

INTRODUCING NUS COLLEGE OF DESIGN AND ENGINEERING



College of Design
and Engineering



FORGING NEW FRONTIERS

INTRODUCTION

Welcome to the NUS College of Design and Engineering (CDE). Our vision is to be a leading college uniting creative minds to build a better future. We aim to inspire, innovate and transform the world by forging new frontiers in engineering and design.

The CDE Advantage

CDE takes advantage of the natural synergies and growing convergence between the fields of Engineering, Architecture and Design to offer a distinctive, interdisciplinary education.

With the ability to design and build your own learning journey through new CDE pathways, you will have greater control of your educational experience at NUS.



Exposure to real-world scenarios, broad domain expertise and cutting-edge research in your university education will empower you to thrive in your future professional roles.

You will be equipped with a range of versatile and transferrable skill sets for enhanced career prospects and the potential to explore a wider variety of roles.

With a broad intellectual foundation, you will be better prepared for lifelong learning and development allowing you to continuously upgrade, upskill and enhance your career options.

Highlights

Future-focused Common Curriculum: Be equipped with a versatile toolbox of general and



specialist skills to adapt and thrive in an ever-changing job market.

Fusion of two world-class schools: CDE brings together the Faculty of Engineering and School of Design and Environment to create a distinctive engineering and design education with 14 Undergraduate Degree offerings.

Flexibility to go deep, broad or both: You can now pursue professional qualifications and go

AN INTEGRAL PART OF
NUS WHICH IS RANKED

No. **1** in Asia*

No. **11** globally*

No. **6** globally**
in Architecture and the
Built Environment

No. **9** globally**
in Engineering and Technology

*QS World University Rankings 2022

**QS World University Rankings by Subject 2021

beyond your majors to be effective across different disciplines.

Problem-based pedagogies: Delivering practical, hands-on learning so you are equipped to meet the needs of a rapidly-evolving and complex world.

CRAFT YOUR LEARNING JOURNEY

At CDE, you can craft your own degree based on how broad, deep or integrated you want your education to be. Your 40-module makeup will consist of a Common Curriculum, a major of your choice, and a wide range of Unrestricted Electives. The Unrestricted Elective space gives you the flexibility to choose if you would like to deepen your expertise in your major, take a second major, minors, specialisations, general electives or a combination of them depending on your aptitude and interests.

Common Curriculum

The Common Curriculum consists of 14 carefully curated pillars with the Integrated Project being equivalent to two modules.

Choose modules from each of the 14 pillars listed below under the Common Curriculum.



Artificial
Intelligence



Communities
& Engagement



Creating
Narratives



Critique
& Expression



Cultures &
Connections



Data
Literacy



Design
Thinking



Digital
Literacy



Maker Space



Project
Management



Singapore
Studies



Sustainable
Futures



Systems
Thinking



Integrated
Project

MAJOR REQUIREMENTS

Choose from one of our
14 major programmes

- Architecture (BA)
- Biomedical Engineering (BEng)
- Chemical Engineering (BEng)
- Civil Engineering (BEng)
- Computer Engineering (BEng)
- Electrical Engineering (BEng)
- Engineering Science (BEng)
- Environmental Engineering (BEng)
- Industrial Design (BA)
- Infrastructure & Project Management (BEng)
- Industrial & Systems Engineering (BEng)
- Landscape Architecture (BLA)
- Materials Science & Engineering (BEng)
- Mechanical Engineering (BEng)

UNRESTRICTED ELECTIVES

Choose **10 modules** to fulfill your Unrestricted Elective Space:

Second Majors: An opportunity for you to broaden your knowledge and competencies.

Minors: Embark in a course of study in an additional area outside of your Major.

