English-Taught

Intelligent Engineering and Technology

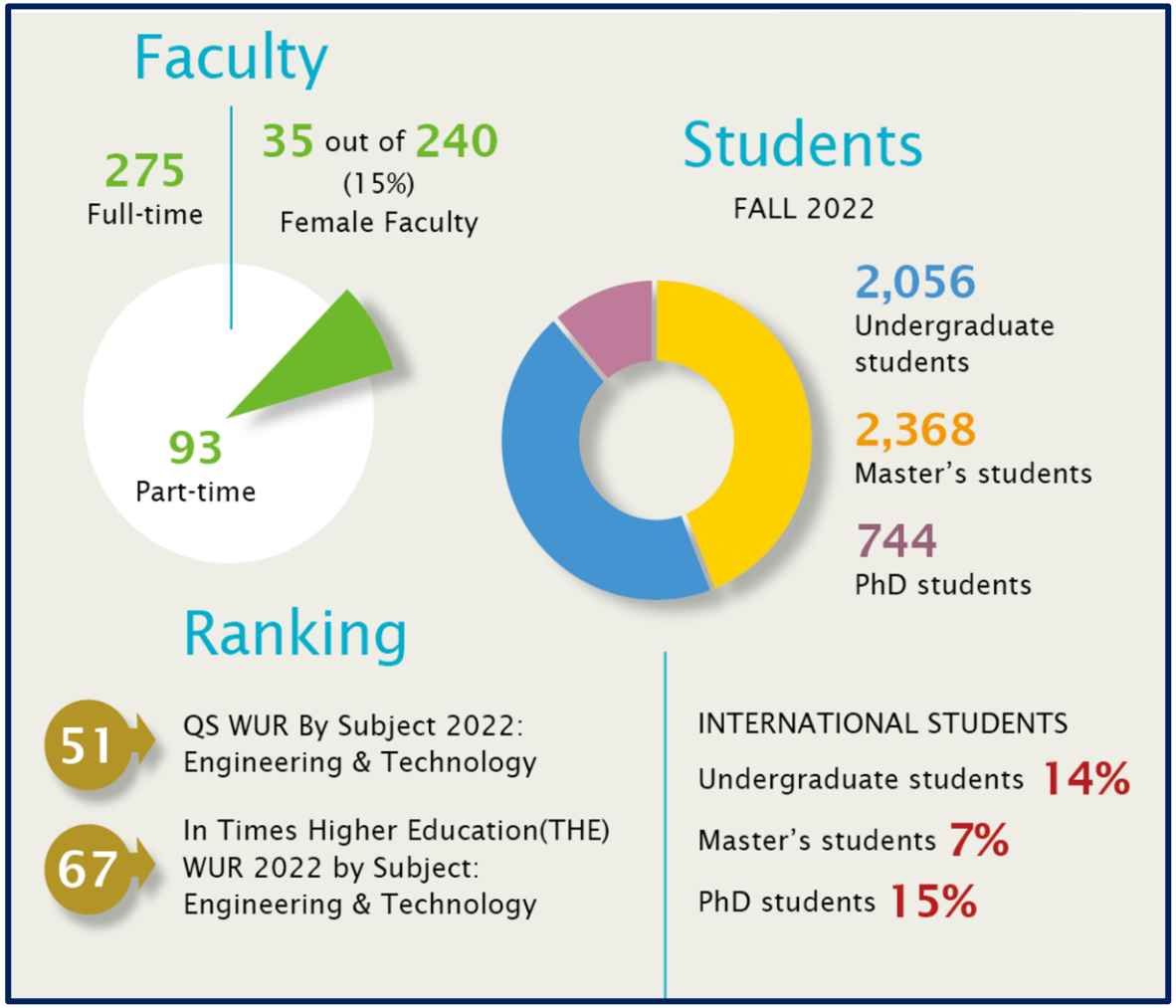
Undergraduate Program

at CoE-NTU

About College of Engineering of NTU

CoE consists of

- 6 **Departments**
- 5 **Institutes**
- 3 **Ph.D. Programs**
- 1 **Undergraduate Program (IET)**
- 10 **Research Centers**



