BRIGHT PROSPECTS
AWAIT GRADUATES

Rewarding
Opportunities

The rigorous combination of technical skills and creativity makes our graduates attractive to mainstream IT and communications industries. With their added insight of the artistic and creative process, graduates are uniquely equipped to work with media designers in content creation and production, as well as to act as catalysts for the research and development of new and enhanced technology.

Our pioneer batch of graduates are readily employed in the IT, communications and digital media industries as IT Specialists, Software Engineers, Telecommunications Engineers, Network Security Analysts, Game Programmers, Digital Media Designers and System Integrators, to name a few.

Other than the engineering sector, our graduates have found employment opportunities in other industries such as banking and finance, education, services and more.

Join the IEM family and pave your way to a promising future!

where
TECHNOLOGY
meets
Art

School of Electrical & Electronic Engineering
in collaboration with
**School of Art, Design & Media,
School of Computer Engineering, and
Wee Kim Wee School of Communication & Information**

Bachelor of Engineering
(Information Engineering & Media)

A School of the College of Engineering

Imagine.
Innovate.
Inspire.

A masterpiece captivates and inspires a society; an innovation excites and empowers people's lives. The cover is inspired by Michelangelo's famous art painting, **The Creation of Adam**.

This masterpiece is an embodiment of IEM tagline: where Technology meets Art, and what would soon ensue: the birth of groundbreaking ideas.

Admissions

Please visit the Office of Admissions and Financial Aid website at
http://admissions.ntu.edu.sg/Pages/default.aspx
for more information on admission requirements and financial aid.

Minor Programmes

Find out more about our minor programmes at
http://www.ntu.edu.sg/Services/Academic/undergraduates/
academicprogrammes/Pages/MinorProgramme.aspx

Overseas Exchange

For more information on overseas exchange visit:
GLOBAL IMMERSION PROGRAMME
http://www.ntu.edu.sg/gip/Pages/default.aspx

INTERNATIONAL STUDENT EXCHANGE PROGRAMME
http://global.ntu.edu.sg/global/instep/Pages/default.aspx

NANYANG TECHNOLOGICAL UNIVERSITY

The **Next Gen** Engineers

Be creative. Be analytical. Be both.
Where practicality meets imagination.

"I have always wanted to develop my artistic side, but my stronger interest in scientific courses precluded any pursuit of that interest until now. This programme, with its fusion of art and media with engineering, is the perfect answer for me. It is now possible for me to express myself creatively and artistically through engineering."

Chew Siew Mooi
- IEM Graduate '11

"IEM offers a unique mix of courses that have given me a solid technical background, coupled with exposure to creative thinking used in artistic processes. This has allowed me to effectively find new and better ways to approach problems, be it in engineering, media or any other discipline."

Huang Jiesi
- IEM 4/NJC

"The programme instils in us out-of-the-box thinking skills. As such, we possess sharp problem-solving skills and are able to adapt to change easily."

Serena Tiong Suet Kuan
- IEM Graduate '11

"My years with IEM were truly eye opening. I had the chance to expose myself to a diverse range of academic disciplines and immerse myself in the industries I was interested in. IEM has opened up an array of invaluable opportunities."

Wang Chenyu
- IEM Graduate '11

"Peer into the exciting convergence of engineering, art and media; stretch your thoughts to both ends of the artistic and the algorithmic. How well can you connect the dots?"

Goh Chong Yang
- IEM 4

"The IEM is an integrative course that transcends the traditional boundaries of academic disciplines and schools of thoughts. A well-knitted interplay of arts, communications and engineering, with numerous bonding events to boot, the IEM journey is both stimulating and fulfilling. IEM is the perfect formula for an all rounded education."

Willy Ling Zi Yuan
- IEM 3/TJC

Ignite. Excel. Master.

The Versatile **Engineer**

A competitive infocomm sector and vibrant media industry have been the cornerstones of Singapore's economic success. State of the art infocomm technologies empower businesses while fascinating media products enrich lives. As such, Singapore will be well-served to manage the burgeoning demand for engineers capable of thinking out of the box.

The Bachelor of Engineering in Information Engineering and Media (IEM) aims to nurture our students by exposing them to the various disciplines of engineering while simultaneously engaging their creative minds.

