

Innovation & Design Programme (*iDP*)

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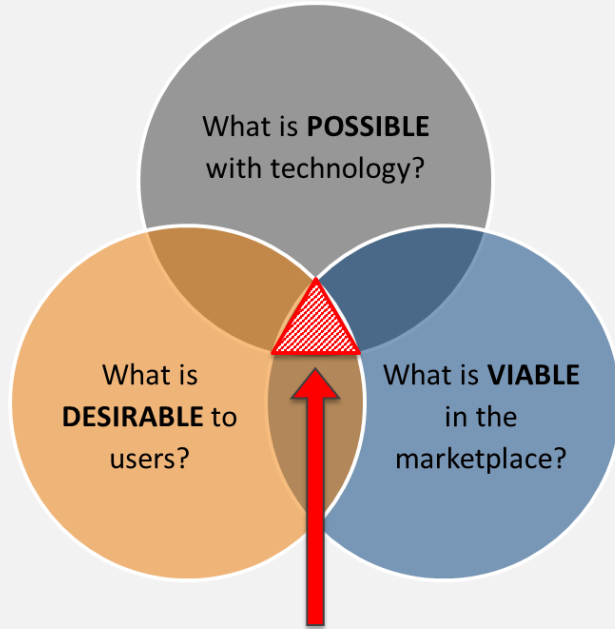
NUS
National University
of Singapore

National University of Singapore

What is *iDP*?

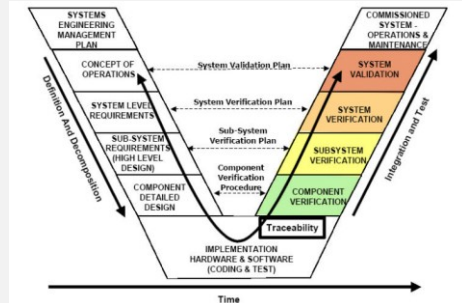
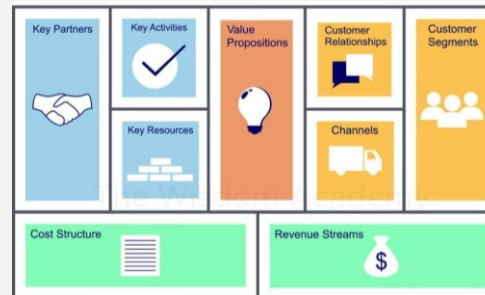
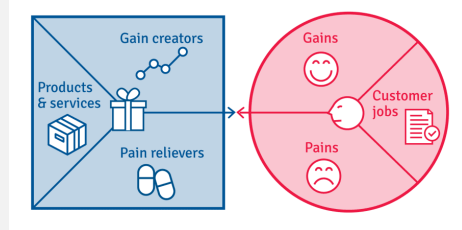
- ▶ Apply knowledge and skills to solve **real-world problems** and design new **products, services, and experiences**.
- ▶ Interdisciplinary and **projects-based** learning.
- ▶ Exposure to **entrepreneurship** for projects that have potential for commercialisation or overseas internship with start-up companies.
- ▶ Offered as **Second Major** or **Minor** in Innovation & Design.

What you will LEARN in *iDP*



INNOVATION happens here!

► Frameworks, tools and methods for understanding and creating innovations.

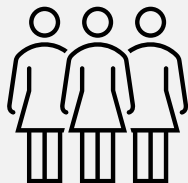


What you will DO in *iDP*

- ▶ Work on **hands-on projects** that have real-world impact.
 - ▶ Work with industry partners or propose your own projects.
 - ▶ Funding and access to fabrication facilities are provided.
- ▶ Work with peers and mentors from **different disciplines**.