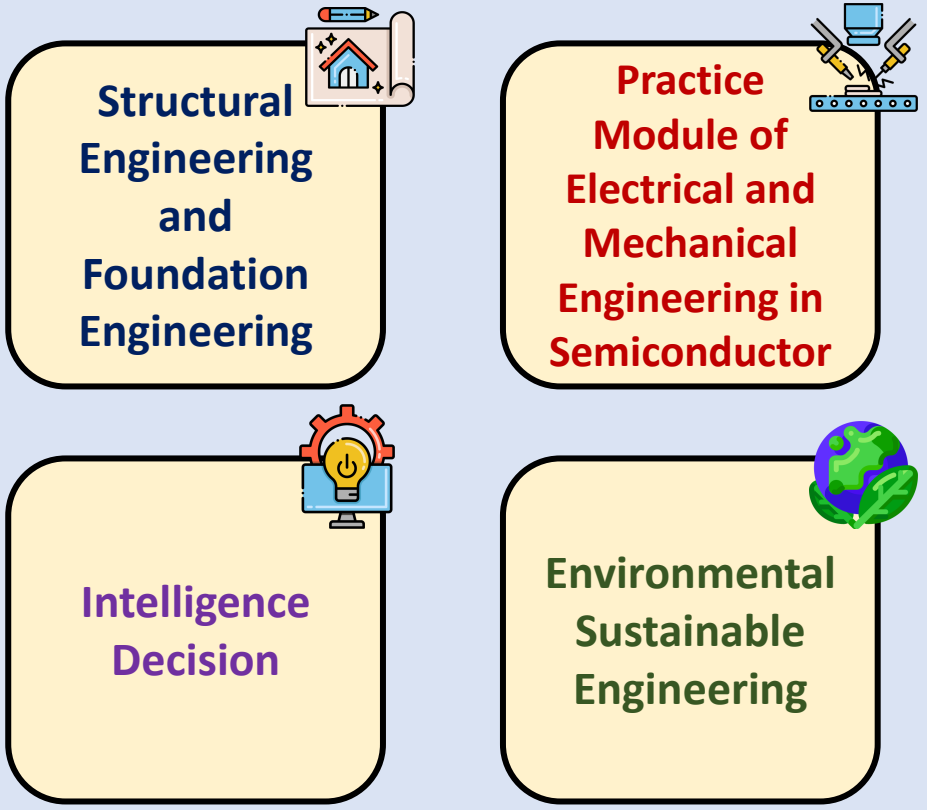
Introduction of IET Program

The English-Taught Intelligent Engineering and Technology Undergraduate Program (abbreviated as **English IET program**) is an all-English interdisciplinary bachelor's degree program.

Goal

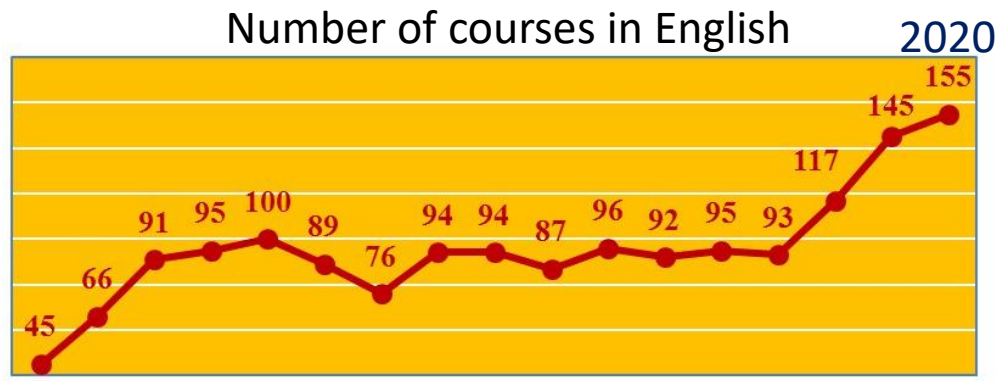
The goal is to recruit outstanding international students to study multifaceted engineering subjects at the College of Engineering of National Taiwan University. The program is designed to cultivate interdisciplinary engineering talents to meet the demands of emerging engineering industries. It trains students to have the vision of internationalization, sustainability, and achieving excellence in Engineering. Based on Taiwan's outstanding development in various engineering and technology fields, the IET program integrates social responsibility for environmental sustainability and forward-thinking for digital transformation in engineering sectors to cultivate unique interdisciplinary engineering talents in an international academic environment.

