Engineering Institute of Technology.

Thank you for joining, we'll be starting shortly.

Please note the webinar will start at 3:00pm,
Australian Western Standard Time (AWST)

Thursday 26 August 2021

Download Webinar Recording Here

An Insight into EIT's Online Labs

Engineering Student Webinar

Presented By

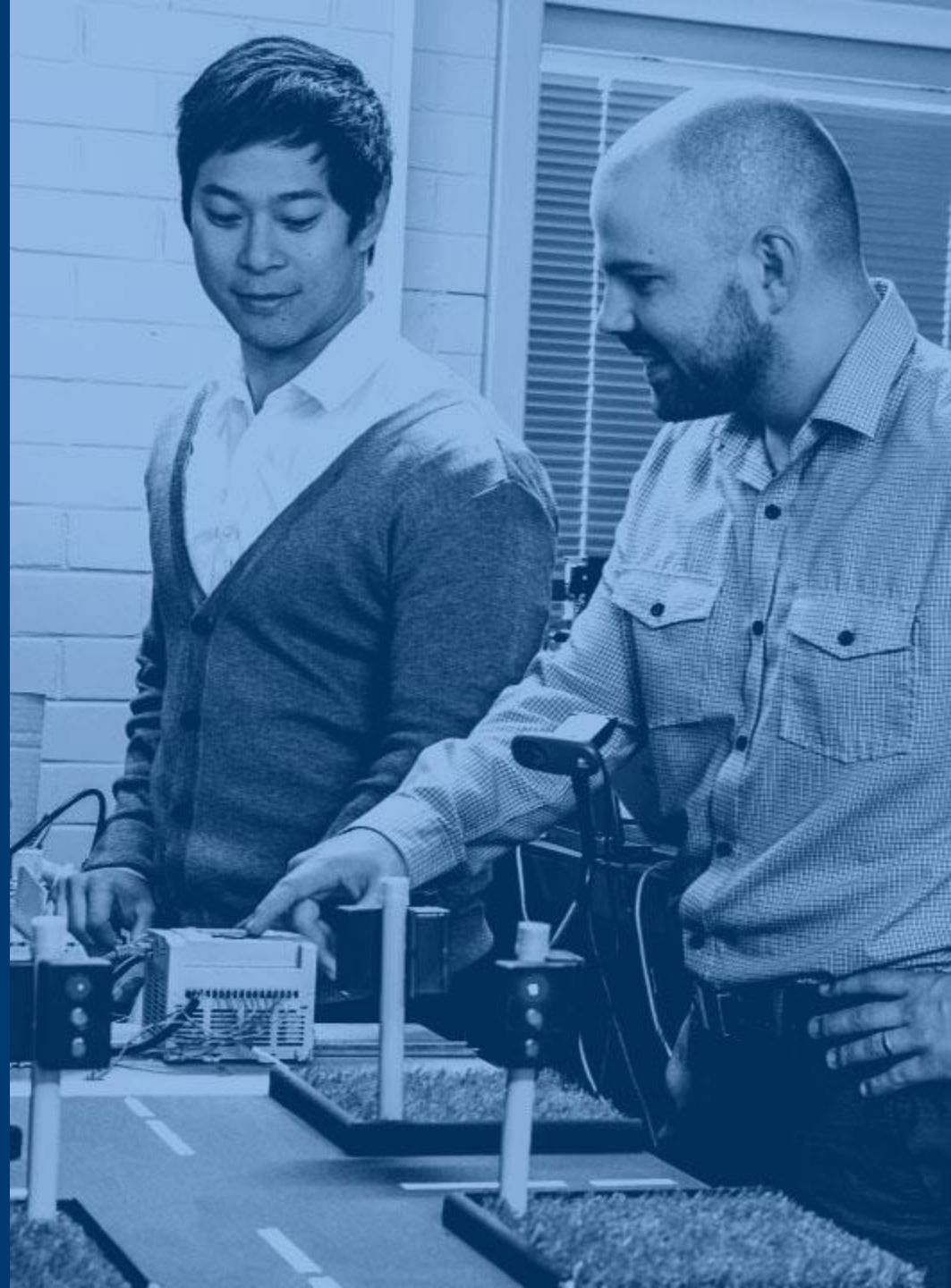
James Theodosiadis
Project Engineer

Dr. Harisinh Parmar
Laboratory Manager/Coordinator

Muhammad Usman Arif
Automation Engineer

Agenda

1	Welcome & Introductions
2	About EIT
3	Remote Labs: Introduction, Demonstrations
4	Hands-on Workshops and Work Integrated Learning
5	Q & A



Introductions

James Theodosiadis

Project Engineer

James is one of EIT's Project Engineers and has a Bachelor of Engineering from the University of Western Australia. Over the five years that James has worked at EIT, he has extensively contributed to the research, development, and management of EIT's practical labs and workshops, for both online and on-campus engineering students.

Dr. Harisinh Parmar

Laboratory Manager/Coordinator

Harisinh is EIT's Laboratory Manager and Coordinator and has been engaged with EIT since 2019. Harisinh has a Master's Degree in Chemical Engineering from RMIT University and completed his Ph.D. in Chemical Engineering at Curtin University. He oversees EIT's lab development and the practical components of EIT's Higher Education programs.

Muhammad Usman Arif

Automation Engineer

Usman has been working for EIT since 2020 as an Automation Engineer and is engaged in supporting lab development and the practical components of EIT's Higher Education programs. He has completed his Masters in Industrial Automation and Bachelors in Electrical Engineering.

About EIT

We are dedicated to ensuring that you receive a world-class education and gain skills that you can immediately implement in the workforce.

Engineering Specialists

EIT is one of the only institutes in the world specializing in Engineering. We deliver professional certificates, diplomas, advanced diplomas, undergraduate and graduate certificates, bachelor's and master's degrees, and a Doctor of Engineering.

Industry Oriented Programs

Our programs are designed by industry experts, ensuring you graduate with cutting-edge skills that are valued by employers. Our program content remains current with rapidly changing technology and industry developments.

World-Class Australia Accredited Education

Our vocational programs and higher education degrees are registered and accredited by the Australian Government. We have programs that are also recognized under three international engineering accords.

Industry Experienced Lecturers

Our lecturers are highly experienced engineers and subject specialists with applied knowledge. The technologies employed by EIT, both online and on-campus, enable us to source our lecturers from a large, global pool of expertise.

Unique Delivery Model

We deliver our programs via a unique methodology that makes use of live and interactive webinars, an international pool of expert lecturers, dedicated learning support officers, and state-of-the-art technologies such as hands-on workshops, remote laboratories, and simulation software.

Remote and Virtual Labs

When studying at EIT, students complete practical exercises using a combination of remote and virtual laboratories and simulation software.

Practical Experience

In these remote and virtual laboratories students can control physical equipment and sensors equivalent to the traditional university engineering lab.

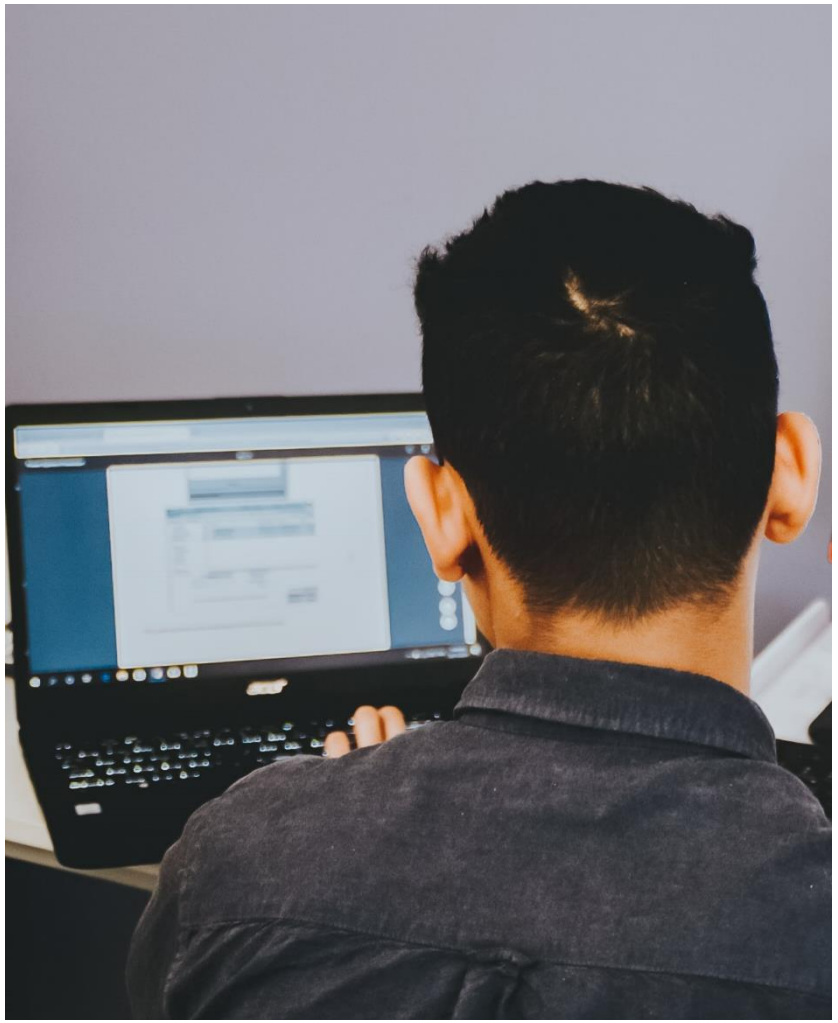
This means that even though you are studying online, you are not missing out on your hands-on, practical experience.