Architecture and
Industrial Design



Arts and Social
Sciences



Computing



Engineering



Science



Business

Innovating for Better Healthcare

Innovation & Design Programme



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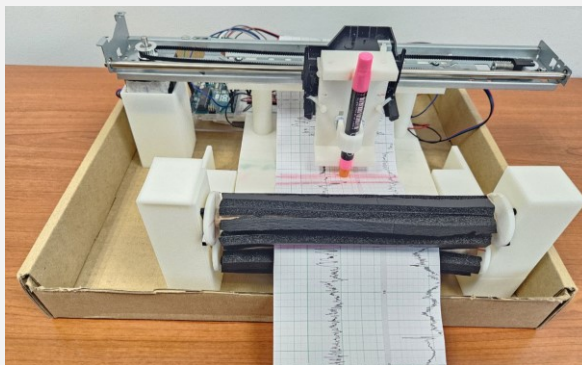
Designing solutions for healthcare needs in hospitals and the community.



Baby ANDI

Nasogastric tube training
device for caregivers

Collaboration with KK Hospital



IntelliBeats

Enhanced cardiocography system
for Obstetric and Gynaecology care

*Winner of NUS Outstanding
Undergraduate Researcher Prize*



Physipal

Improving physiotherapy for
patients with knee osteoarthritis

*Winner of NUS Outstanding
Undergraduate Researcher Prize*

Innovating for Future Mobility

Designing future mobility solutions and novel vehicles for people and goods.



Delta

World's lightest electric paraglider trike
*Featured on National Geographic Channel
in 2016*



Electric aircraft model
(self-proposed project)



Alpha Electronics

Battery swapping and charging system
for light electric vehicles
*Winner of NUS Resilience and Growth
(R&G) Innovation Challenge*
Launched start-up company in 2020

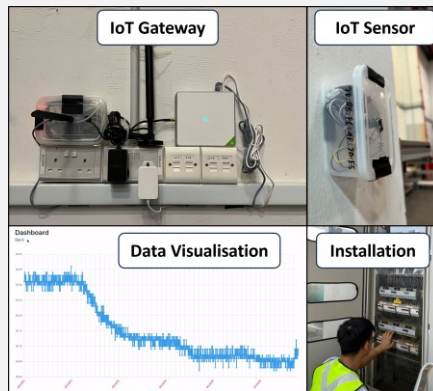
Innovating for Smarter Living

Designing smart devices and solutions to enhance everyday life, work, and play.



BoxBunny

Intelligent boxing robot
(self-proposed project)



Eco-Air

IoT-enabled energy consumption
monitoring in warehouses
Collaboration with DB Schenker



ConcreteAI

IoT smart sensor solution for real-time
concrete curing monitoring
Winner of NUS Enterprise Practicum Grant
Launched start-up company in 2021

Innovating for Sustainable Cities

Designing solutions to tackle challenges of urbanisation and sustainability.



The Moving Farm

Container mobile farming system
*Collaboration with Regenerative
Agritech Centre*



Valorising food waste into
sustainable chemicals



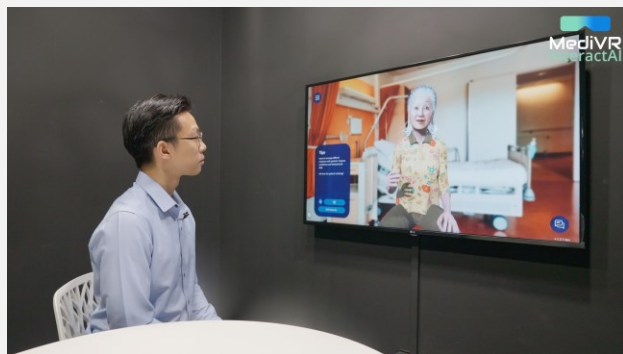
the moonbeam co.

Upcycling food by-products to create
new food products

*Winner of DBS Hungry for Change 2023
and Tech for Social 2022 Grand Prize
Launched start-up company in 2021*

Innovating with Immersive Reality

Developing novel applications using virtual reality and augmented reality.



InteractAI (formerly MediVR)
AI-powered clinical training platform
*Winner of Enterprise Singapore's
Founder Ignite
Launched start-up company in 2021*



VRReal
Childbirth delivery simulator
*Collaboration with Yong Loo Lin
School of Medicine*



Mind Peek
Augmented reality museum exhibit
Featured at SAM Art Dose in Aug 2023

Innovations in Intelligent Systems

Designing complex engineering systems and automation for various applications.