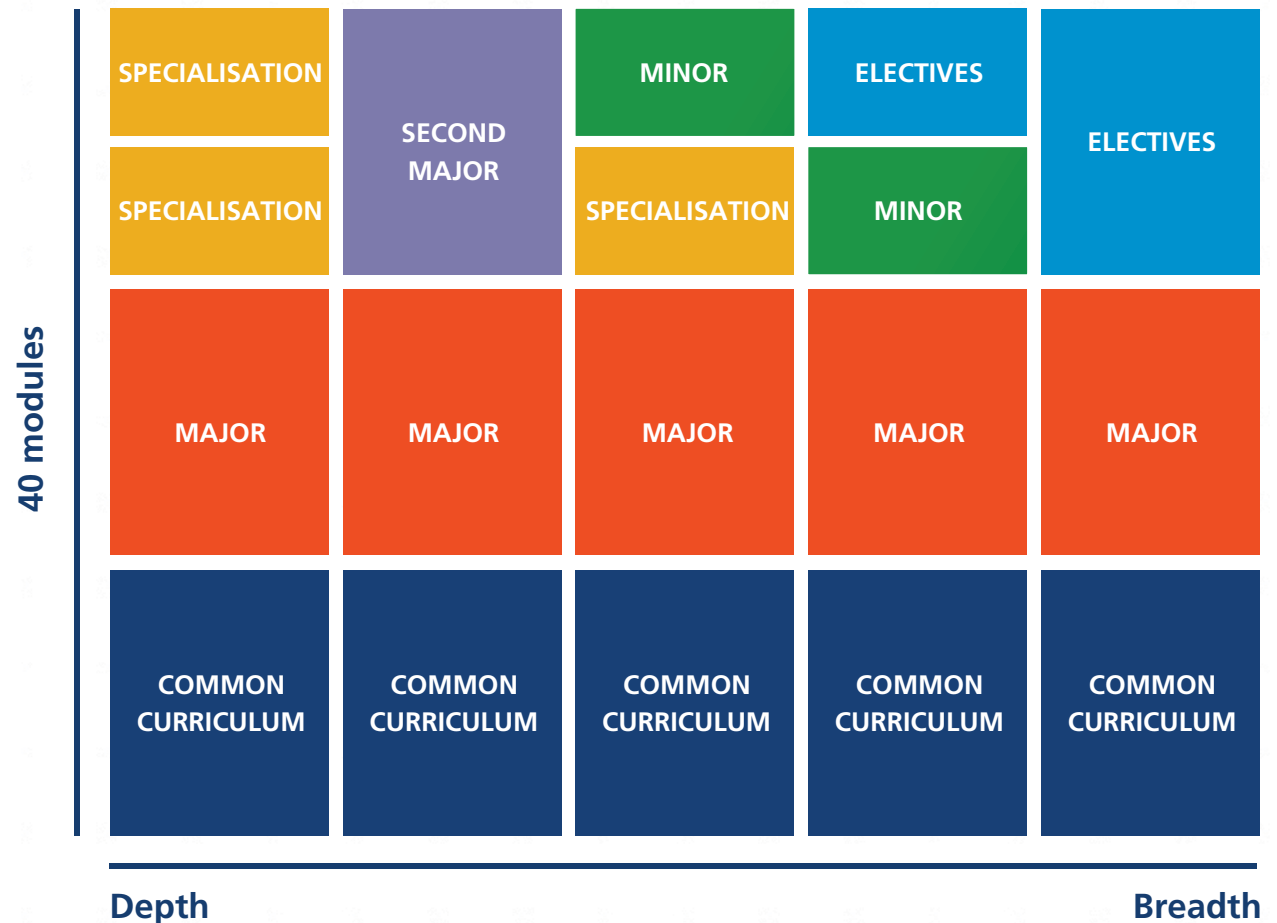
Specialisations: Focus on a particular area within your chosen discipline.

Enhancement Modules: Experiential learning opportunities for innovation and research within CDE.