The Key Specialized Modules



Opportunity for International Students

We constantly improve the number of English-taught courses, and we have specialized English modular courses toward SDGs



*# of EMI courses might reach 180 by 2022/2023

Field of specialty (Modular courses)	Credits	Fundamental	Advanced course(s)	Practical course(s)
E.g., **Environmental Sustainable Engineering**	**12**		*Air quality management (3) *Sustainable water and energy technologies (3) *Ecosystem management (3)	*Urban infrastructure resilience: emergency water supply and safety) (3)

*Each module contain courses **with at least 12 credit points** in total.

Curriculum planning of IET Program

Students must complete **at least 128** credits to earn the English IET Program bachelor's degree.

The 128 credits are composed of

- 24 credits in **University-Developed Required Courses**
- 47 credits in **College-Developed Core Courses**
- 48 credits **College-Developed Specialized Modular Courses**
- 9 credits in **Elective Courses**

University-Developed Required Courses (24)	College-Developed Core Courses (47)	College-Developed Specialized Modular Courses (48)	Elective Courses (9)

Distribution of Credit Points : University-Developed Required Courses

University-Developed Required Courses/校訂必修		
Course Title/課程名稱	**Credits/學分**	**Description**
the Chinese Languages and Literatures Area / 國文領域	6	For international students with zero Chinese language knowledge, course credits from the University Language Center can be used to deduct the credits for Chinese Literature (upon approval from the Degree Curriculum Committee).
The Foreign Languages Area / 外文領域	6	6 credits of Foreign Languages must be in the same language. International students must take courses other than their native language to gain credits.
General/Liberal Education / 通識課程	12	For students of the College of Engineering, credits from "Quantitative Analysis and Mathematical Literacy (A6)" and "Material Science (A7)" courses will not be counted as General and Liberal Education credits but only as elective credits.
Physical Education / 體育課	0	Students also need to take physical education and university service courses.
Service Learning / 服務學習	0	
Total Credits / 總計學分	24	

Distribution of Credit Points : College-Developed Core Courses

College-Developed Core Courses/院訂必修		
Course Title/課程名稱	**Credits/學分**	**Recommended Semester of Study/建議修讀學期**
Calculus(general mathematics) (1) / 微積分1	2	Year 1, Fall/一年級上學期
Calculus(general mathematics) (2) / 微積分2	2	Year 1, Fall/一年級上學期
Calculus(general mathematics) (3) / 微積分3	2	Year 1, Spring/一年級下學期
Calculus(general mathematics) (4) / 微積分4	2	Year 1, Spring/一年級下學期
General Physics (a)(1) / 普通物理學甲上	3	Year 1, Fall/一年級上學期
General Physics (a)(2) / 普通物理學甲下	3	Year 1, Spring/一年級下學期
General Physics lab (1) / 普通物理學實驗上	1	Year 1, Fall/一年級上學期
General Physics lab (2) / 普通物理學實驗下	1	Year 1, Spring/一年級下學期
General Chemistry (c) / 普通化學丙	3	Year 1/一年級
General Chemistry lab / 普通化學實驗	1	Year 1/一年級下學期
Engineering Mathematics (1) / 工程數學上	3	Year 2, Fall/二年級上學期
Engineering Mathematics (2) / 工程數學下	3	Year 2, Spring/二年級下學期
Computer Programming / 計算機程式	3	Year 1 or Year 2/一年級 or 二年級
Engineering Graphics / 工程圖學	3	Year 1 or Year 2/一年級 or 二年級
Statics(or Applied Mechanics) / 靜力學 (或應用力學)	2	Year 1 or Year 2/一年級 or 二年級
Mechanics of Materials / 材料力學	3	Year 2/二年級
Introduction to Engineering (1) / 工程導論1	3	Year 1 or Year 2, Fall/一年級 or 二年級 上學期
Introduction to Engineering (2) / 工程導論2	3	Year 1 or Year 2, Spring/一年級 or 二年級 下學期
Research Training (1) / 專題研究1	4	take at least 2 courses from Year 3 to Year 4/ 大學三、四年級期間完成專題研究至少2門
Research Training (2) / 專題研究2		
Research Training (3) / 專題研究3		
Research Training (4) / 專題研究4		
Total Credits / 總計學分	47	