Galassia

Student-built nanosatellites
Galassia-1 launched in 2015
Galassia-2 launched in 2023
Next launch in 2025



HiveBotics

Autonomous cleaning robots
Launched start-up company in 2021



SAM: Species Assessment Mapper

Autonomous robot for
invasive species detection
Winner of GNSS Innovation Quest 2024

Flagship competition projects



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and Engineering

Multidisciplinary student teams participating in regular overseas competitions.



Formula SAE race car

*Ranked 13th in 2018 and 2019
(internal combustion engine)*

*Ranked 10th in 2024 and 7th in 2025
(electric)*

*Launched Singapore's first
electric race car in 2022*



Bumblebee

Autonomous underwater and surface vehicles

*Winners of RoboSub 2015, 2022, 2023,
Singapore AUV Challenge 2024,
Maritime RobotX Challenge 2018, 2024*

Launched start-up company BeeX in 2019



NUS Calibur Robotics

Student-run competition team for the
RoboMaster University Championships
*1st runner-up in RoboMaster University
League North America 2023, 2025*

Prototyping facilities in *iDP*



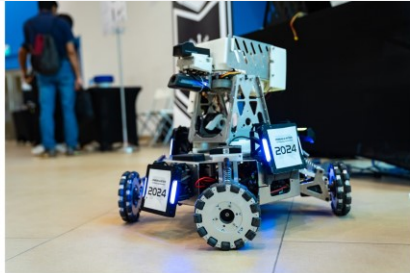
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- ▶ Access to equipment and fabrication services for your projects from various workshops.



Project Showcase

Bi-annual event to celebrate and showcase our students' work to benefactors, industry partners, NUS community, alumni, and prospective students.



Nurturing entrepreneurship



- ▶ Embark on **NUS Overseas Colleges** (NOC) programmes:
 - ▶ Overseas internship programmes in leading entrepreneurial hotspots across the globe.
 - ▶ NOC courses can be counted towards *iDP*.
 - ▶ About 20% of *iDP* students go for NOC.

- ▶ Take the **Ideas to Start-up** final year project:
 - ▶ Pursue commercialisation of your project ideas.
 - ▶ Pitch to potential partners and investors.
 - ▶ Join the Entrepreneur Fellowship after graduation and launch start-up company.



Global exposure opportunities



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Go for overseas competitions, work with international partners on projects, and increase your global network.



NUS Overseas Colleges
Internships in leading
entrepreneurial hotspots



**Stanford Global Engineering
Design Innovation programme**
Collaborate with students from
Stanford on innovation projects



Overseas competitions
and challenges

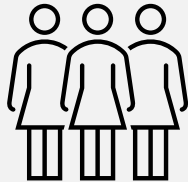
Second Major or Minor in *iDP*



- ▶ *iDP* is offered as **Second Major** or **Minor** in Innovation & Design.
- ▶ Can be paired with **primary major** from different Faculties in NUS.



