powerpoints and also project reviews are conducted using this facility.
4	MATLAB Software	Version 9.2 (R2017a) Licensed	Students can get licensed version of MATLAB software for their project and educational work.
5	Embedded Software's	KEIL v3.0 & MASM v6.0	Students can get licensed version of KEIL v3.0 & MASM v6.0 for their project designing and practical designing of circuits beyond syllabus.
6	Basic circuit designing component are available for carrying out research on electronics base.	Active and Passive Electronic Components	Students can utilize the basic components for circuit designing and their project designing
7	Centre for excellence-Siemens Healthineers	Basic Electronic components and Radiological equipments such as X-ray tube, Scintillation detector for carrying out project in related field	Trainer and faculties use this facility for training the students with practical demonstration of industrial components.
8	Niranjan Ultrasound Pvt Ltd sponsored Diagnostic equipment	Ultrasound Equipment	Faculties use this facility for training the students with



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			practical demonstration of ultrasound equipment and also use it for research.
9	Aaranya Biosciences sponsored Patho-Physiological Equipment	ELISA Plate reader	Students and faculties can use this facility for research purpose.
10	MoU's with the industries (5 Functional MoU's)	For Joint Guidance and utilization of facilities to provide necessities to students for carrying out projects	Students and faculties can use the facility available in industries for research purpose.
11	Well Versed Project Guidance's	Students will carry out their project work under the guidance of their faculty as well as technical faculty.	Every project batch has been allotted with guide in order to pursue with their project work.
12	Agni Ignite	Students are motivated to participate in Scientific related activities.	Students are provided with fund and facilities to carry out their research work and attend technical event.

Utilization

The above mentioned facilities are used by students for carrying out their project work

1. Special lab with systems is provided for carrying out project work.
2. Every project batch has been allotted with guide in order to pursue with their project work.
3. Project lab is utilized exclusively for the students of Biomedical Engineering.
4. Internet facility is provided to students
5. The previous year project reports and the project models are kept in the project lab premises.



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SAFETY MEASURES IN LABORATORIES

Common Safety measures in the Laboratories:

1. First Aid kit is available in the entrance of the Laboratory in case of emergency.
2. Fire Extinguisher is available in the Laboratory in case of fire emergency.
3. Students are instructed to avoid direct contact with any voltage source and Power line voltages.
4. Students must assure that their hands are dry and not standing on wet floor.
5. Students are advised to wear rubber-soled shoes, Laboratory-coat and avoid loose clothing.
6. Students are advised not to switch ON the experiments without the permission from the faculty/Lab technician.
7. Students must make sure that the electric supply is OFF before giving connections.
8. Examine proper earthing of medical equipment's periodically and always prior to use.

Regular Cleaning of equipment and working tables are being done. Each laboratory is having boards to explain the experiment.

Sl. No.	Name of the Laboratory	Safety measures
1.	Bio Chemistry Laboratory BM8211	<ol style="list-style-type: none"> 1. List of Do's and Don'ts displayed for student information. 2. The laboratory is equipped with fire extinguishers, eye washes, safety showers, fume hoods and first aid kits. 3. Special care for eye protection is required . Safety glasses must be used when certain procedures are being carried out. 4. While heating solution one should make sure not to overheat it; therefore, vigorous mixing of the solution by shaking or stirring is required 5. Handling of strong acids and base requires special attention. 6. Use automatic pipets or pipet pumps to fill the pipets. 7. Volatile liquids and solids that are toxic or irritating should be handled under fume



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		hoods
2.	Pathology and Microbiology Laboratory BM8311	<ol style="list-style-type: none"> List of Do's and Don'ts displayed for student information. The laboratory is equipped with fire extinguishers, eye washes, safety showers, fume hoods and first aid kits. Gloves and Face mask must be worn during working in cultures Handling Bacterial slides with more carefully and Bacterial cultures should be handled inside the Laminar air flow chamber under fume hoods Cracked and chipped glassware(Slides) must always be discarded and not reused. Appropriate disinfectants must be used correctly
3.	Devices and Circuits Laboratory BM8312	<ol style="list-style-type: none"> List of Do's and Don'ts displayed for student information. The laboratory is equipped with fire extinguishers, eye washes, safety showers, fume hoods and first aid kits. Ensure that the power is OFF before you start connecting up the kit. Students if they notice any abnormal conditions in the trainer kit (like insulation heating up, resistor heating up, circuit connection open etc.), immediately switch off the electric supply and inform to the staff member. Always disconnect a plug by pulling on the connector body not the cable. Disconnect any device from the circuit before service.
4.	Human Physiology Laboratory BM8313	<ol style="list-style-type: none"> List of Do's and Don'ts displayed for student information. The laboratory is equipped with fire extinguishers, eye washes, safety showers, fume hoods and first aid kits. Gloves and Face mask must be worn during working with blood samples. Lancet should be disinfected prior to the use Handling blood samples with more carefully and Bacterial cultures should be