Distribution of Credit Points : College-Developed Core Courses

College-Developed Specialized Modular Courses/領域專長				
Fields/領域專長	**Credits/學分**	**Fundamental Professional Courses/ 基礎專業課程**	**Advanced Professional Courses/ 進階專業課程**	**Integration & Practical Courses/ 實務應用課程**
Structural Engineering and Foundation Engineering / 結構及基礎工程	12-15	• Structural Theory I (3) • Soil Mechanics (3) • Engineering Material (2)	• Engineering Material and Soil Mechanics Lab. (1)	• Reinforced Concrete Theory (3) • Foundation Engineering (3)
Practice Module of Electrical and Mechanical Engineering in Semiconductor / 半導體機電工程實務模組	12	• Mechanism (3) • Engineering Materials (3)	• Applied Electronics (with Laboratory Session) (3)	• Practice of Semiconductor Equipment(3)
Environmental Sustainable Engineering/ 環境永續工程	12		• Air Quality Management (3) • Sustainable Water and Energy Technologies (3) • Ecosystem Management(3)	• Urban Infrastructure Resilience (Emergency Water Supply and Safety) (3)
Intelligence Decision/ 智慧決策	12-15	• Engineering Statistics (3)	• Introduction to Optimization (3) • Introduction to Stochastic Modeling (3) • Intelligent Manufacturing and Job Scheduling (3) • Data Analytics (3)	
Total Credits/總計學分	> 48			

Courses within each specialized module are still being finalized.
(as of 2022/11/14)