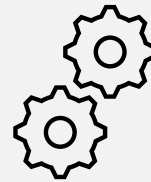
Architecture and
Industrial Design



Arts and Social
Sciences



Computing



Engineering



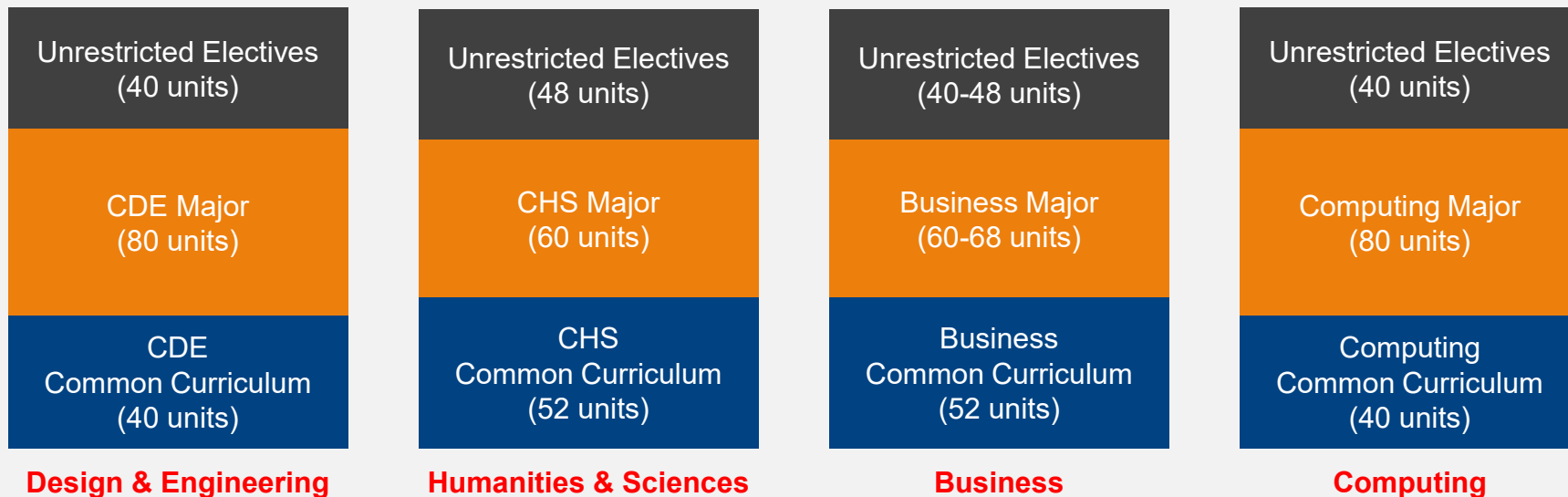
Science



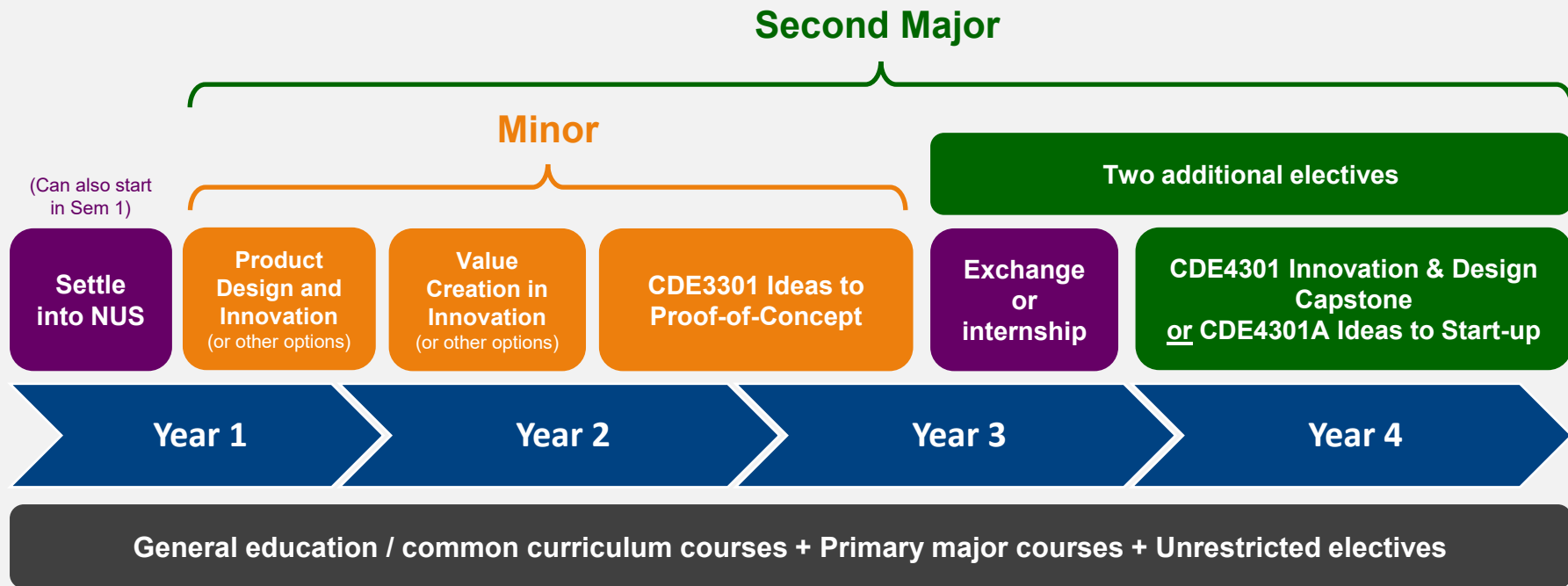
Business

Second Major or Minor in *iDP*

- ▶ *iDP* is offered as **Second Major** or **Minor** in Innovation & Design.
 - ▶ Used to fulfil Unrestricted Electives.

