Design goes beyond aesthetics – it transforms the way we live.
The power of design is deeply rooted in understanding the human experience and needs, and then creating innovative products, services and systems to meet and improve them. That’s why forward-thinking companies and nations are investing heavily in design to drive innovation and growth.

There’s no doubt that design and technology make our lives better. At Engineering Product Development (EPD), we believe that whether it’s the next lifestyle-changing gadget or the network behind the next big online platform, the world will never lose its appetite for product innovation.

OVERVIEW

EPD students are design engineers that believe any challenge can be overcome with an invention or innovation. They use their skills and knowledge to conceptualise, design, implement and operate products, services and systems to solve any problem.

CONCEPTION
Conception marks the beginning and it is when you ensure that a project starts off on the right path. It requires critical thinking to verify and refine the problem statement. A design engineer needs to be equipped with interdisciplinary knowledge, strong technical foundation, analytical skills to identify gaps from data and social skills to draw voices from target groups.

DESIGN
Design is the creation of solutions. At EPD, you do this through product design — understanding human needs and experiences to create for effective solutions. Design transforms industries, economies and the way we live.

IMPLEMENTATION
Implementation requires meticulous process planning and improvisation. This is possible only when a design is well integrated into the bigger system. You will be trained to develop an eye for detail and the ability to think on your feet.

OPERATION
Operation is when a product’s success is put to a real test. A good engineer is one who is nimble enough to make constant improvements on the original design.

DISCOVER THE INNOVATOR IN YOU (DIY) PROGRAMME

Open to all pre-university students, it allows potential SUTD students to be a part of our innovation ecosystem and join in exciting faculty-led startup efforts.

Apply now at epd.sutd.edu.sg/young-innovators

Graduate with a Bachelor of Engineering (Engineering Product Development)
A Design and Project-based Curriculum

Learning is active at EPD. You are given ample opportunities to solve challenges faced by industry partners, through projects set by faculty and also come up with your own products to address gaps in the market.

On top of your EPD subjects, you will take courses in Humanities, Arts and the Social Sciences (HASS). This will prepare you to be a new type of engineer, one who embraces the cultural and social context of technology in the modern world.

Learning Outcomes of EPD Core

Interdisciplinary Expertise
Master a combination of technology and design skills. Be well geared in the full value chain of engineering product development that cuts across traditional disciplinary boundaries.

Advancing Tech Out of the Lab
Extensive exposure to the translational process needed to advance technology out of the lab to create new product-solutions that live in the real world.

Project Management
Gain exposure to different industries and disciplines, learn and practice project management such as leading a team, budget management and presentation of your ideas.

EPD Curriculum

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<th>JAN - APR</th>
<th>MAY - AUG</th>
<th>SEP - DEC</th>
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<tr>
<td><strong>TERM 1</strong></td>
<td><strong>TERM 3</strong></td>
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<tr>
<td>Modelling &amp; Analysis</td>
<td>Physical World</td>
<td>Social Science: Understanding Behaviour, Culture &amp; Society (HASS)</td>
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<td><strong>TERM 2</strong></td>
<td><strong>TERM 5</strong></td>
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<tr>
<td>Modelling Space &amp; Systems</td>
<td>Technological World</td>
<td>VACATION/ SUMMER PROGRAMME</td>
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<tr>
<td>Technological World</td>
<td>Science for a Sustainable World</td>
<td>Any Two Electives*</td>
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<tr>
<td>Design Thinking &amp; Innovation</td>
<td>VACATION/ INTERNSHIP/ EXCHANGE</td>
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<td><strong>TERM 4</strong></td>
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<td>Engineering Design Innovation</td>
<td>Systems &amp; Control</td>
<td>Capstone</td>
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<td>Circuits &amp; Electronics</td>
<td>Fluid Mechanics/Electromagnetics &amp; App</td>
<td>Elective</td>
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<td>Structures &amp; Materials</td>
<td>Computational &amp; Data-Driven Engineering</td>
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*Term 3 Electives: Science and Technology for Healthcare Designing Energy Systems Spatial Design World

Minor Programmes

Minors offer you more choices and flexibility in pursuing your broader interests, equipping you with additional knowledge.

- Minor in Artificial Intelligence (AI)
- Minor in Design Innovation, Ventures and Entrepreneurship (DIVE)
- Minor in Healthcare Informatics (HI)
- Minor in Engineering Systems (ES)
- Minor in Computer Science (CS)
- Minor in Digital Humanities (DH)
- Minor in Design, Technology and Society (DTS)

Information is subject to change. Visit epd.sutd.edu.sg for latest updates.
WHY EPD?

FUTURE-READY CAREER SKILLS

Be highly sought after with the skills of a traditional engineer combined with expertise in design thinking, design innovation and an interdisciplinary design approach to problems.

HOLISTIC UNDERSTANDING OF THE WORLD

Take on a holistic view of any problem with a comprehensive understanding of the social, cultural, political and economic dimensions of the world you’re creating for, so as to apply design techniques that lead to more complete and optimal solutions.

HANDS-ON APPROACH

Working in teams, theoretical concepts are brought to life. With a deeper appreciation of underlying design considerations, you’ll innovate solutions for modern engineering challenges.

FUTURE POSSIBILITIES

CAREERS

EPD graduates are prepared for a wide range of engineering, design and management careers. Your skills and capabilities for leading the development of new products, systems, processes or methodologies prepare you for both the private and public sectors, including healthcare, consumer goods, robotics, finance, defence, and energy and power.