For the on-campus students, workshops and work integrated learning via an internship is incorporated into the student journey.

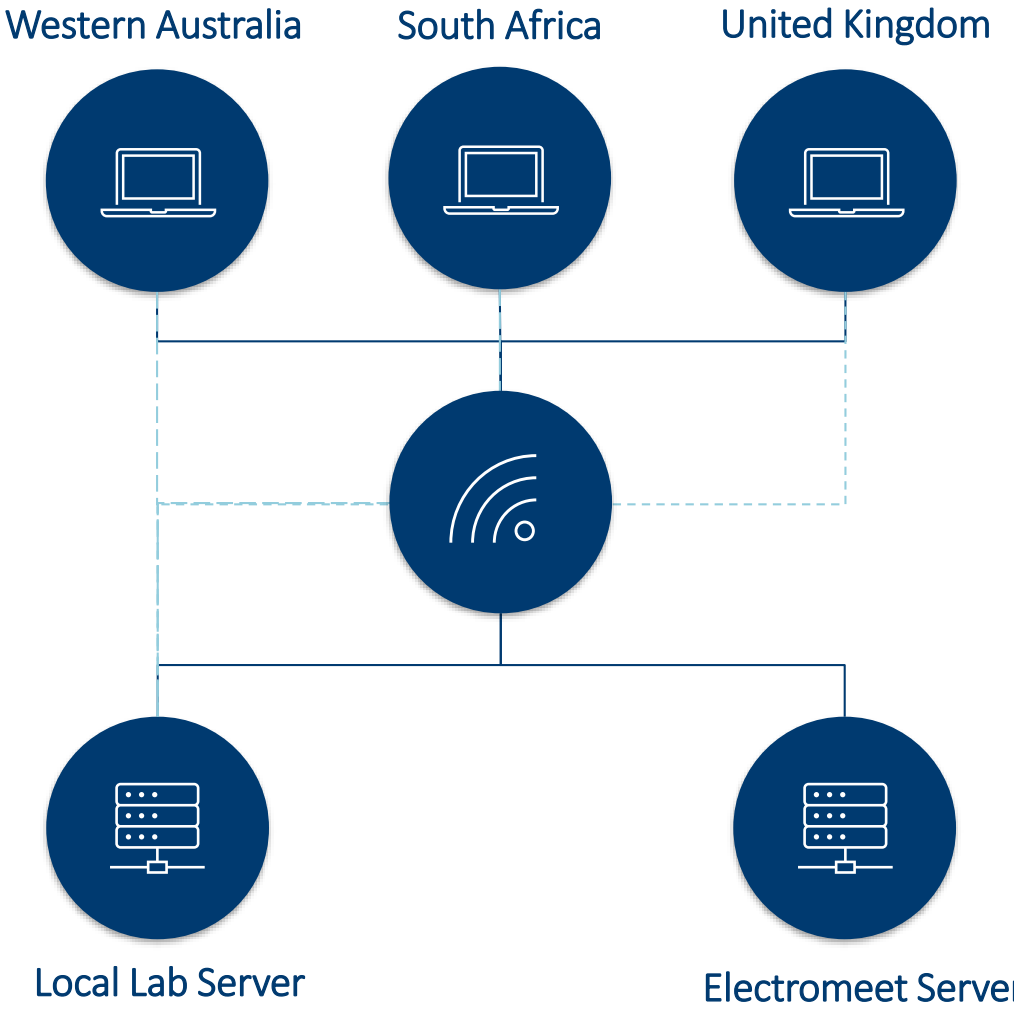
Real World Ready

Through these hands-on exercises using simulation software, remote laboratories, practical based assignments and interactive discussion groups, students can grasp new knowledge and apply it successfully to the real world.

Each hosted engineering software and hardware can be controlled in real time; it's as simple as logging in and selecting an available lab and timeslot!

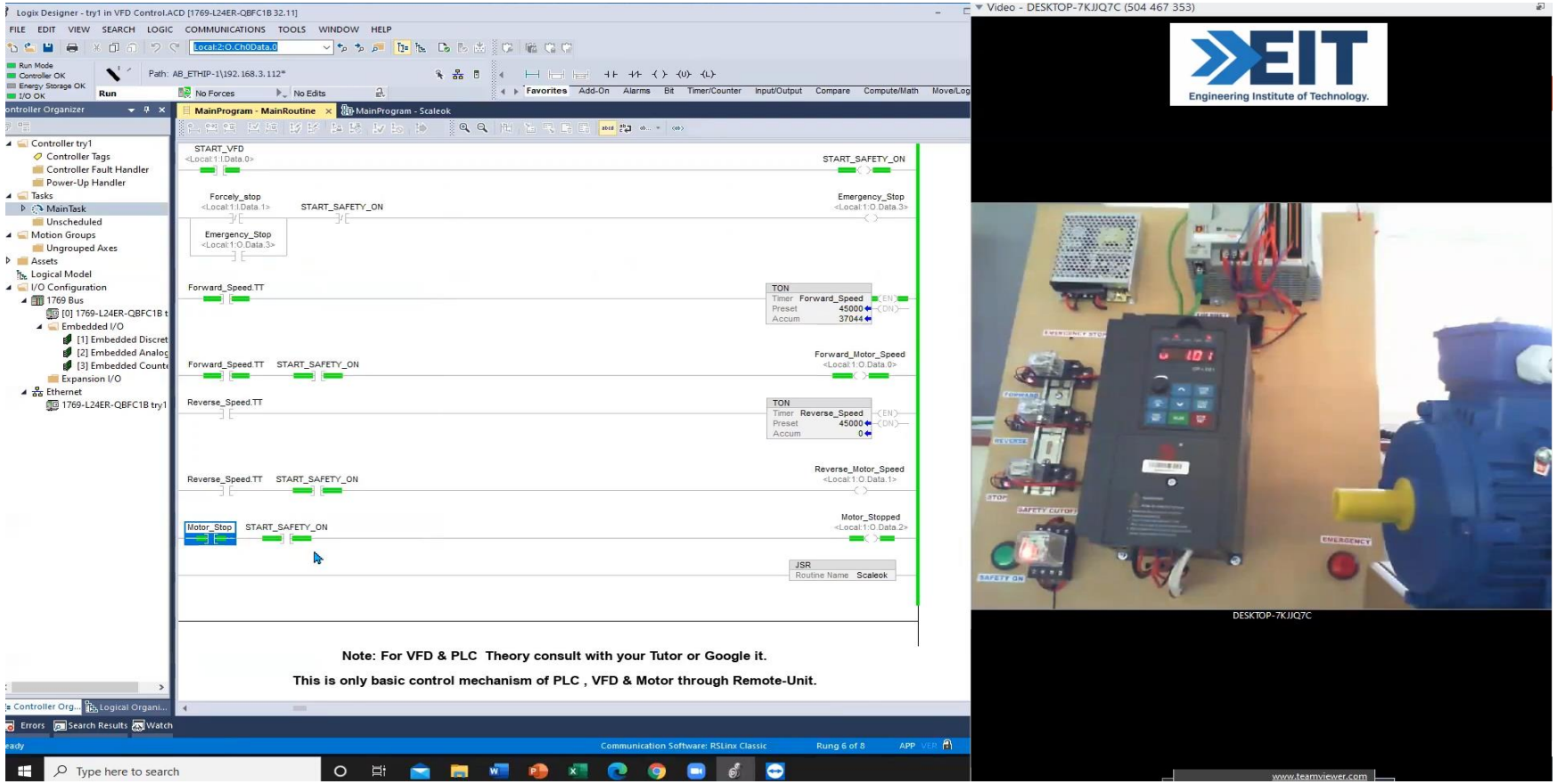


Remote and Virtual Labs



1. Traditional lab at a distance operating in real time
2. Accurate representation of current industry hands-on
3. Interfacing to equipment is digital and data driven
4. High availability and Asynchronous – anytime
5. Access to specialized equipment in a safe and near-limitless testing environment
6. No geographical barriers with diverse and global teams
7. Bandwidth requirements can be demanding