Simulated Course Schedule : First and Second Year

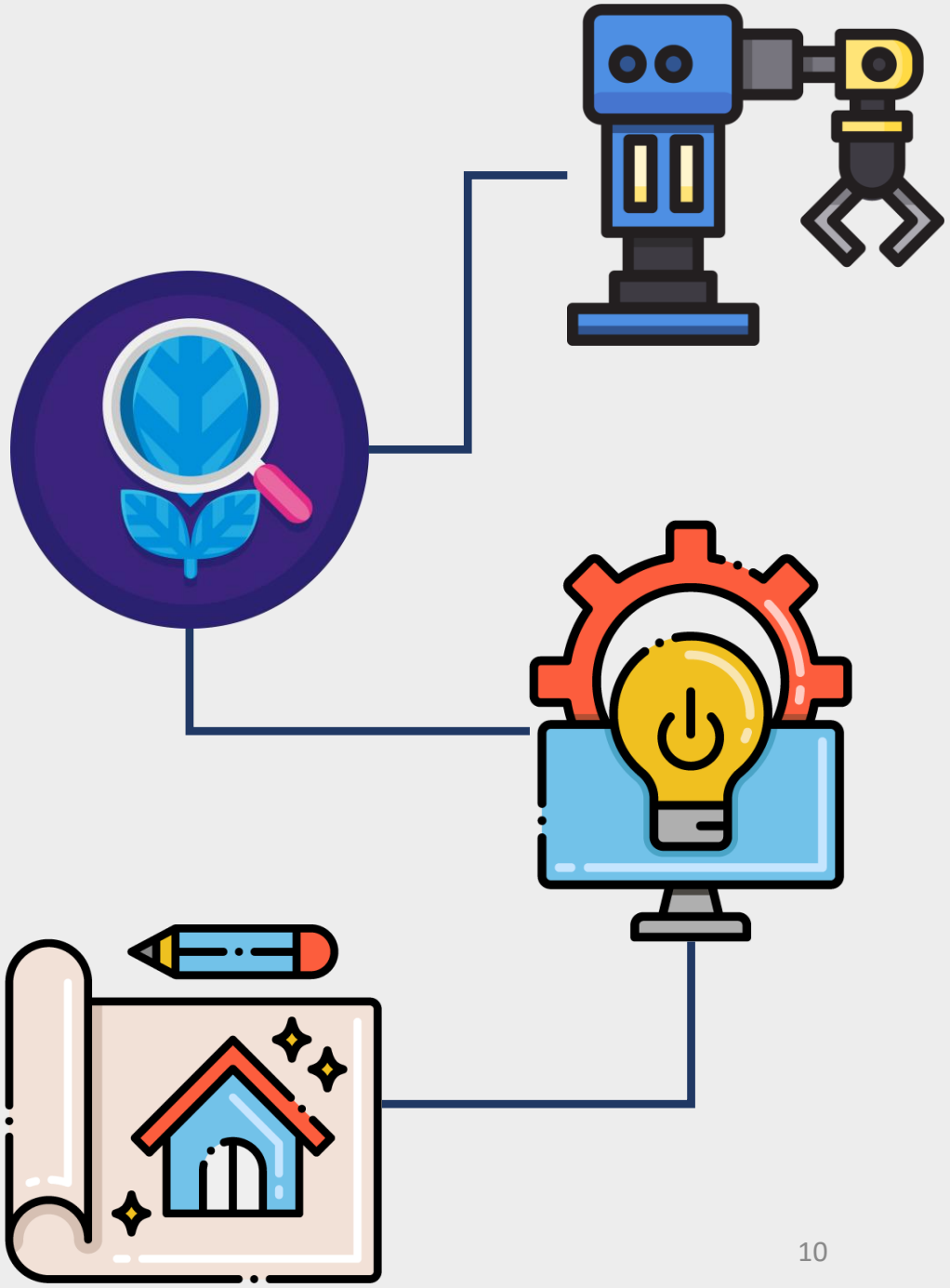
First Year / 一年級		Second Year / 二年級	
Fall / 上學期	**Spring / 下學期**	**Fall / 上學期**	**Spring / 下學期**
Calculus(general mathematics) (1) 微積分1	Calculus(general mathematics) (3) 微積分3	Engineering Mathematics (1) 工程數學上	Engineering Mathematics (2) 工程數學下
Calculus(general mathematics) (2) 微積分2	Calculus(general mathematics) (4) 微積分4	Introduction to Engineering (1) 工程導論1	Introduction to Engineering (2) 工程導論2
General Physics (a)(1) 普通物理學甲上	General Physics (a)(2) 普通物理學甲下	Statics(or Applied Mechanics) 靜力學(或應用力學)	Computer Programming 計算機程式
General Physics lab (I) 普通物理學實驗一	General Physics lab (II) 普通物理學實驗二		Mechanics of Materials 材料力學
General Chemistry (c) 普通化學丙	Engineering Graphics 工程圖學		
General Chemistry lab 普通化學實驗			

Future map

Graduates of the English IET program are expected to have sufficient knowledge in cross-disciplinary engineering fields to contribute to developing new technologies or practices in emerging industries, especially in :

- the mechanical sector
- the civil sectors
- the environmental sector
- the industrial engineering sectors

The English IET program graduates will have higher international mobility, enhancing their global job opportunities as field engineers, R&D personnel, or project managers.

