



VELS



INSTITUTE OF SCIENCE, TECHNOLOGY & ADVANCED STUDIES (VISTAS)
(Deemed to be University Estd. u/s 3 of the UGC Act, 1956)
PALLAVARAM, THALAMBUR, PERIYAPALAYAM - CHENNAI

CRITERION 1 – CURRICULAR ASPECTS

1.1. CURRICULUM DESIGN AND DEVELOPMENT

1.1.3. PROVIDE A DESCRIPTION OF COURSES HAVING FOCUS ON COMPETENCY/ EMPLOYABILITY/ ENTREPRENEURSHIP/ SKILL DEVELOPMENT OFFERED EITHER BY THE UNIVERSITY OR IN COLLABORATION WITH PARTNER INSTITUTIONS/INDUSTRIES DURING THE ACADEMIC YEAR 2023-24

Criterion Number	1
Metric	1.1.3
Details	Link for additional information
Pages	8

Registrar
Vels Institute of Science, Technology
& Advanced Studies (VISTAS)
Pallavaram, Chennai - 600 117.

Pallavaram Campus: Velan Nagar, P.V. Vaithiyalingam Road,
Pallavaram, Chennai - 600 117

Thalambur Campus: Off.Old Mahabalipuram Road,
Thalambur, Chennai - 603 130

Periyapalayam Campus: 12/123, Velan Nagar, Periyapalayam
Road, Manjankaranai Village, Tiruvallur District- 601102

Administration Office:
521/2, Anna Salai, Nandanam, Chennai 600035

www.vistas.ac.in

vels@vistas.ac.in

Phone Number: 22662500 / 22662501 / 502 / 503

(91-44) 2266 2513



VELS



INSTITUTE OF SCIENCE, TECHNOLOGY & ADVANCED STUDIES (VISTAS)
(Deemed to be University Estd. u/s 3 of the UGC Act, 1956)
PALLAVARAM, THALAMBUR, PERIYAPALAYAM - CHENNAI

MEDICAL SIMULATION

Vels Institute of Science, Technology and Advanced Studies (VISTAS) has opened a state-of-the-art medical skill lab built in an area of 3000 sq.ft. This medical simulation centre combines each of the components of medical simulation, including partial task trainers, full scale human patient simulators supported by modern audio-visual gear, and faculty that integrates medical simulation into many of its medical, nursing and paraprofessional programs.


The National Medical Commission, the apex regulatory body for medical education in India, underscores the importance of practical training alongside theoretical learning for medical students. In response to this mandate, medical colleges have embraced Skills Lab as indispensable components of their curriculum. These cutting-edge facilities foster proficiency in a wide range of clinical skills, preparing future physicians to provide competent and compassionate patient care.

Infrastructure and resources

Skills Lab equips themselves with advanced medical simulation technologies and a diverse array of training aids to meet the standards prescribed by the NMC. These include:


1. High-Fidelity Simulators: Lifelike mannequins capable of simulating various physiological responses and medical conditions, enabling students to practice diagnostic and therapeutic interventions in a risk-free environment.
2. Task Trainers: Simulated anatomical models and task-specific trainers are designed to facilitate hands-on practice of procedural skills, such as lumbar puncture, central line insertion, and airway management.


Audio-visual Recording Systems: Integrated cameras and microphones allow for the recording and playback of simulated scenarios, enabling students to review their performance and receive constructive feedback from faculty members.

 **Pallavaram Campus:** Velan Nagar, P.V. Vaithiyalingam Road, Pallavaram, Chennai - 600 117

Thalambur Campus: Off.Old Mahabalipuram Road, Thalambur, Chennai - 603 130


Periyapalayam Campus: 12/123, Velan Nagar, Periyapalayam Road, Manjankaranai Village, Tiruvallur District- 601 102

 **Administration Office:**
521/2, Anna Salai, Nandanam, Chennai 600035

 www.vistas.ac.in

 vels@vistas.ac.in

 Phone Number: 22662500 / 22662501 / 502 / 503

 (91-44) 2266 2513



VELS



INSTITUTE OF SCIENCE, TECHNOLOGY & ADVANCED STUDIES (VISTAS)

(Deemed to be University Estd. u/s 3 of the UGC Act, 1956)

PALLAVARAM, THALAMBUR, PERIYAPALAYAM - CHENNAI

Integration of the medical skills lab into the curriculum

The medical curriculum seamlessly integrates Medical Skills Lab, providing structured learning experiences that enhance classroom teaching and clinical rotations. Through a combination of scheduled sessions, elective workshops, and self-directed learning modules, students have ample opportunities to engage with simulation-based activities tailored to their educational needs and career aspirations.