Remote and Virtual Labs: Examples



VFD and motor control via PLC via remote Lab

Remote and Virtual Labs: Examples

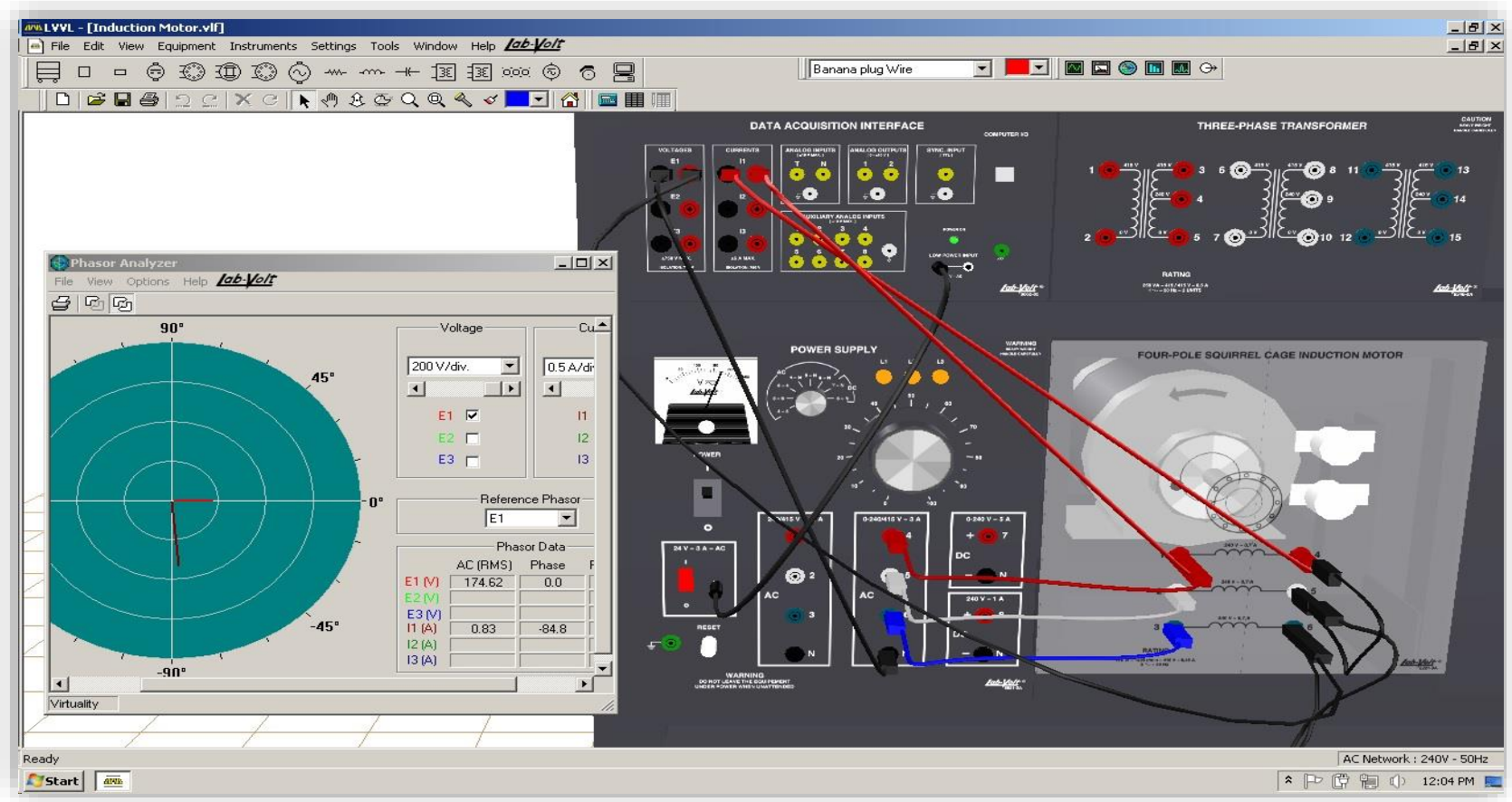
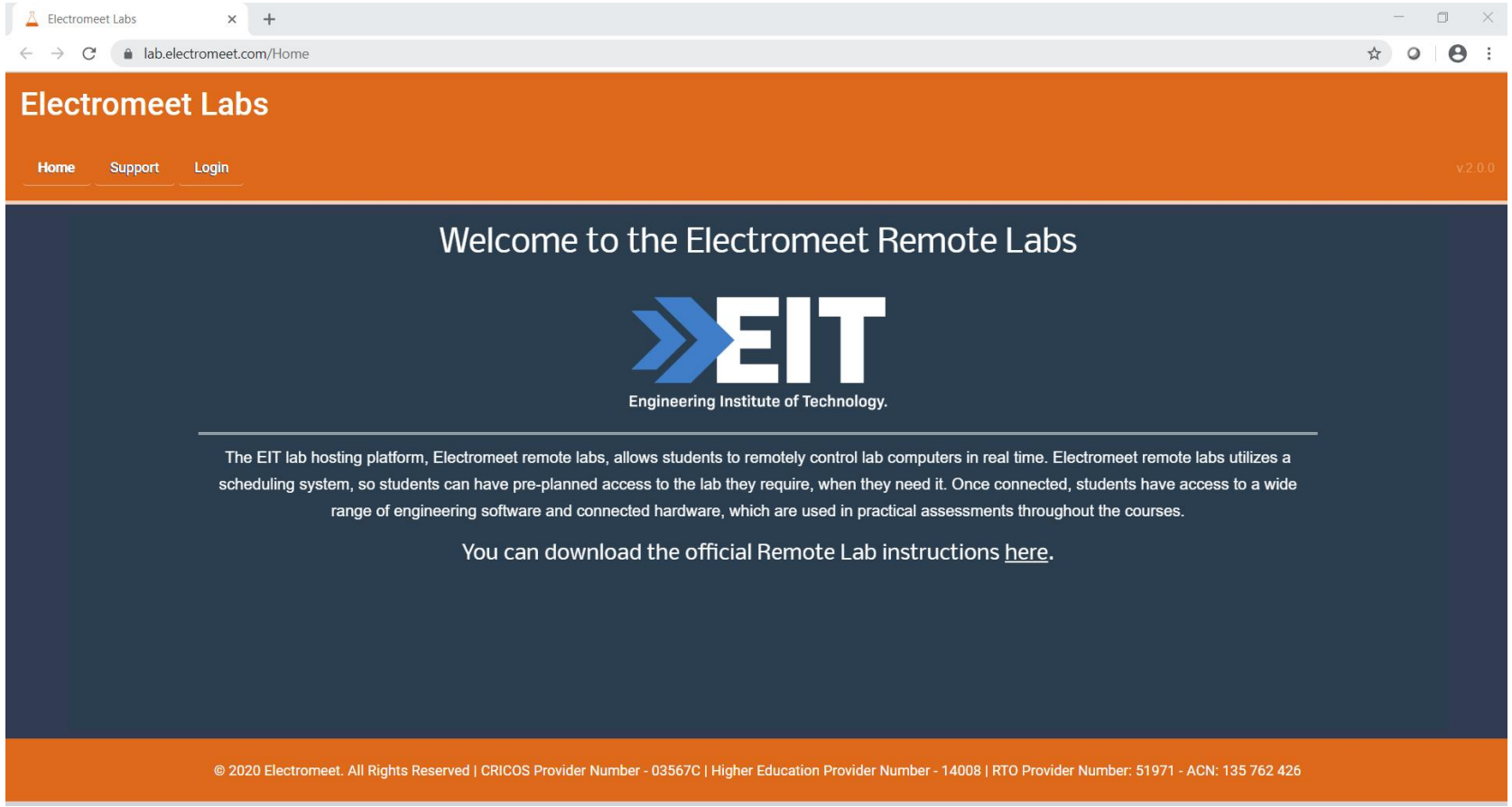