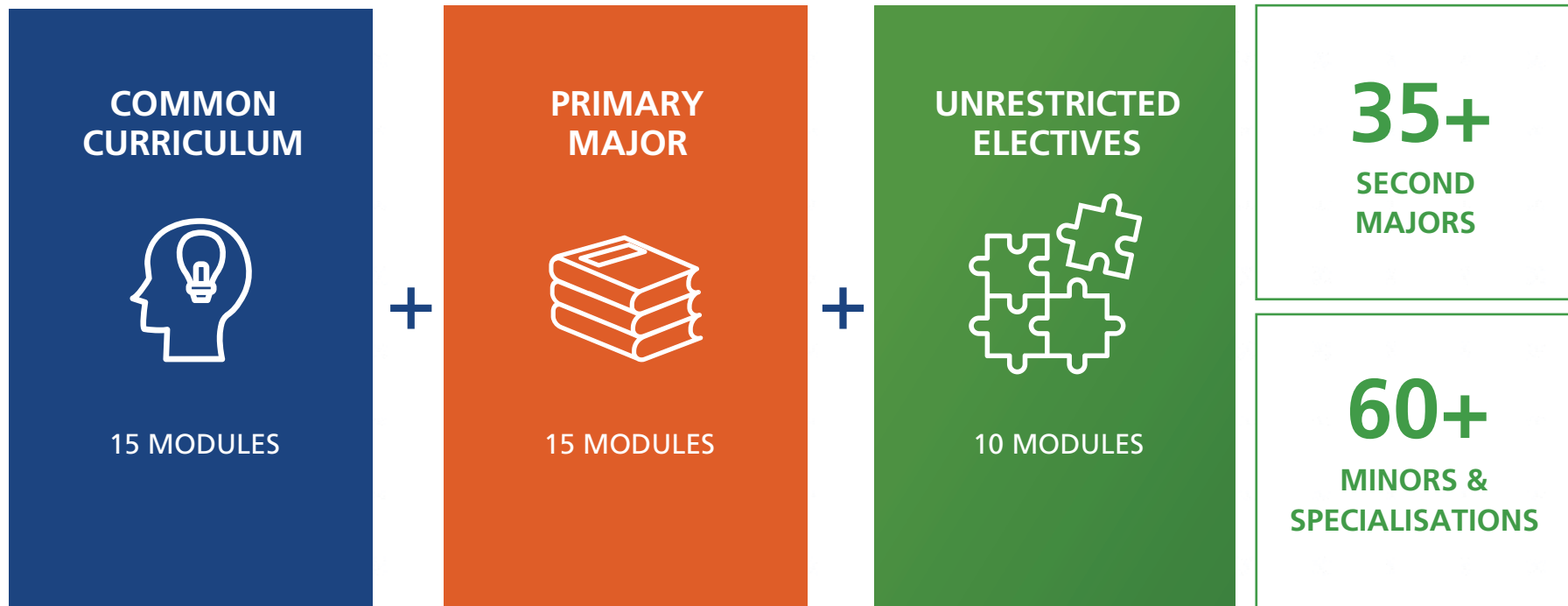
Design Your Own Module (DYOM): You can choose what you want to learn, how you wish to learn and from whom you wish to learn, for up to two modules.

Over 3,800 Unrestricted Electives across NUS are available to you.

BUILD YOUR OWN DEGREE



YOUR DEGREE



CAREER-CENTRIC PATHWAYS

Our flexible curriculum prepares you to pursue diverse career opportunities in the future. Here are some potential pathways:

AI Engineer	Common Curriculum 15 MODULES	Electrical Engineering Major 15 MODULES	Second Major in Statistics 10 MODULES	
Event Design Consultant/ Design Journalist	Common Curriculum 15 MODULES	Architecture Major 15 MODULES	Minor in Project Management + Minor in Interactive Media Development 10 MODULES	
Management Consultant	Common Curriculum 15 MODULES	Mechanical Engineering Major 15 MODULES	Minor in Economics + Minor in Management 10 MODULES	
Medical-tech Entrepreneur	Common Curriculum 15 MODULES	Biomedical Engineering Major 15 MODULES	Second Major in Innovation & Design 10 MODULES	
Architect	Common Curriculum 15 MODULES	Architecture Major 15 MODULES	For various professional specialisations 10 MODULES	Master of Architecture 10 MODULES (Concurrent Degree)

STUDENT LIFE BEYOND THE CLASSROOM

Find Your Community

At CDE, you can find your like-minded community within and outside of the classroom to make your NUS experience exciting and enriching. Choose from a range of interest-based student clubs, societies and organisations within CDE and the wider university.