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		<p>handled inside the Laminar air flow chamber under fume hoods</p> <ol style="list-style-type: none"> Cracked and chipped glassware(Slides) must always be discarded and not reused. Appropriate disinfectants must be used correctly
5.	Fundamentals of Data Structures In C Laboratory EC8381	<ol style="list-style-type: none"> List of Do's and Don'ts displayed for student information. The laboratory is equipped with fire extinguishers, eye washes, safety showers, fume hoods and first aid kits. Girl students should have their hair tucked under their coat or have it in a knot. Avoid switching on the systems in wet hand Students must keep all cords and wires out of foot traffic areas and do not roll chairs over electrical cords or wire. Students must shutdown personal computer properly to avoid system failure. Appropriate storage areas. Proper shutdown of PC's should be ensured
6.	Integrated Circuits Laboratory BM8411	<ol style="list-style-type: none"> List of Do's and Don'ts displayed for student information. The laboratory is equipped with fire extinguishers and first aid kits. Ensure that the power is OFF before you start connecting up the kit. Students if they notice any abnormal conditions in the trainer kit (like insulation heating up, resistor heating up, circuit connection open etc.), immediately switch off the electric supply and inform to the staff member. Always disconnect a plug by pulling on the connector body not the cable. Disconnect any device from the circuit before service.
7.	Digital Signal Processing Laboratory EC8562	<ol style="list-style-type: none"> List of Do's and Don'ts displayed for student information. The laboratory is equipped with fire extinguishers, eye washes, safety showers, fume hoods and first aid kits.



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		<ol style="list-style-type: none"> 3. Girl students should have their hair tucked under their coat or have it in a knot. 4. Avoid switching on the systems in wet hand 5. Students must keep all cords and wires out of foot traffic areas and do not roll chairs over electrical cords or wire. 6. Students must shutdown personal computer properly to avoid system failure. 7. Appropriate storage areas. 8. Proper shutdown of PC's should be ensured
8.	Biomedical Instrumentation Laboratory BM8511	<ol style="list-style-type: none"> 1. List of Do's and Don'ts displayed for student information. 2. The laboratory is equipped with fire extinguishers, eye washes, safety showers, fume hoods and first aid kits. 3. Ensure that the power is OFF before you start connecting up the kit. 4. Students if they notice any abnormal conditions in the trainer kit (like insulation heating up, resistor heating up, circuit connection open etc.), immediately switch off the electric supply and inform to the staff member. 5. Always disconnect a plug by pulling on the connector body not the cable. 6. Disconnect any device from the circuit before service.
9.	Microprocessors and Microcontrollers Laboratory EC8681	<ol style="list-style-type: none"> 1. List of Do's and Don'ts displayed for student information. 2. The laboratory is equipped with fire extinguishers, eye washes, safety showers, fume hoods and first aid kits. 3. Girl students should have their hair tucked under their coat or have it in a knot. 4. Avoid switching on the systems in wet hand 5. Students must keep all cords and wires out of foot traffic areas and do not roll chairs over electrical cords or wire. 6. Students must shutdown personal computer properly to avoid system failure. 7. Appropriate storage areas.



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		8. Proper shutdown of PC's should be ensured
10.	Diagnostic and Therapeutic Equipment Laboratory BM8611	<ol style="list-style-type: none">1. List of Do's and Don'ts displayed for student information.2. The laboratory is equipped with fire extinguishers, eye washes, safety showers, fume hoods and first aid kits.3. Ensure that the power is OFF before you start connecting up the kit.4. Students if they notice any abnormal conditions in the trainer kit (like insulation heating up, resistor heating up, circuit connection open etc.), immediately switch off the electric supply and inform to the staff member.5. Always disconnect a plug by pulling on the connector body not the cable.6. Disconnect any device from the circuit before service.
11.	Digital Image Processing Laboratory EC8762	<ol style="list-style-type: none">1. List of Do's and Don'ts displayed for student information.2. The laboratory is equipped with fire extinguishers, eye washes, safety showers, fume hoods and first aid kits.3. Girl students should have their hair tucked under their coat or have it in a knot.4. Avoid switching on the systems in wet hand5. Students must keep all cords and wires out of foot traffic areas and do not roll chairs over electrical cords or wire.6. Students must shutdown personal computer properly to avoid system failure.7. Appropriate storage areas.8. Proper shutdown of PC's should be ensured



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12.	Project Laboratory	<ol style="list-style-type: none">1. List of Do's and Don'ts displayed for student information.2. The laboratory is equipped with fire extinguishers, eye washes, safety showers, fume hoods and first aid kits.3. Girl students should have their hair tucked under their coat or have it in a knot.4. Avoid switching on the systems in wet hand5. Students must keep all cords and wires out of foot traffic areas and do not roll chairs over electrical cords or wire.6. Students must shutdown personal computer properly to avoid system failure.7. Appropriate storage areas.8. Proper shutdown of PC's should be ensured
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