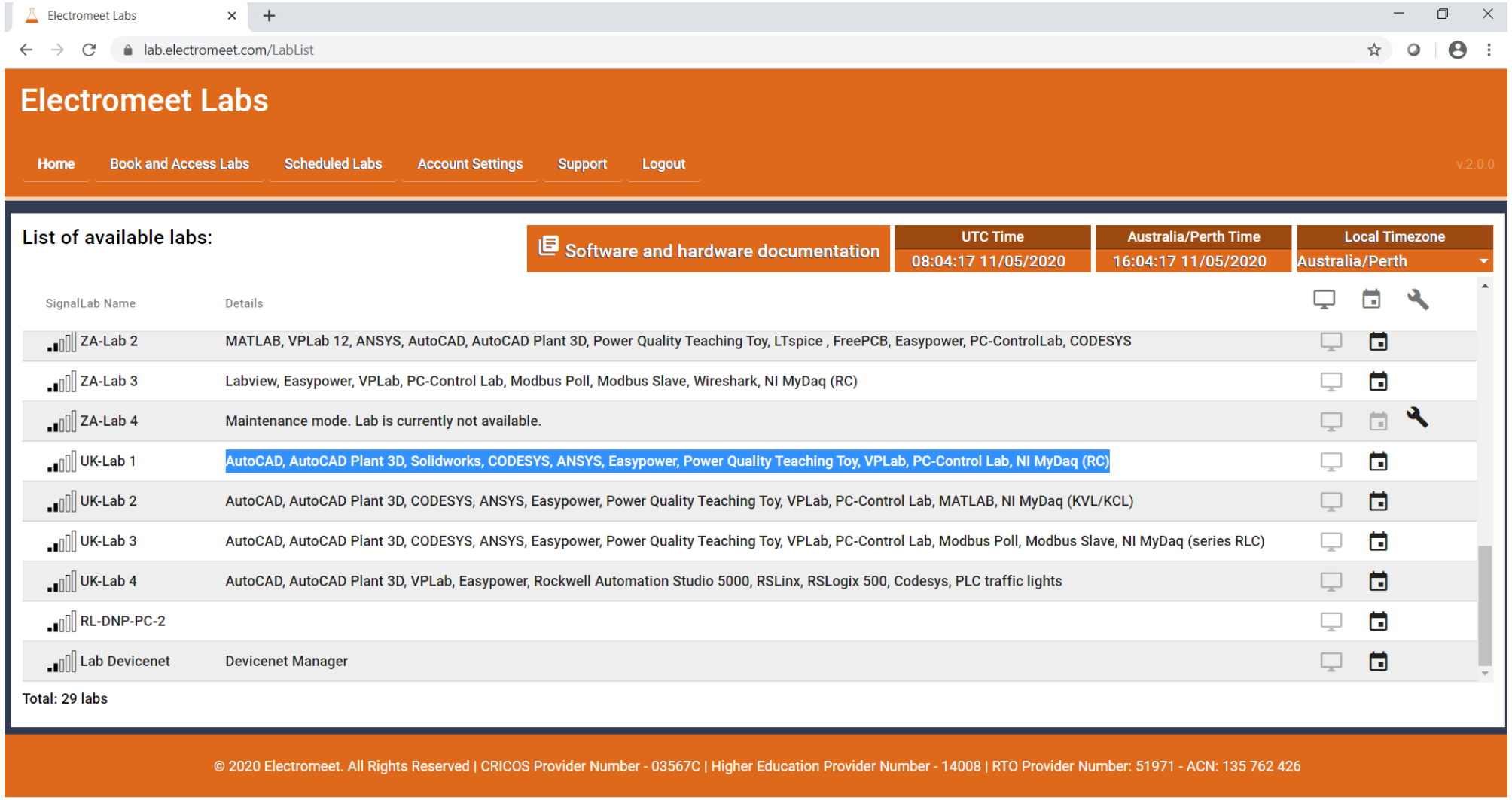
Fig: Remote Lab Practical exercise on four pole squirrel cage induction motor. Measuring phase voltage and neutral current.

Remote and Virtual Labs: Examples



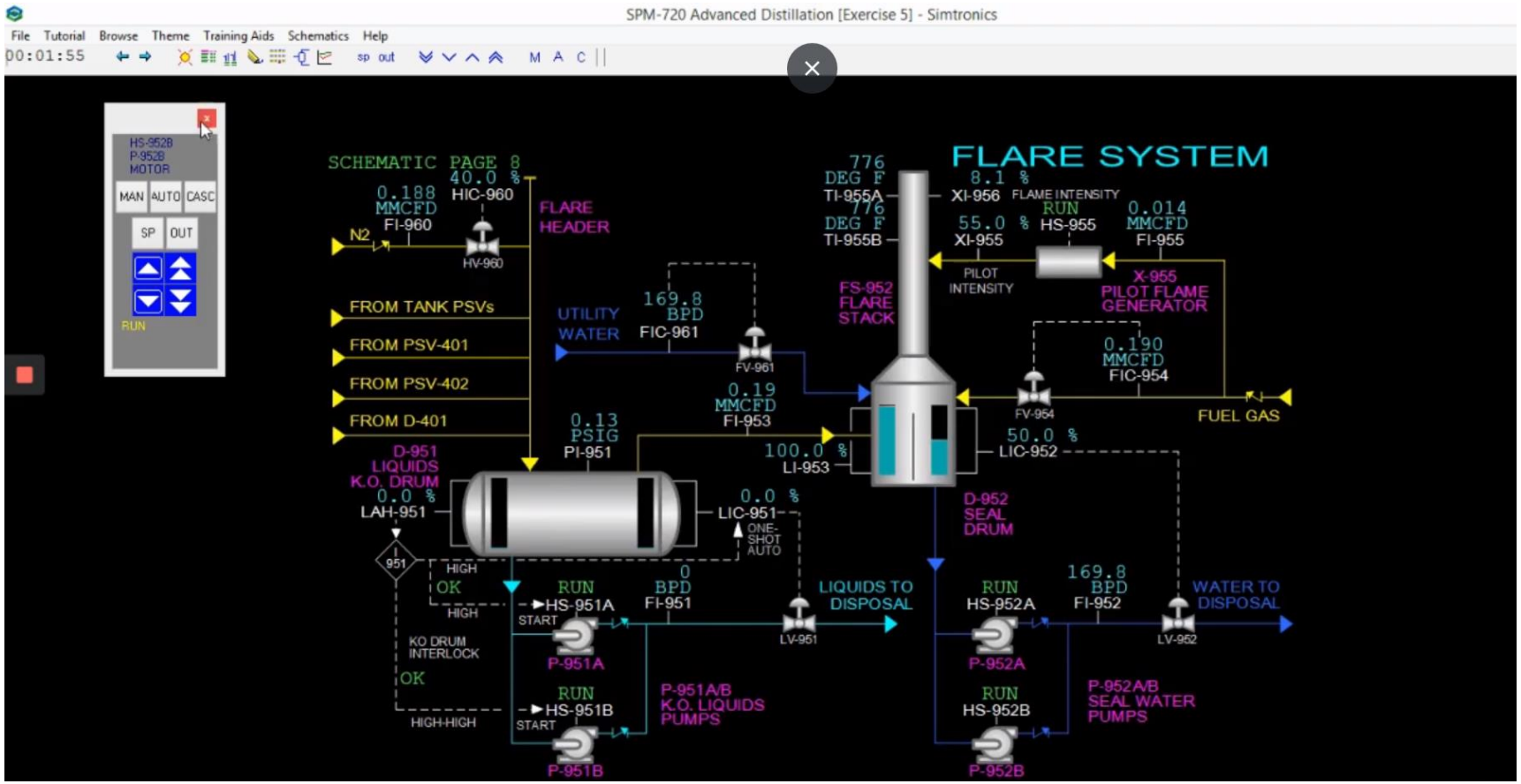
STEP 1: Login via Electromeet with your login details.