Turning **Ideas** Into **Possibilities**

IEM is a course that prepares engineering students for the dynamic challenges of the 21st century workplace. It is here that you get to do more than hone your technical skills in the field of engineering; you will get to embrace your artistic self during the creative design process.

Throughout the course, you will learn fundamental skills that enable you to develop software applications, design electronic communications systems and create digital media applications. The course also boasts a variety of arts-related modules, offering you opportunities to learn the fundamentals of freehand drawing as well as utilise cutting edge media equipment.

What can you expect of the curriculum?
The framework comprises structured modules such as programming, computer hardware/software, communications and networking, and digital audio/image/video processing. Engineering-related modules make up for 60% of the curriculum.

Complementing the strong technical fundamentals, you will also learn about the ins and outs of the media industry. 20% of the curriculum is dedicated to modules such as digital art and design, animation and game design and radio/TV/movie production.

This multi-faceted course will groom you into an all-rounded engineer of great value to the infocomm industry, one who is able to think analytically and creatively.

BEng(IEM) **& BA**(Econs) **Double Degree Programme**

Strengthen Your Capabilities, Broaden Your Horizon

The unique blend of inter-disciplinary qualities of an engineer and an economist will be highly valued in the globalised environment of the future. Offered in partnership with NTU's School of Humanities and Social Sciences, this programme aims to equip graduates with in-depth knowledge and competency in both engineering and economics. With the changing dynamics of the global economy, growing resource scarcity and escalating societal and environmental concerns, engineers of the future will face increasing challenges to reconcile engineering activities with these considerations.

Top students may apply for the Bachelor of Engineering in Information Engineering and Media and Bachelor of Arts (Honours) in Economics double degree programme. In five to five-and-a-half years, you will earn two honours degrees, which will open doors and prop you up for great success in both the public and private sectors.

Year 1

- Mathematics I
- Mathematics II
- Physics
- Computing
- Digital Electronics
- Analog Electronics
- Object-Oriented Programming
- Data Structures & Algorithms
- Thinking and Communicating Visually I
- Basic Media Writing
- GER (Art, Humanities & Social Sciences)

Year 2

- Introduction To Design & Project
- Engineering Mathematics I
- Engineering Mathematics II
- Software Engineering
- Microprocessors
- Computer Communications
- Signals and Systems
- Thinking and Communicating Visually II
- Visual Literacy & Communication
- GER (Liberal Studies)

- GER (Science, Technology & Society)

Year 3

- Design & Innovation Project
- Industrial Orientation
- Digital Signal Processing
- Communication Principles
- Information Security
- Thinking and Communicating Visually III
- Environmental Sustainability
- GER (Art, Humanities & Social Sciences/ Business & Management/Liberal Studies/Science, Technology & Society)
- Free Elective 1
- Free Elective 2
- Free Elective 3
- Free Elective 4

Year 4

- Final Year Project

SPECIALISATIONS AND ELECTIVES

Information Technology
- Object-Oriented SE Design
- Web Application Design
- Computer Architecture
- Database Systems
- Multimedia Systems
- AI & Data Mining

Communications and Networking
- Enterprise Network Design
- Cellular Comm. System Design
- Computer Networking
- Digital Communications
- Telecommunication Systems
- Wireless Communications

Digital Media Processing
- DSP System Design
- Embedded Systems
- Audio Signal Processing
- Image Processing
- Digital Video Processing

Visualisation and Interactive Media
- Augmented & Virtual Reality
- Media Management & Processing
- Computer Vision
- Computer Graphics & Animation
- Simulation & Modeling

Art, Design & Media Production
- Audio Radio Production
- Single-Camera Production
- Web Design & Technology
- Interface Design
- Interactive I
- Engineers & Society
- Professional Communication
- GER (Business & Management)
- Free Elective 5

■ Technical with Art, Practicals & Projects
■ Technical (Information & Communications)
■ Art, Design & Media Production
■ General Educational Requirements (GER) and Free Electives

Polytechnic graduates can find out more about their curriculum structure at http://www3.ntu.edu.sg/eee/iem/curriculum/curriculum_structure.asp