Residential Life

NUS offers a variety of accommodation options to suit the diverse needs and aspirations of our students. Full-time students can choose from the following residential options:

Residential Colleges: A new kind of educational experience where you can join an exciting academic programme while living alongside your professors and peers. There are three programmes: the Ridge View

Residential College Programme (RVRCP), the University Town College Programme (UTCP) and the University Scholars Programme (USP).

Halls of Residence: Join a vibrant community and explore new interests and engage in hands-on learning in this unique blend of living and learning. There are seven Halls on Kent Ridge Campus.

Student Residences: Each of the residences is a melting pot of nationalities and cultures where like-minded peers from diverse backgrounds meet and expand social circles. You have the opportunity to participate in a multitude of residence-based activities at Prince George's Park Residences and UTown Residence.





Go on an International Adventure

During your time in CDE, you can take up NUS' global programmes, including:

Student Exchange Programme:

Spend a semester or two at one of our 300+ partner universities overseas in more than 40 countries, where you'll gain exposure to new opportunities and cultures in the Americas, Europe and Asia.

NUS Overseas Colleges:

A three to twelve month programme for selected students with entrepreneurial aspirations to attain work experience at innovative startups globally while taking classes at renowned universities such as Stanford University and Tsinghua University.

Summer and Winter Programmes:

Make the most of your term breaks by joining a summer or winter programme spanning three to eight weeks. You can choose between taking modules or conducting research in an international setting.

Study Trips for Engagement & EnRichment (STEER) / Field Trips:

Apply what you've learnt in the classroom to the real world through our immersive STEER Programme and field trips.

Overseas Design Immersion:

You can also embrace unique international learning opportunities. These include overseas design immersion where you can engage renowned creative practices as well as prestigious universities for collaborative learning and design explorations.

PREPARING CDE STUDENTS FOR THE FUTURE OF WORK

Rapidly-evolving challenges and complex problems demand that the future workforce is equipped with important soft skills in addition to deep domain knowledge. CDE students will be equipped with professional qualifications, as well as future-ready skills to formulate and solve problems, ideate, build and realise your ideas in a way that's practical, functional and appealing.

We also offer extensive career preparation, guidance and internship opportunities to ensure our students are future-ready.

Internship opportunities: We believe that internships are an important part of experiential learning. NUS' strong network of industry partners provides students with a wealth of opportunities for valuable real-world experience. Our Undergraduate Research Opportunities Programme (UROP)

also gives you a chance to work alongside top researchers in emerging fields.

Design projects: We expose you to a range of hands-on experiences to design your own projects and products. These projects encourage teamwork, creative thinking, and experimentation. We also create design platforms for students to collaborate with the industry and government agencies to achieve innovative designs to meet future challenges. Some examples of these design platforms include vertical livestock farming, ambulance drone deployment facilities and City for Sharing Economy. If you are particularly interested in design, you could consider a second major in Innovation and Design.



STRONG INDUSTRY SUPPORT

The CDE curriculum has been carefully curated by our faculty members in collaboration with industry and academic leaders. It is future-focused by design to advance the embodied professions, resulting in a whole that is more than the sum of its parts.



“There is great urgency in ensuring that we **develop a more sustainable world**. We need a new generation of engineers, designers, urban planners, architects and built environment professionals who can **work collaboratively across disciplines** to find effective, integrated urban solutions that will **secure and raise the living standards** of Singaporeans and the global community. The new interdisciplinary approach undertaken by the CDE will make a significant contribution towards this vision.”

Dr Cheong Koon Hean
Chairman, Centre for Liveable Cities
Singapore Ministry of National Development



“The future will be different, brighter and yet more complex than ever. Innovation cycles are becoming shorter, **disrupting industries and impacting societies at an increasing pace**. With the focus on interdisciplinary education and real-world applications, I am confident that the CDE will nurture the **leaders of the future** – ones who see the big picture, deeply understand the grand challenges and are able to quickly **acquire and apply the knowledge needed to capture the opportunities**.”