Remote and Virtual Labs: Examples



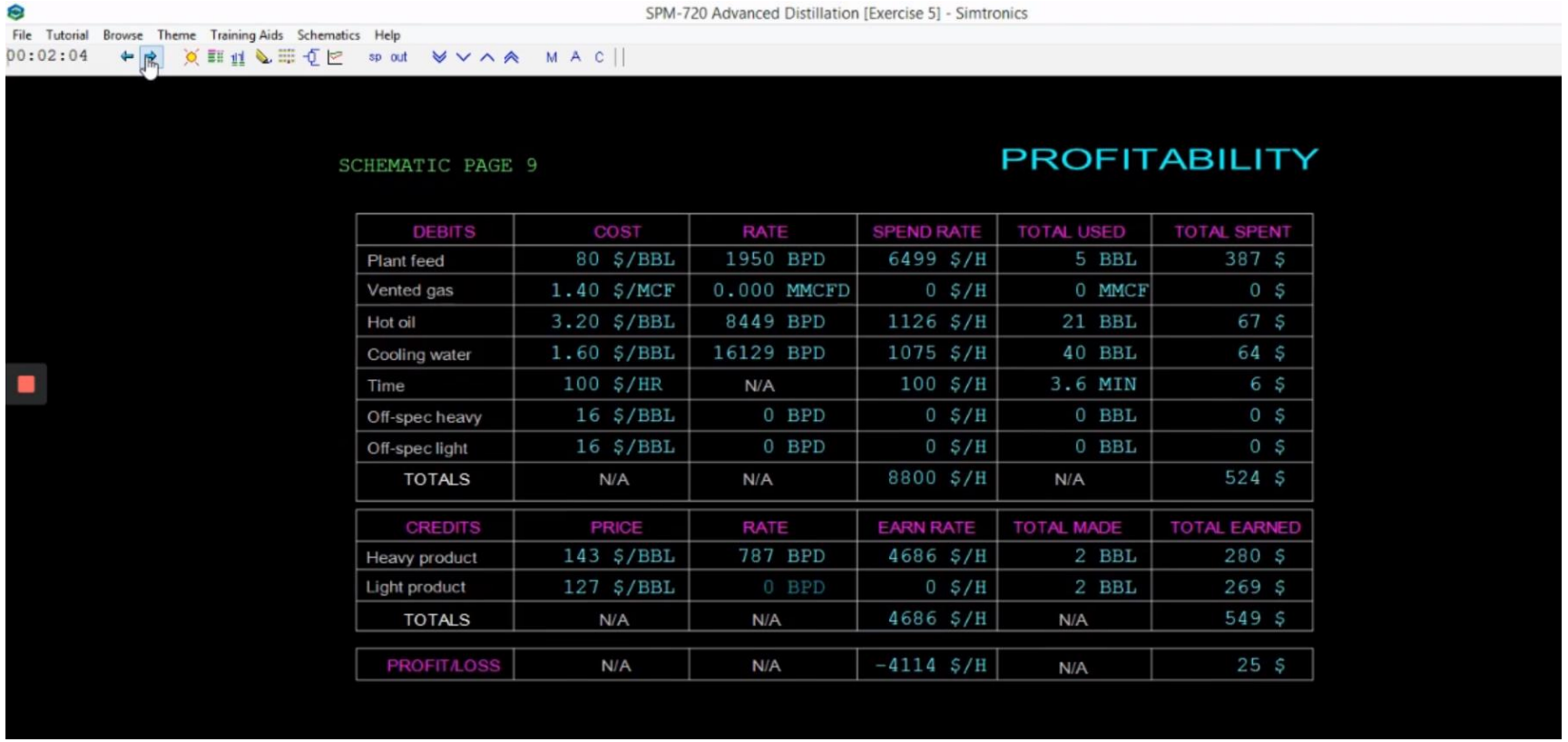
STEP 2: Book your laboratory via Electromeet.

Remote and Virtual Labs: Examples



STEP 3: Begin and operate your laboratory.

Remote and Virtual Labs: Examples



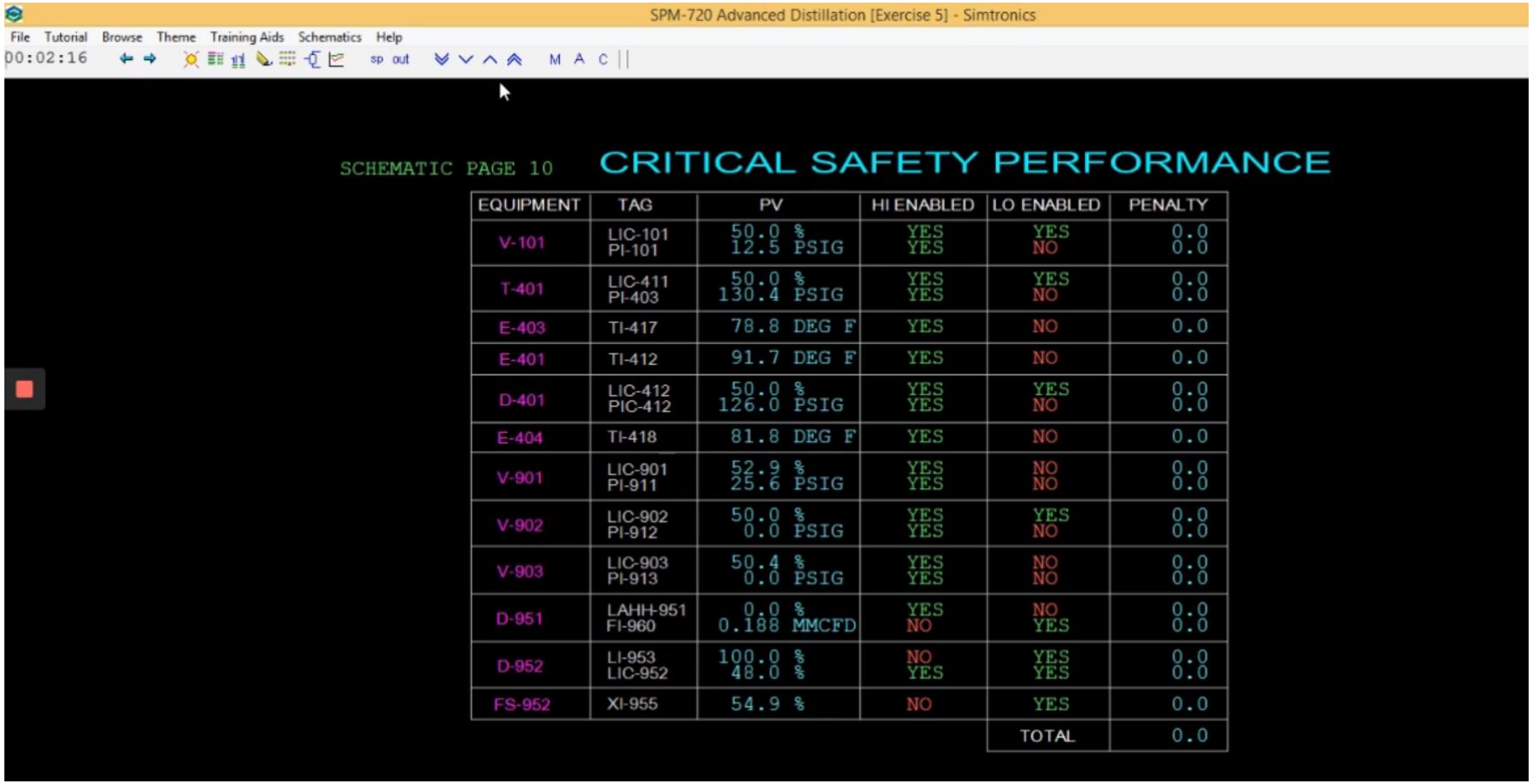
DEBITS	COST	RATE	SPEND RATE	TOTAL USED	TOTAL SPENT
Plant feed	80 $/BBL	1950 BPD	6499 $/H	5 BBL	387 $
Vented gas	1.40 $/MCF	0.000 MMCFD	0 $/H	0 MMCF	0 $
Hot oil	3.20 $/BBL	8449 BPD	1126 $/H	21 BBL	67 $
Cooling water	1.60 $/BBL	16129 BPD	1075 $/H	40 BBL	64 $
Time	100 $/HR	N/A	100 $/H	3.6 MIN	6 $
Off-spec heavy	16 $/BBL	0 BPD	0 $/H	0 BBL	0 $
Off-spec light	16 $/BBL	0 BPD	0 $/H	0 BBL	0 $
TOTALS	N/A	N/A	8800 $/H	N/A	524 $

CREDITS	PRICE	RATE	EARN RATE	TOTAL MADE	TOTAL EARNED
Heavy product	143 $/BBL	787 BPD	4686 $/H	2 BBL	280 $
Light product	127 $/BBL	0 BPD	0 $/H	2 BBL	269 $
TOTALS	N/A	N/A	4686 $/H	N/A	549 $

PROFIT/LOSS	N/A	N/A	-4114 $/H	N/A	25 $

STEP 3: Begin and operate your laboratory.