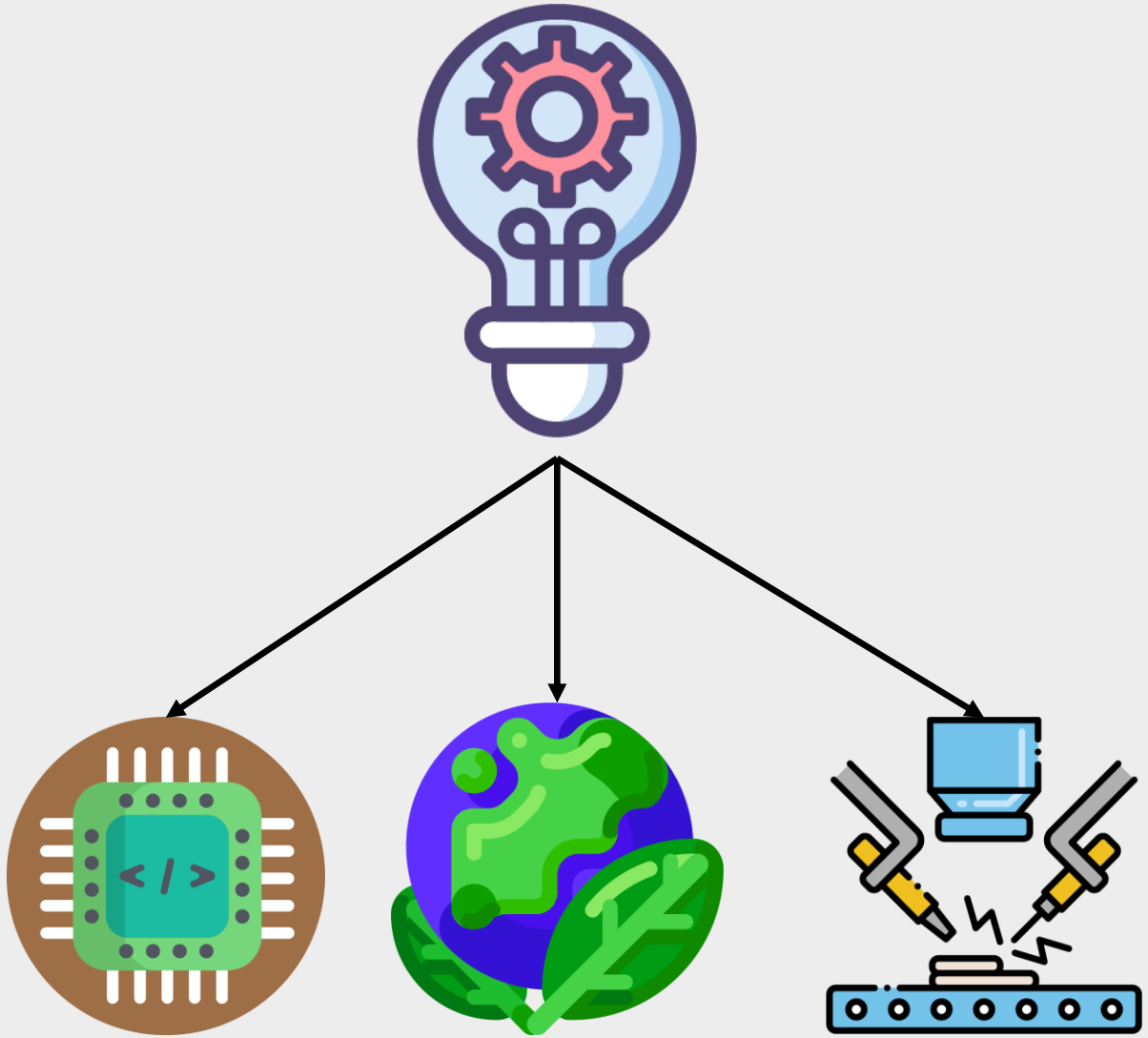


Future map

Postgraduate Degrees

Students can continue pursuing postgraduate degrees to advance professional training and education in engineering.

We encourage the graduates to continue their studies and apply for a postgraduate degree (e.g., MSc) program in the Institution of **Industrial Engineering**, Institution of **Environmental Engineering**, Dept of **Mechanical Engineering**, or Dept of **Civil Engineering**.