Mr Brian Tan
Vice President and Regional President of Southeast Asia,
Applied Materials, Inc.



“Engineering is a key driver of innovation. This new College, designed in consultation with the industry, will create **stronger synergy and capabilities** in our science and technology ecosystem. I am confident and look forward to its graduates in developing **impactful technologies** and solutions for the community and the nation.”

Mr Cheong Chee Hoo

Chief Executive Officer, DSO National Laboratories



Photo credit: Studio Periphery

“Climate change is the greatest threat to cities and humanity. **Technology is shaping the future of design and innovation.** It is therefore timely that NUS introduces an integrated curriculum through the CDE that allows students who aspire to be city-makers of tomorrow, to **build bridges between design objectives, inspiration and technology.** This, in time to come, can stimulate a **fundamental mindset shift** in the entire creative industry.”

Professor Wong Mun Summ

Co-Founding Director, WOHA
Professor in Practice, NUS Department of Architecture

SHAPING THE FUTURE USING INTERDISCIPLINARY SKILLS



“Employees with an interdisciplinary education will be in a better position to be innovative as they will have learned the skill of making connections between two or more different fields of knowledge.”

Veerappan Swaminathan

Director at Sustainable Living Lab
NUS Class of 2011, Mechanical Engineering



“An interdisciplinary education brings greater flexibility and adaptability, bespoke thinking, collaborative leadership and yet a keen awareness of core disciplinary focus.”

Ar Leong-Kok Su Ming

Managing Director, BCA Academy
NUS Class of 1996, Architecture

IN GREAT COMPANY



"The very fact that engineering and design form the cornerstone of CDE is extremely exciting since the two disciplines are highly intertwined.

I believe that my interdisciplinary education is one of the primary reasons I have been able to juggle my role as Project Manager alongside being involved with the technical aspects of the NUS Rover Team."

Pranati Rajagopal

Electrical Engineering Student



"By exposing freshmen to different topics that may not be in their focal field of studies, it helps them to step out of their comfort zone and explore untapped areas. This gives them the opportunity to uncover new sets of knowledge that can be used as supplements for their work while broadening their horizons, providing them with a holistic education."

David Ng

Industrial Design Student

JOIN CDE

Are you looking for an education that will expose you to real-world scenarios, domain expertise and cutting-edge research? At CDE, we offer you a learning experience that will enable you to thrive in your future professional roles.

We accept students from a range of qualifications, including A-Levels, Polytechnics, NUS High School, International Baccalaureate and international applicants.

For specific admissions requirements, please refer to the relevant sections in [NUS Admissions](#).

Subject Prerequisites

Some of our courses require subject prerequisites. You can visit [here](#) to find out if you are eligible for the specific course that you are interested in.

Tuition Fees

You can visit the Registrar's Office website [here](#) around May to June for information on the

tuition fees of NUS undergraduate programmes for the coming academic year. Whether you choose a single major, or decide to take up a second major or minor(s), your tuition fees will be the same.

Scholarships

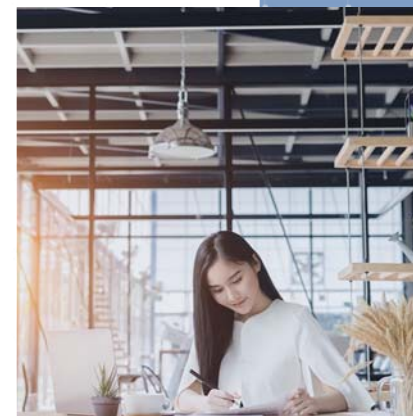
NUS offers a variety of undergraduate scholarships and awards for students with outstanding academic achievements, leadership qualities and special talents.

Visit our website [here](#) for information about the types of scholarships available and how you can apply for them.



Financial Aid

NUS offers a comprehensive range of financial aid to support students who may need financial help, such as bursaries, loans and work-study assistance. Find out if you're eligible [here](#).



**Information is subject to prevailing NUS policies at the point of application*

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