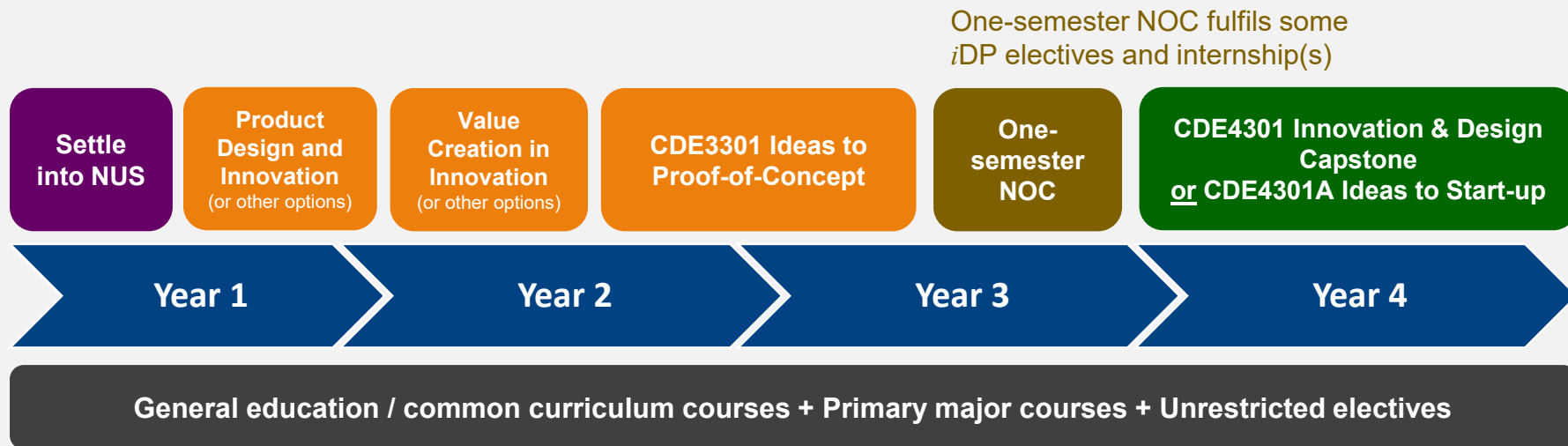


Typical programme timeline



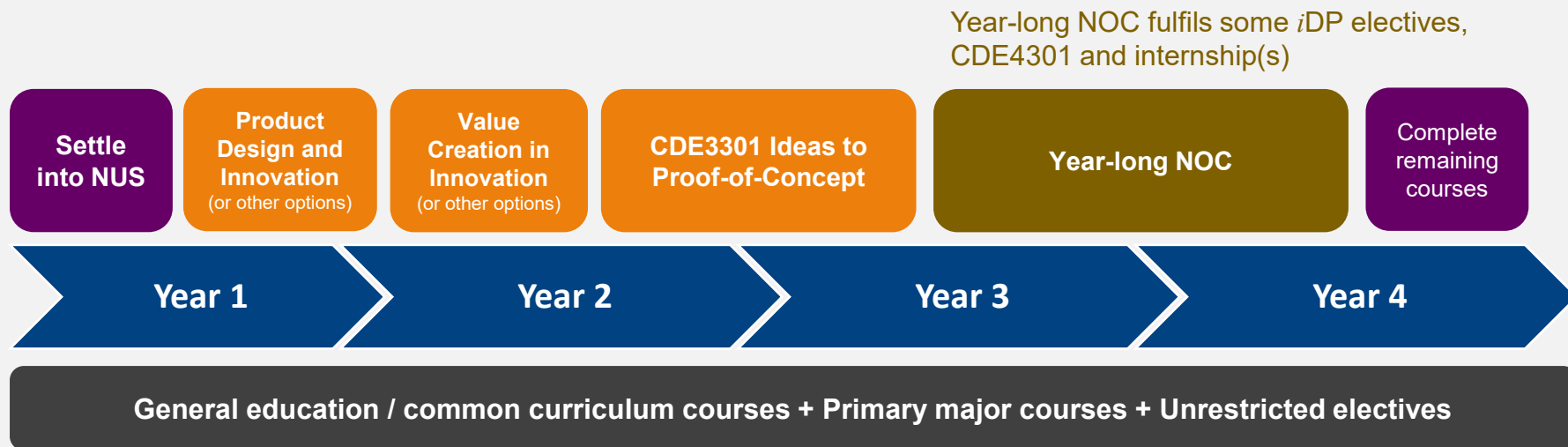
Typical programme timeline

For students who are planning to go for **one-semester NOC**



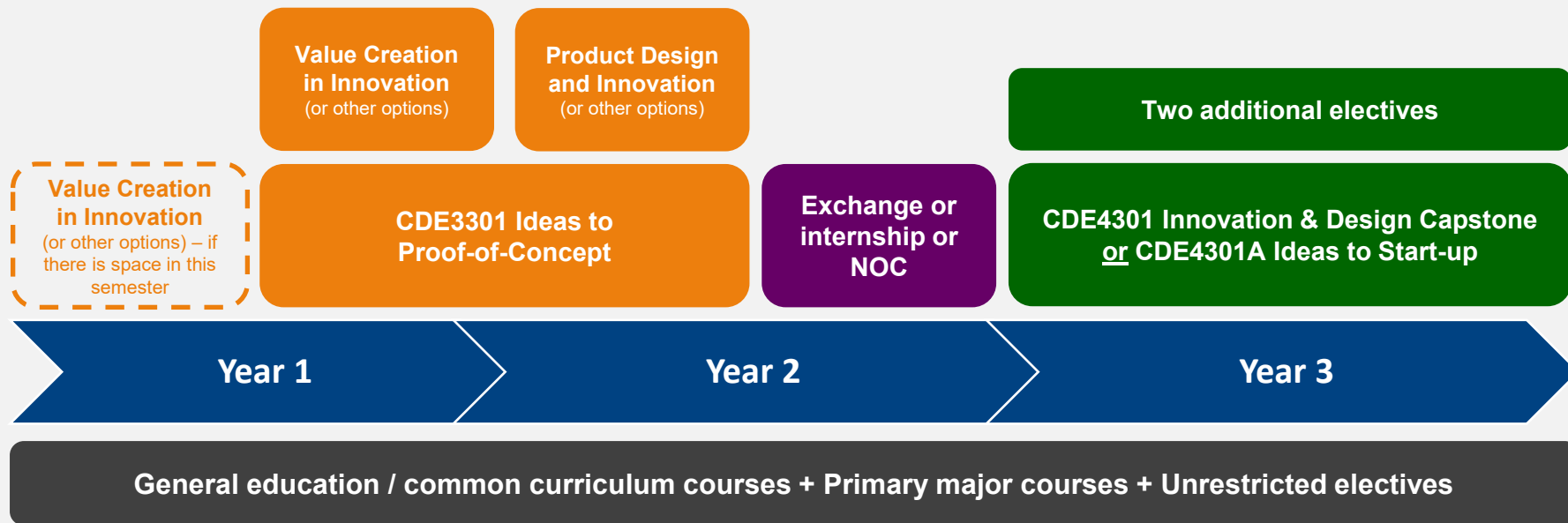
Typical programme timeline

For students who are planning to go for **year-long NOC**



Typical programme timeline

For students who are planning to graduate in **3 years** (E-Scholars, poly intake)



iDP is more than Engineering!



- ▶ Learn how to work with peers from **different disciplines** on projects where **technology** plays a prominent role.
 - ▶ Design and innovation teams in companies are multidisciplinary!
- ▶ Holistic solutions require thoughtful design and execution that incorporate inputs from **multiple perspectives**.
 - ▶ Apply skills from your own discipline but also learn new skills outside your discipline.
- ▶ Build your teamwork, communication, and project management skills.
 - ▶ Highly desired soft skills in industry.

iDP is more than academics!