Simulation based medical education is now taught to under graduates in all semesters and nursing students. This is also used for refreshing the skills of fresh graduates joining the hospital.

Training programs offered at Vels medical college that utilize the skills lab are as follows:

- BLS – Basic life Support
- ACLS – Advanced cardiac life support
- PALS – Pediatrics cardiac life support
- Basic Mechanical Ventilation
- Basic Airway Management
- Basic Laryngoscopy course
- Basic trauma life support
- Basic surgical skills for Residents Students
- Basic ECG


Assessment and evaluation


The assessment of students' performance in Skills Lab is multifaceted, incorporating both formative and summative evaluation methods. Faculty members utilise standardised checklists, objective structured clinical examinations (OSCEs), and peer feedback to assess students' proficiency in targeted clinical skills and competencies.

 **Pallavaram Campus:** Velan Nagar, P.V. Vaithiyalingam Road, Pallavaram, Chennai - 600 117

Thalambur Campus: Off.Old Mahabalipuram Road, Thalambur, Chennai - 603 130


Periyapalayam Campus: 12/123, Velan Nagar, Periyapalayam Road, Manjankaranai Village, Tiruvallur District- 601102

 **Administration Office:**
521/2, Anna Salai, Nandanam, Chennai 600035

 www.vistas.ac.in

 vels@vistas.ac.in

 Phone Number: 22662500 / 22662501 / 502 / 503

 (91-44) 2266 2513



VELS



INSTITUTE OF SCIENCE, TECHNOLOGY & ADVANCED STUDIES (VISTAS)
(Deemed to be University Estd. u/s 3 of the UGC Act, 1956)
PALLAVARAM, THALAMBUR, PERIYAPALAYAM - CHENNAI

MARITIME FULL MISSION BRIDGE SIMULATION

The VISTAS School of Maritime Studies has a Full Mission Bridge Simulator from ARI (Applied Research International Pvt Ltd). This Simulator is used to train navigating cadets in real time on the bridge of a ship exactly simulating conditions on the high seas.

SHIP-IN-CAMPUS:

The Director General of Shipping has stipulated that maritime Academies across the country must build a "ship-in-campus" to obviate the necessity of training cadets in outside marine workshops. Towards this end, VISTAS has acquired an Akasaka 6- cylinder 4-stroke diesel main engine, rated at 2200hp at 250 rpm. VISTAS has installed this main engine in the first all steel ship-in-campus ever to be built in India, which is now fully operational. The School of Maritime Studies has a Full Mission Engine Simulator within the Ship-in-Campus, for the training of Marine Engineering cadets, simulating conditions exactly as on board an engine room of a ship.



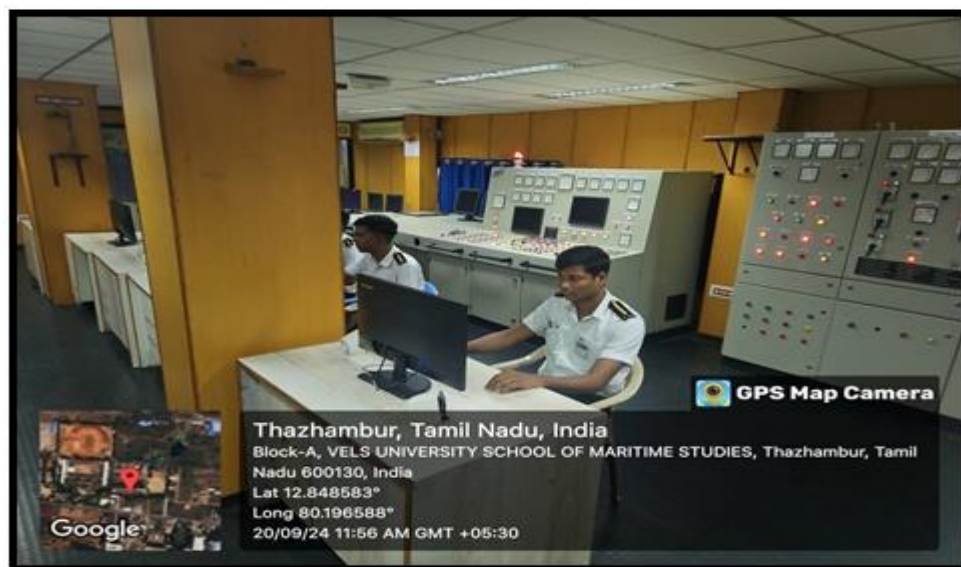
Pallavaram Campus: Velan Nagar, P.V. Vaithiyalingam Road, Pallavaram, Chennai - 600 117 **Administration Office:** Anna Salai, Nandanam, Chennai 600035