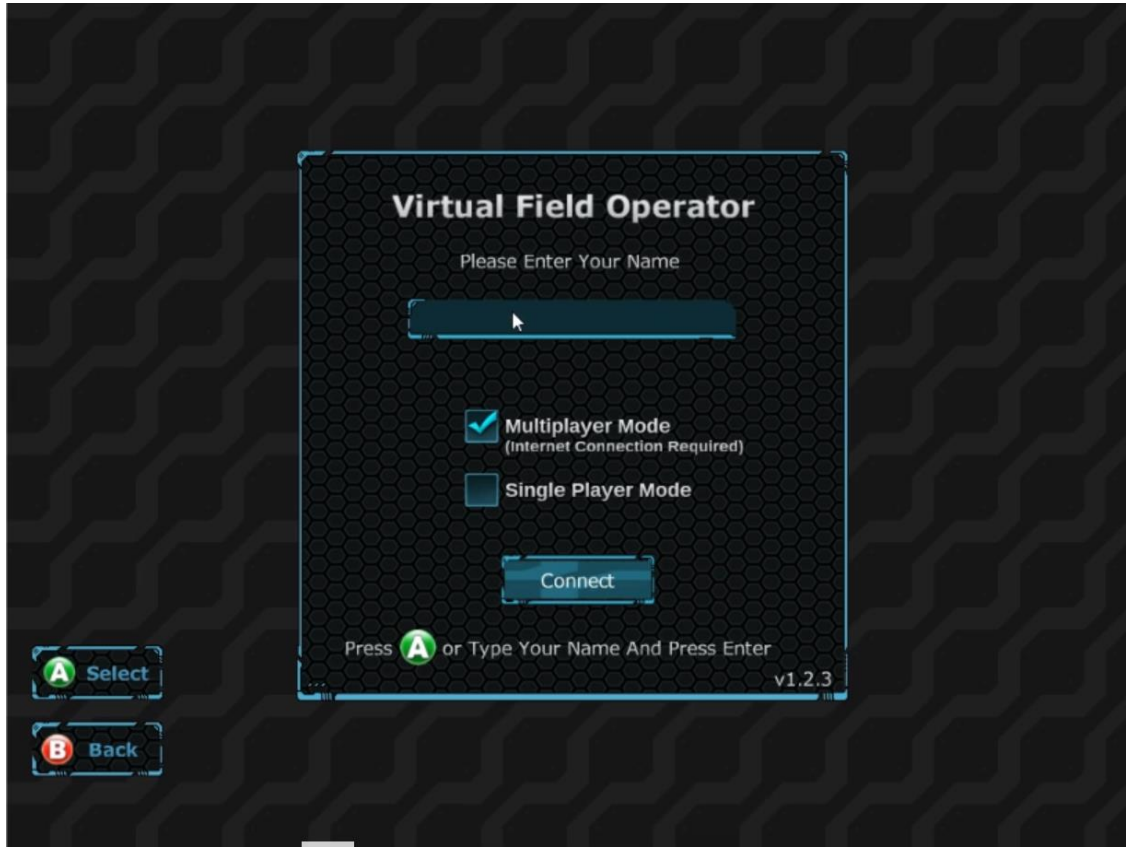
Remote and Virtual Labs: Examples



EQUIPMENT	TAG	PV	HI ENABLED	LO ENABLED	PENALTY
V-101	LIC-101 PI-101	50.0 % 12.5 PSIG	YES YES	YES NO	0.0 0.0
T-401	LIC-411 PI-403	50.0 % 130.4 PSIG	YES YES	YES NO	0.0 0.0
E-403	TI-417	78.8 DEG F	YES	NO	0.0
E-401	TI-412	91.7 DEG F	YES	NO	0.0
D-401	LIC-412 PIC-412	50.0 % 126.0 PSIG	YES YES	YES NO	0.0 0.0
E-404	TI-418	81.8 DEG F	YES	NO	0.0
V-901	LIC-901 PI-911	52.9 % 25.6 PSIG	YES YES	NO NO	0.0 0.0
V-902	LIC-902 PI-912	50.0 % 0.0 PSIG	YES YES	YES NO	0.0 0.0
V-903	LIC-903 PI-913	50.4 % 0.0 PSIG	YES YES	NO NO	0.0 0.0
D-951	LAHH-951 FI-960	0.0 % 0.188 MMCFD	YES NO	NO YES	0.0 0.0
D-952	LI-953 LIC-952	100.0 % 48.0 %	NO YES	YES YES	0.0 0.0
FS-952	XI-955	54.9 %	NO	YES	0.0
				TOTAL	0.0

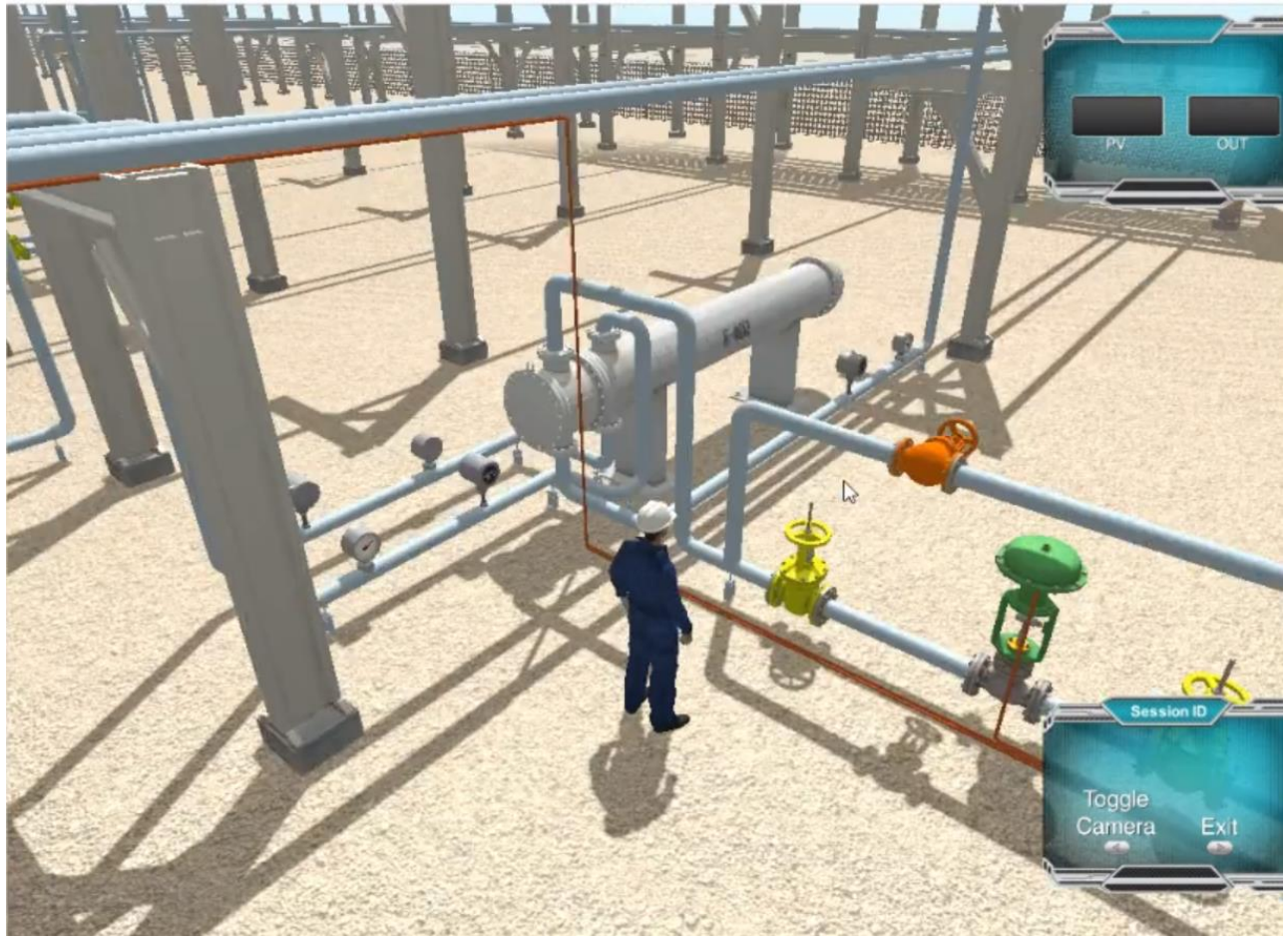
STEP 3: Begin and operate your laboratory.