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Activities by iDP
Students' Club



Leadership camp



Overseas study trips



iDP residential cluster
at UTown Residence

Be immersed in a **community** of peers who are passionate about design, innovation, entrepreneurship, and hands-on projects.

How to apply



- ▶ Anytime before start of each semester in Year 1 or Year 2:
 - ▶ Preferably latest by start of Year 2 Sem 1.
- ▶ Freshman students can apply **NOW** if interested:
 - ▶ In particular those who are planning to graduate in 3 years or want to take *iDP* courses in Year 1 Sem 1.
 - ▶ Exclusive benefits: **free credits for fabrication jobs** and invitations to *iDP* events!
- ▶ No selection criteria – **everyone is welcome!**



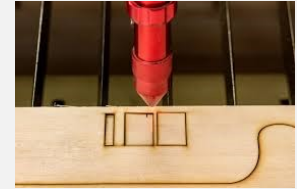
**Register your interest
by 31 July 2025!**

Prototyping workshops on Week 0



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- ▶ Introduction to 3D printing, laser cutting, PCB fabrication, VR app development, etc.
- ▶ Half-day workshops (3 hours each), earn **digital badges** for completion.
- ▶ Held on Week 0 (**4-8 August 2025**).
- ▶ Registration links on *iDP* website.



iDP Experience Day

- ▶ Meet our staff and students as well as your peers who are interested in iDP.
 - ▶ Date: **13 August 2025** (Wednesday)
 - ▶ Time: 4 pm to 6 pm
 - ▶ Venue: CDE Innovation & Design Hub
- ▶ See examples of iDP projects and hear from your seniors in iDP.
- ▶ Refreshments will be served – **all are welcome!**



**Register by
8 August 2025!**

IDP EXPERIENCE DAY

13 AUG 2025 (WED) | 4 PM TO 6 PM
CDE INNOVATION & DESIGN HUB (BLOCK EA LEVEL 4)

**INTERESTED TO LEARN MORE ABOUT THE
INNOVATION & DESIGN PROGRAMME (IDP)?**

MEET OUR FACULTY MEMBERS,
SEE EXAMPLES OF IDP PROJECTS,
AND HEAR FROM YOUR SENIORS IN IDP

LIGHT REFRESHMENTS WILL BE SERVED

ALL ARE WELCOME!

SCAN HERE TO REGISTER YOUR
ATTENDANCE BY 8 AUG 2025



IDEATE 2025 makerthon

- ▶ Create real-world impact by turning your ideas into innovative solutions.
 - ▶ Foster innovation and entrepreneurial spirit.
 - ▶ Receive support for design and prototyping.
 - ▶ Get a taste of iDP.
- ▶ Open to all NUS students.
- ▶ Win attractive prizes!



**Sign up by
9 August 2025!**



**ON INNOVATION INNOVATION
RTHON MAKERTHON MAKER**



IDEATE

**SIGNUP
BY
9 AUG**

HIGHLIGHTS

- Innovation Design Workshop
- Entrepreneurship Workshop
- Technical Workshops
- Pitching Workshop
- Project Showcase and Final Pitch

PRIZES

- NUS Overseas Colleges Greenlane*
- \$10,000 VIP Grant
- \$1000 iDP Prototyping Fund*
- A*STAR Internship

*Terms and Conditions Apply

ORGANISED BY

 **NUS**  College of Design and Engineering   **NUS** Enterprise

FOR MORE INFORMATION


IDEATE2025.COM

Join us as a CDE Maker!



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- ▶ **Paid part-time positions** to assist with prototyping work in our facilities.
- ▶ Free **training** with certification.
- ▶ Free **access** to prototyping equipment for your own projects (subject to fair use).
- ▶ Gain **iDP points** to stay at iDP rooms at UTown Residences and other benefits.



Contact us



Email:

idp-query@nus.edu.sg



Website:

<https://cde.nus.edu.sg/edic/>



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THANK YOU