Examples of EPD graduates’ job titles:
- Design engineer
- Management consultant
- Research engineer
- Project manager
- Product engineer
- Project engineer
- Technical consultant

ENTREPRENEURSHIP

Adept at working on cross discipline projects and bringing tech out of the lab into the real world, an EPD graduate is more likely to initiate start-up ventures.

(these)abilities designs inclusive products to ‘Disable Disabilities’ such as Keyguard 2.0 which makes any keyboard accessible. (these)abilities has worked with Grab to simplify the ride-hailing process for hearing and visually impaired users and is also helping Japan’s Nippon Closures explore inclusive bottle packaging designs for the upcoming 2020 Tokyo Paralympics.

Lord of the Chords is a card game that sprung from the difficulties of learning music theory. Initially launched on Kickstarter, Lord of the Chords reached their goal of $15,000 in just 75 minutes. At the end of the campaign, they raised a total of $313,494, with over 4000 backers from around the world.

GRADUATE SCHOOLS

The rigorous technical training from EPD will also prepare you for various post-graduate programmes. Our EPD graduates are enrolled at top universities such as:
- Cornell University
- ETH Zürich
- Imperial College London
- Massachusetts Institute of Technology
- University of California, Berkeley
Meiban is a full turnkey contract manufacturer for global brand owners. We need engineers who have innovative thinking, passion for excellence and giving value-added engineering. SUTD’s engineering students have the adaptive engineering mindset that makes them versatile in various problem-solving skillsets. In addition, they are also strong in communication and presentation skills. We believe they will fit well into our engineering precision industry and smart digital factory.

Carol Goh
Deputy Chair
Meiban Corporation Pte Ltd

I have had the fortune to work closely with SUTD students since the first graduating batch of 2015. SUTD students, both during their internships and their employment, show a remarkable curiosity and willingness to innovate. Resilience and practical approach to solve problems, together with their ability to self-learn and research topics that may be new to them are attributes that make it enjoyable to have them on my teams.

Chandran Nair
CEO
AEM Holdings

EPD has equipped me with essential technical and soft skills, enabling me to solve complex real-world problems in a controlled and safe environment. The many hands-on projects provided me with the experience of interacting with different stakeholders, understanding their interests, and finally, coming up with the best solution. Additionally, EPD also allows for the mix and match of modules to cater to my interests in different engineering domains and yet cater to industry demands.

Tong Hui Xiang
Graduate Design Engineer, Dyson
Class of 2022, EPD Alumnus

I chose SUTD mainly because of its interdisciplinary and project-based approach. Theoretical teaching is often accompanied by projects that require you to apply your learning from class to something that must work in real life. I enjoyed this because it provided direct and unbiased feedback on whether I understood a concept. The curriculum has also taught me how to scope a problem, deconstruct it into smaller manageable parts, and chart a path towards a possible solution. I learnt how to look at the practical points of implementation, how and when to pivot projects since things always turn out different from first conceptualisation.

Leong Hei Kern
Engineer, EMA Singapore
Class of 2019, Valedictorian, EPD Alumnus

Besides providing me with the academic foundation required to complete my Master’s studies, EPD (and in general SUTD) has provided me with other essential skills such as being able to prototype things quickly, being comfortable working with robots/hardware and knowing how to work in teams to develop a successful product.

Lam Teng Foong
Software Engineer, Hexagon AB (Swedish MNC)
Class of 2018, EPD Alumnus

I have had the fortune to work closely with SUTD students since the first graduating batch of 2015. SUTD students, both during their internships and their employment, show a remarkable curiosity and willingness to innovate. Resilience and practical approach to solve problems, together with their ability to self-learn and research topics that may be new to them are attributes that make it enjoyable to have them on my teams.

Chandran Nair
CEO
AEM Holdings
SPECIALISATIONS

Mechanical Engineering

Be equipped with mechanical concepts, thermal fluid systems, materials science, principles of design and control, and apply them to creative solutions for modern mechanical systems.

Electrical Engineering

The study, application and product design of electrical, digital, and electromagnetism in the field of analogue and digital electronics, power engineering, communication systems, control systems, signal processing, and wireless technology.

Robotics

Gain knowledge of robotics fundamentals, skills in the modelling, design and development of robotic platforms, insights into their theoretical essentials and the expertise to apply these methods to real world problems.

The EPD curriculum offers you the flexibility to customise it to suit your interests and aspirations. Your specialisation will be shown on your transcript so that future employers can recognise this expertise. Choosing a specialisation is optional and you are expected to discuss your elective choices with faculty members.

Find out more at epd.sutd.edu.sg/specialisations

*Specialisations offered in a year are subject to changes.
Healthcare Engineering Design

Apply the design concepts and principles of engineering to healthcare products and applications.

Computer Engineering

Apply mathematical and scientific principles to the analysis, design, configuration and operation of computer-related systems.

Beyond Industry 4.0

Combines traditional manufacturing processes and technology to improve automation, communication and use of real-time data. It merges transformational innovations of the manufacturing sectors — from advanced robotics to Industrial Internet of Things — to enable a new, powerful way of organising global operations.

Self-Directed Specialisation

Option to design a personalised study plan that will arm you with the necessary knowledge (e.g. Alternative Energy Systems, Materials Science) and skills to pursue unique or non-traditional careers centred around your personal interests.