Remote and Virtual Labs: Examples



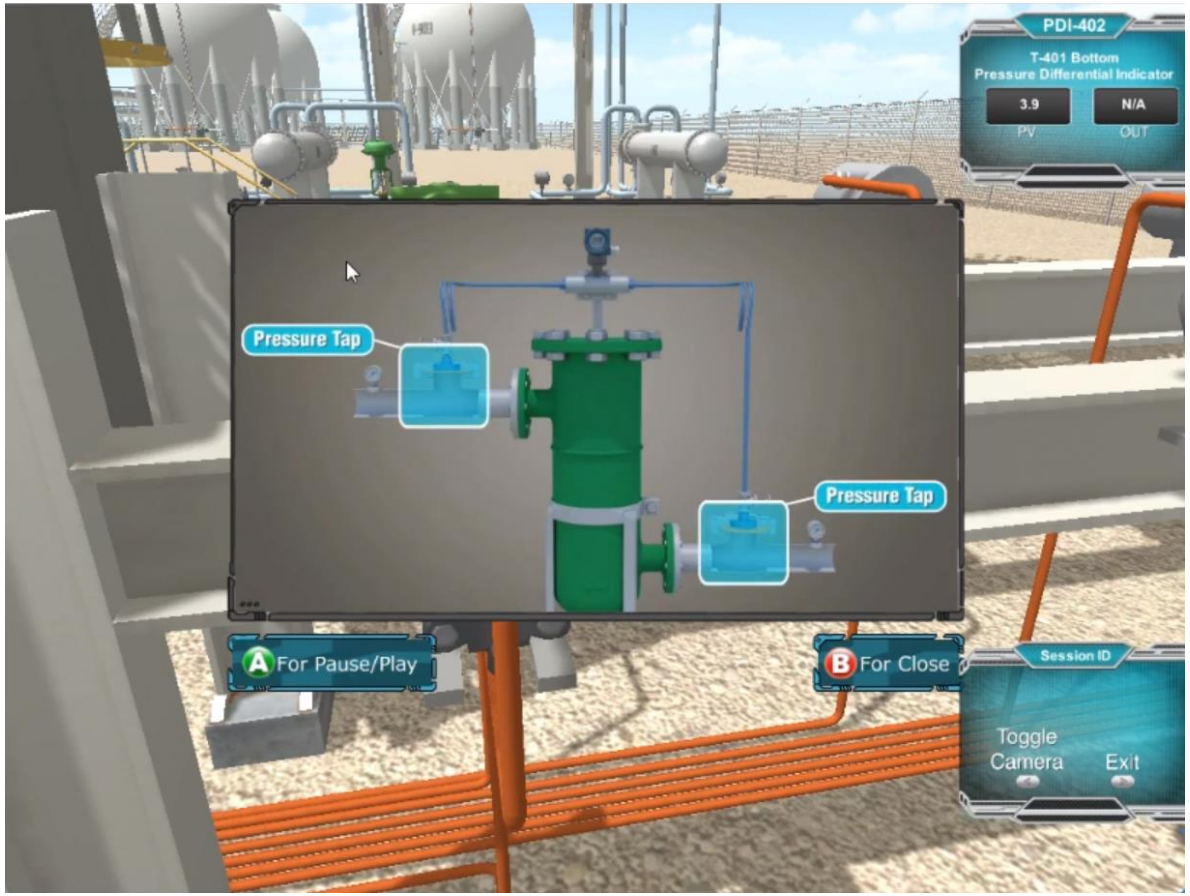
STEP 4: Continue into the simulation via the virtual laboratory.

Remote and Virtual Labs: Examples



STEP 5: Virtually walk around the plant.

Remote and Virtual Labs: Examples



STEP 5: Virtually walk around the plant and ensure the plant equipment is operating efficiently and safely.

Mildred’s Experience with EIT

Mildred Nanono was EIT's 2020 Student Ambassador.

- She was a Graduate of EIT's Master of Engineering (Industrial Automation) degree.
- Currently working at Eskom Uganda Limited as a Control and Instrumentation Engineering
- Featured in Sunday Vision's Top 40 under 40 for Engineering
- Advocate for people with hearing impairment and Women in STEM

"The simulations felt real. It felt like I was physically in the lab."

Demonstrations


Hands-on Workshops
and WIL

Hands-on Workshops

WEEK	WORKSHOPS		
1	Measurement Science (BCS, BEE, BIA, BME)		
2	Mechanics and Assembly (BCS, BME)	Power and Control (BEE, BIA)	
3	Construction and Surveying (BCS)	Transmission and Protection(BEE)	Process Plant (BME, BIA)
4	Industrial Design Workshop / Professional practice workshop		

Hands-on Workshops

Work Integrated Learning (WIL)

Why is Industrial Experience Important?

- Exposure to real working environments
- Engineering on the field
- Trying something new
- Personal development
- Opportunity to showcase your talents, commitment, and value
- Enhance CV through relevant experience

Internship & Zero Credit Units

Zero credit units - EA accreditation:

Stage 1 Competency Elements - Engineering Application Ability

- BSC110& BSC210C - Industrial Experience 1 & 2 - 240 hours of engineering work experience (6 weeks equivalent)
- BXX001-004C - Hands-on workshop
- MXX001: Professional Practice - Hands-on workshop
- MXX510 - Professional Experience - 240 hours of engineering work experience (6 weeks equivalent)

EIT Support

1. **Internship-Scholarship**
   https://www.eit.edu.au/how-to-apply/scholarships/engineering-internship-scholarship-on-campus/

2. Internships
   https://outcome.life/internship-program/

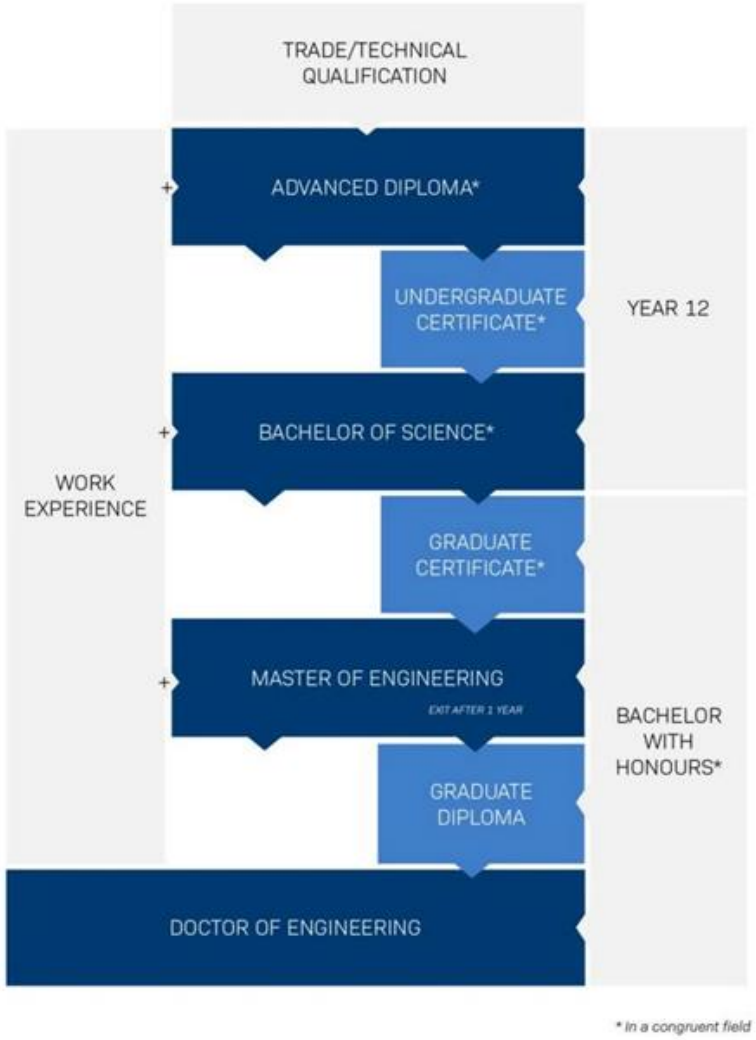
3. Conferences
   https://www.events.idc-online.com/

4. Engineers Australia Events
   Free Student Membership

5. Guest Lecturers
   Industry connection

Studying at EIT

EIT Programs – Lifelong Learning Journey



Professional Certificate of Competency
3-month, non-accredited courses that provides professional development in specific areas of interest

Diploma
12-month Diploma of Leadership and Management

Advanced Diplomas
18 - 24-month Advanced Diplomas for those wanting to formalise trade qualifications/relevant work experience

Undergraduate Certificate
6-month full time (or part time equivalent) undergraduate qualification containing 4 units