Thalambur Campus: Off Old Mahabalipuram Road, Thalambur, Chennai - 603 130 **Full Mission Bridge Simulator** www.vistas.ac.in
vels@vistas.ac.in

Periyapalayam Campus: 12/123, V. Gan Nagar, Periyapalayam Road, Manjankaranai Village, Tiruvallur District- 601102 **Phone:** 044-22662513/503 **Mobile:** (91-44) 22662513

The latest maritime simulation technology provides impressive 3D graphics to depict true-to-life vessel models and exercise areas, ensuring quality simulation training in realistic environments that is adaptable to real-life ship handling situations. Simulation-based

isolate and freeze each sub-system to understand and acquire knowledge, perform critical operations over and over again to train skills, test skills and develop attitudes by training in situations that demand complex decision making. Through the use of advanced assessment and student profiling systems, simulator training can help isolate areas requiring improvement, and allow the instructor to target corrective training. Thus, the training will focus on bringing out the best in each student.



Engine Simulator

On the full-mission bridge simulator, students are able to quickly adapt to the simulated reality and prepare themselves for the worst while hoping for the best. With real equipment on the bridge, a powerful visualization system, and state-of-the art simulation software, it will create a good training experience. Cadets are able to do training in a real life like environment; the instrumentation on the full- mission bridge simulator is the same that one will find on board a ship. All sailing areas are made with a high level of detail. The School of Maritime Studies has all the major sailing areas in the world available.

The ship models VISTAS uses in the full-mission bridge simulator are of top line quality and highly realistic in their behaviour due to 6 degrees of freedom motion capabilities. There are a total of 20 ship models available for use in the full- mission bridge simulator.



VELS



INSTITUTE OF SCIENCE, TECHNOLOGY & ADVANCED STUDIES (VISTAS)
(Deemed to be University Estd. u/s 3 of the UGC Act, 1956)
PALLAVARAM, THALAMBUR, PERIYAPALAYAM - CHENNAI


AIRCRAFT SIMULATION

The VISTAS Department of Aviation has a Diamond 42 Simulator. The simulators play a vital role in the aviation industry, helping to improve safety, efficiency, and effectiveness in various areas of the industry. The Diamond 42 offers a variety of simulators that aim to give pilots a realistic experience of flying the aircraft. The students can do training in this simulator which features a 220-degree field of view visual system that displays high-resolution graphics, providing a highly realistic and immersive flying experience.

The Federal Aviation Administration (FAA) has approved the Precision Flight Controls CR-12 AATD as a training device, suitable for a range of training scenarios such as instrument training, emergency procedures, and normal flight operations. It is also a cost-effective alternative to training in an actual aircraft, as it can simulate a wide range of flight conditions and scenarios in a safe and controlled environment. The FAA also approves Flight Safety International's simulators for the Diamond 42, which boasts realistic cockpits and advanced visual systems. The choice of simulator will depend on the specific needs and requirements of the pilot or training organization.





