

DIFFERENCES BETWEEN

A TRADITIONAL INDUSTRIAL ENGINEERING GRADUATE

- Conducts process improvement projects which entail identifying areas for improvement, taking measurements of existing performance, working with stakeholders to invent or apply new ways of performing tasks.
- Justifies investments in new equipment to solve problems, devises new logic to control the flow of material or work, and measuring the success of the project.
- Develops requirements and specifications for the acquisition and implementation of large-scale systems
- An expert at statistical analysis, cost analysis, process and inventory analysis, simulation and optimisation, and possesses good interpersonal and presentation skills.

AN ESD GRADUATE

- Has the **same basic skills of an industrial engineer** but combines that with expertise in:
 - data and business analytics and
 - design approaches
- Has a comprehensive understanding of the social, cultural, political, and economic dimensions of the world he or she is creating, designing, and building for.
- Takes on a more holistic view of any problem and applies design techniques that lead to more satisfying and complete solutions.
- As an experienced data analyst, he or she has the power of machine learning to bring together with simulation and optimisation tools to discover, analyse, and optimise the systems he or she studies.

CAREERS

- In a wide range of industrial, manufacturing, aviation, healthcare, finance, consulting, and business environments and is often on a technical management or analyst track.

- Finds employment across the **same spectrum of industries that employ traditional industrial engineers** but with the addition of data analytics functions. Some graduates are hired into data scientist positions. Also, with a design orientation, an ESD graduate is more likely to be engaged in digital transformation projects and start-up ventures.

ALUMNI TESTIMONIALS

I am thankful for how ESD structures our education with an emphasis on industrial relevancy. The foundation of mathematical modelling and analytical skills equipped me with the right skill set to convert systems problems into solvable mathematical models. Furthermore, the multitude of industrial partnerships fostered an appreciation of academic knowledge through real world application. Hence, I am confident that the rigorous training in ESD has laid the groundwork for me to build a better working world with EY.

Tan Kwan Fu, Tax Associate, EY
Class of 2018, ESD Alumni

The ESD curriculum is structured to equip undergraduates with the technical analytics skills and mathematical knowledge necessary to decipher data in modelling and analysing systems. This is greatly relevant as the abundance of data in the knowledge era provides an opportunity to make informed decisions that impact a wide range of industries.

A systems data perspective coupled with technical analytics skills have helped me at my first job at Accenture, as a Digital Business Integration Analyst. My current role translates data to inform business decisions in building a cloud-based, customer-centric system. Each project presents a different context in which data could be interpreted, which is a testament to how data analytics is widely applicable and sought after in many industries.

Jolene Quek, Digital Business Integration Analyst, Accenture Digital
Class of 2017, ESD Alumni

EMPLOYER TESTIMONIALS

This is the third year that we are hiring fresh graduates from SUTD for our highly selective management trainee program (RadGrad program). The ESD graduates have impressed us with their excellent data analytical skills, cross-functional knowledge, and great adaptability into our fast-paced business environment during the one-year intensive rotation and training program. They have emerged as the young, future leaders of RedMart and we are confident that they will continue to contribute to the success of the company in the future. We hope to keep on attracting the top talents from ESD in the years to come.

RedMart

Michelle Loke has been a valuable asset to the Strategic Planning division. She has shown great passion and drive for her work. With her strong analytical sense, Michelle has ensured quality analysis work. In addition to being a fast learner, she does not shy away from challenges. She is also resourceful and meticulous, and offers alternative perspective to the various issues in her work.

Land Transport Authority

Ms Noon Teo thrived under the YCH Scholarship Programme, seizing the many opportunities to immerse herself in various roles of operation and regional business solutions for the company. SUTD has prepared her well to excel in the multiple projects she manages. A well rounded team player, Noon's conscientious attitude sees her constantly looking at ways to do things more efficiently. Her agile and ready to learn mindset also enables her to adopt new technologies readily in the new frontiers that she is exposed to.

YCH Group