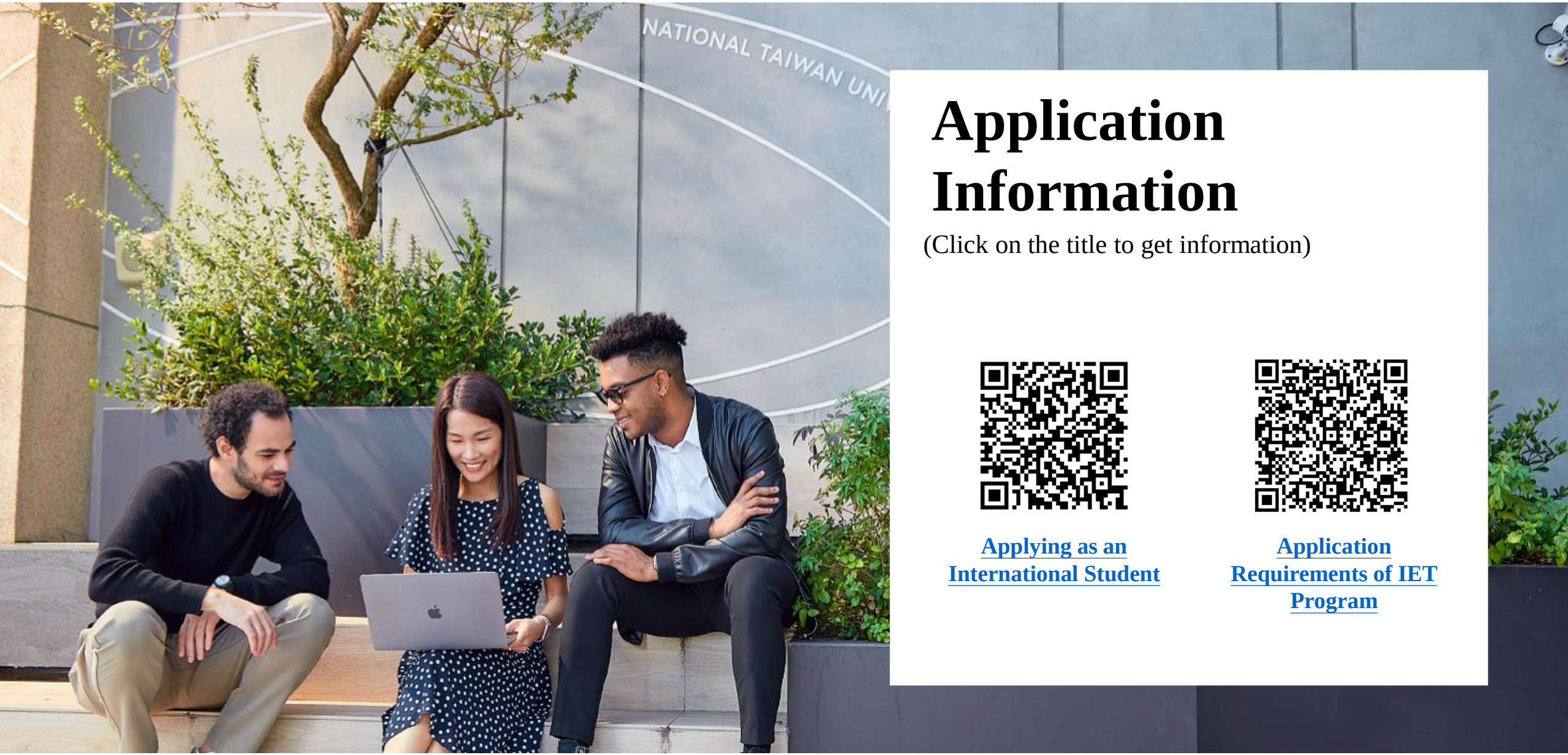
Future map

Career Paths

The English IET program graduates can plan their careers in information services, intelligent machinery, artificial intelligence, renewable energy, circular economy semiconductor manufacturing, etc.

It is estimated that the workforce in smart manufacturing, water supply, pollution control, construction engineering, and professional, scientific, and technical services will account for a total of ~40% of all working people by 2030 (in Taiwan).

These are areas that an English IET program graduate can explore for career development.



Application Information

(Click on the title to get information)

Applying as an International Student

Application Requirements of IET Program

Solve Global Challenges with Future Technologies.

CoE-NTU Welcome You!

(Ref: MOST, Taiwan)