Aircraft Diamond 42 Simulator

 **Pallavaram Campus:** Velan Nagar, P.V. Vaithiyalingam Road, Pallavaram, Chennai - 600 117

Thalambur Campus: Off.Old Mahabalipuram Road, Thalambur, Chennai - 603 130


Periyapalayam Campus: 12/123, Velan Nagar, Periyapalayam Road, Manjankaranai Village, Tiruvallur District- 601 102

 **Administration Office:** 521/2, Anna Salai, Nandanam, Chennai 600035

 www.vistas.ac.in

 vels@vistas.ac.in

 Phone Number: 22662500 / 22662501 / 502 / 503

 (91-44) 2266 2513



VELS



INSTITUTE OF SCIENCE, TECHNOLOGY & ADVANCED STUDIES (VISTAS)

(Deemed to be University Estd. u/s 3 of the UGC Act, 1956)

PALLAVARAM, THALAMBUR, PERIYAPALAYAM - CHENNAI


CENTRE OF EXCELLENCE

VISTAS has established a state-of-the art Centre of Excellence (CoE) within the university campus. These centres serve as focal points for interdisciplinary collaboration, fostering excellence in research, education, and engagement within the university community and beyond.

The Centre of Excellence assures a commitment to pushing the boundaries of knowledge and addressing complex challenges faced in society. By bringing together researchers, faculty members, students, and often external partners, CoEs create a vibrant ecosystem of intellectual exchange and discovery. These research projects, innovative educational programmes, and impactful outreach initiatives, contribute to the university's mission of academic excellence and societal impact.


VISTAS has established the Centre of Excellence, which includes the Central Instrumentation Laboratory, Incubation Centre, Laboratory Centre, Conservation Centre, Centre of Excellence in Pharmaceutical Research & Drug Testing, Centre for Bioengineering, Centre of Excellence in Cloud Computing with IBM, Centre of Excellence in Business Analytics with IBM, Centre for Advanced Research & Development (CARD), Centre for Transfer of Technology, and Intellectual Property Right Cell.


These centres contribute through cutting-edge research, transformative education, and impactful engagement to the university's mission of academic excellence, societal impact, and global leadership. As beacons of excellence and innovation, CoEs inspire and empower the next generation of scholars, leaders, and change makers to make a difference in the world.

 **Pallavaram Campus:** Velan Nagar, P.V. Vaithiyalingam Road, Pallavaram, Chennai - 600 117

Thalambur Campus: Off.Old Mahabalipuram Road, Thalambur, Chennai - 603 130


Periyapalayam Campus: 12/123, Velan Nagar, Periyapalayam Road, Manjankaranai Village, Tiruvallur District- 601 102

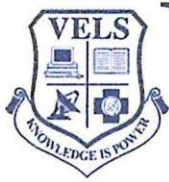
 **Administration Office:**
521/2, Anna Salai, Nandanam, Chennai 600035

 www.vistas.ac.in

 vels@vistas.ac.in

 Phone Number: 22662500 / 22662501 / 502 / 503

 (91-44) 2266 2513



VELS



INSTITUTE OF SCIENCE, TECHNOLOGY & ADVANCED STUDIES (VISTAS)
(Deemed to be University Estd. u/s 3 of the UGC Act, 1956)
PALLAVARAM, THALAMBUR, PERIYAPALAYAM - CHENNAI

POWDER X-RAY DIFFRACTOMETER

The Centre for Energy Research & Alternative Fuels (CERAFs) established in 2016, distinguishes itself through excellence in basic and advanced research directed towards outcomes of high industry relevance, with focus on system-level research.



Centre for Energy Research and Alternate Fuels Lab



VISTAS
DIFFERENTIAL SCANNING CALORIMETER
09.05.2024 12:25
12.95637, 80.16031
Altitude: -61m
X546+J4Q, Velan Nagar, Krishnapuram, Pallavaram, Chennai

Registrar
Vels Institute of Science, Technology
& Advanced Studies (VISTAS)
Pallavaram, Chennai - 600 117.

Differential Scanning Calorimeter (DSC)

Pallavaram Campus: Velan Nagar, P.V. Vaithiyalingam Road, Pallavaram, Chennai - 600 117

Thalambur Campus: Off.Old Mahabalipuram Road, Thalambur, Chennai - 603 130

Periyapalayam Campus: 12/123, Velan Nagar, Periyapalayam Road, Manjankaranai Village, Tiruvallur District- 601102

Administration Office:
521/2, Anna Salai, Nandanam, Chennai 600035

www.vistas.ac.in

vels@vistas.ac.in

Phone Number: 22662500 / 22662501 / 502 / 503

(91-44) 2266 2513