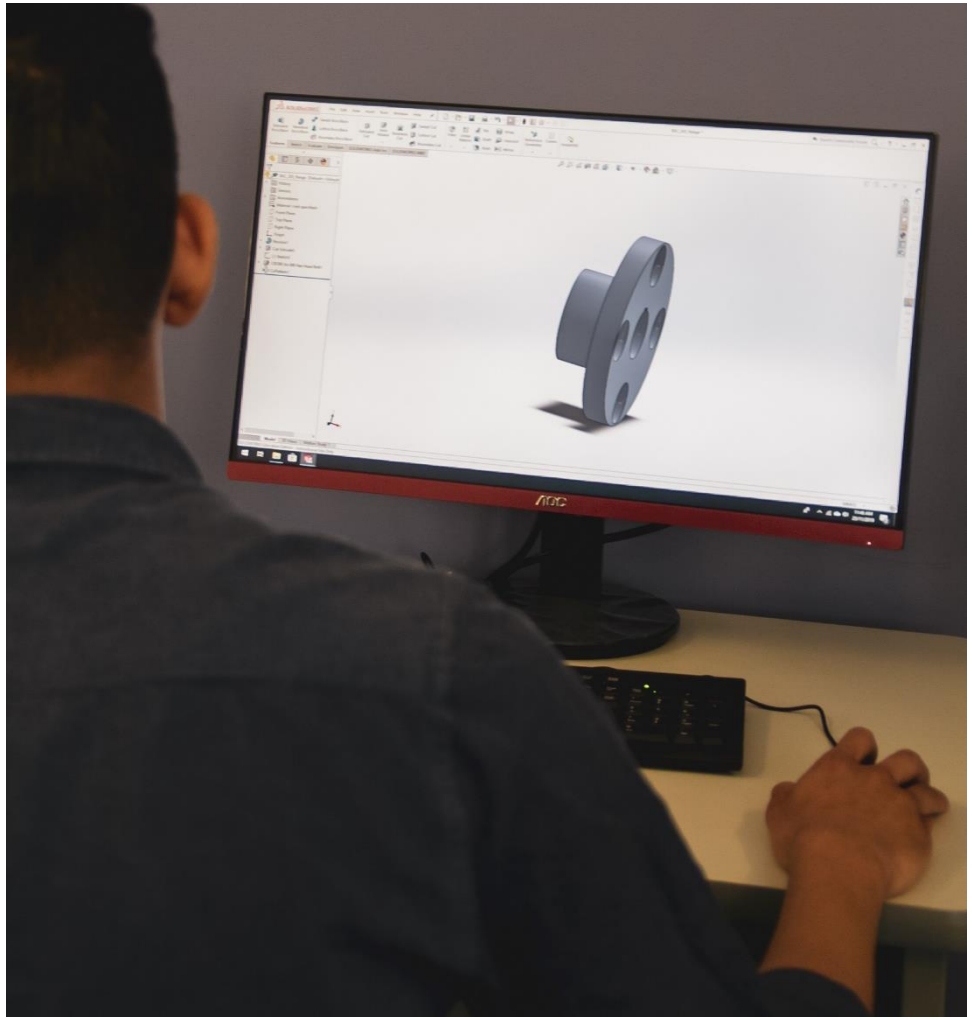
Bachelor of Science
3 years full time (or part time equivalent)

Graduate Certificate
Upskill in 6 months full time (or part time equivalent) with a short postgraduate qualification containing 4 units

Master of Engineering
2 years part time intensive

Doctor of Engineering
Make your own contribution to the wider body of professional engineering knowledge and solve industry problems.

Delivery



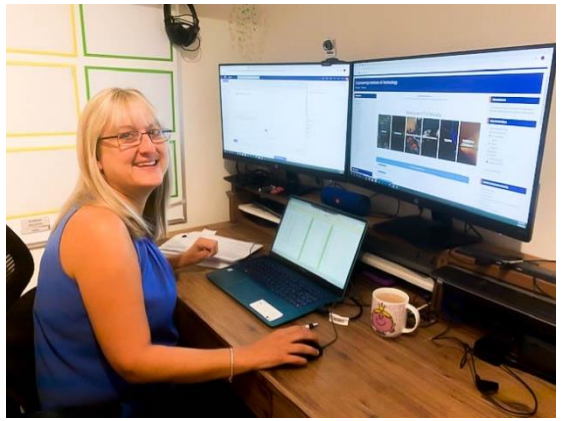
As an online student, you will benefit from EIT's unique personalized synchronous delivery methodology that encourages you to advance your technical and technological knowledge, while forming global networks and balancing life and work commitments.

Our Online Learning Methodology

Our unique online delivery methodology makes use of:

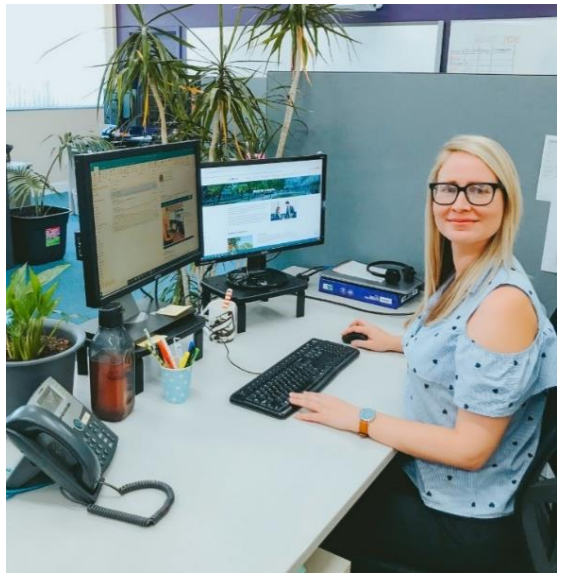
- Live and interactive tutorials
- An international pool of expert lecturers
- Dedicated learning support officers, and
- State-of-the-art technologies such as hands-on workshops, remote and virtual laboratories, and simulation software

Student Support



"As an LSO it is rewarding to start a course then follow, encourage and support the students through to the end and see them achieve their qualification."

Sharon Bowler
VET LSO

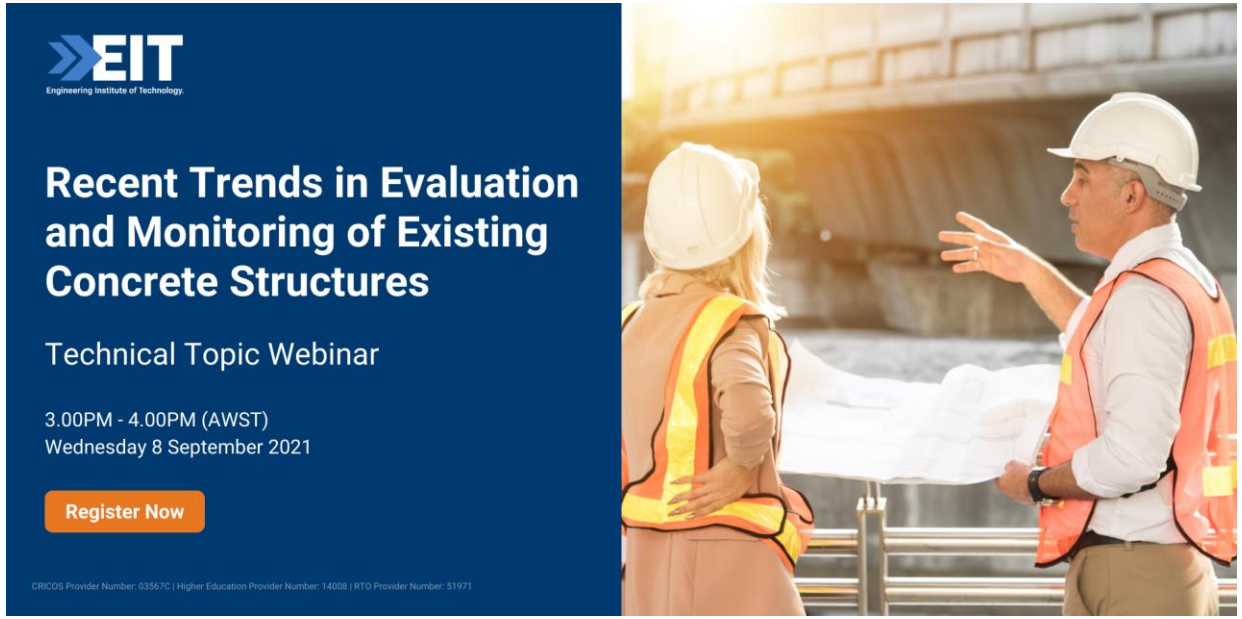


"As an LSO I love supporting our students on their learning journey and ensuring their experience with EIT is a positive and rewarding one"

Emily Levy
Higher Education LSO

- Learning Support Officers (LSOs) are in addition to the academic support (instructors/lecturers).
- LSOs guide the students from the onboarding process through to graduation.
- LSOs are the support, encouragement and go-to person for any question relating to a student's studies.
- One LSO is dedicated to the student for the duration of either a professional certificate or VET program.
- One LSO is dedicated to each unit in Higher Education studies at EIT.
- EIT has LSOs based in: *South Africa, Switzerland, Zimbabwe, New Zealand and Australia.*

Upcoming Webinars



Please see our events page: https://www.eit.edu.au/news-events/events/

Q&A

Engineering Institute of Technology.

Thank you for attending.

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