Southampton

A GLOBAL EDUCATION IN ENGINEERING

Undergraduate Courses 2015

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No. 2

for Mechanical Engineering The Guardian University Guide, 2015

We have **100** specialist themes; choose the right one for you

We are an institution in the **TOP 1%**

of global universities*

2 years in Malaysia

followed by 2 years in the UK

of our Aeronautics and Astronautics students are satisfied with the quality of their course National Student Survey 2014

91%

We have specialist themes; choose the right one for you

No. 2

for Electrical and Electronic Engineering The Guardian University Guide, 2015

Electrical and Electronic Engineering graduate prospects Times University Guide, 2015

*QS World University Ranking 2013/14

The University of Southampton has a global reputation for academic excellence. We are one of the top universities in the UK for engineering, and have established a branch campus within the EduCity development in Iskandar Malaysia to enable more students to experience our worldclass education.

We have had the privilege of educating students from Malaysia for over 50 years and continue to welcome new undergraduate and postgraduate students to Southampton each year. We are fortunate to enjoy good links with Malaysia that span many disciplines and levels of education and research. We have excellent links with research universities including the University of Malaya. We also enjoy strong relationships with government schools, international schools and many colleges and university colleges.

We invite you to join our premier undergraduate engineering programmes and take the opportunity to study using some of the latest research facilities and equipment in the world, where you can put the theory you learn into practice and deliver real results.

Our split campus (UK and Malaysia) degree programmes offer the chance to gain a unique 'Southampton' education in Malaysia combined with the final two years at a world-class research-centred university in the UK. You will graduate with a degree from an internationally recognised university and experience higher education in the UK, yet spend part of the time nearer to home. The programmes of study are, as far as possible, the same as those of our UK-based provision and lead to the award of the same degrees.

The University of Southampton is registered as a Private Institute of Higher Learning by the Ministry of Higher Education Malaysia and our engineering programmes have been approved by the Malaysian Qualifications Agency and the Board of Engineers Malaysia.

This academic year (2014/15) we enter our third year of teaching; with our first cohort of students progressing to the UK campus where they will be experiencing our world-class research facilities and the UK culture. We invite you to study at the University of Southampton and take your place at the cutting-edge, among some of the most talented students and academics from around the world.

CHO

Professor John McBride, Chief Executive Officer

CHOOSE SOUTHAMPTON: A GLOBAL UNIVERSITY

Our Malaysia Campus in the EduCity@Iskandar development in Nusajaya, enables Southampton students to experience the University of Southampton's world-class education at 60 per cent of the cost of obtaining the same degree in the UK.

We have educated students from Malaysia for over 50 years and enjoy good links with East Asia which span many disciplines and levels of education and research. Our partnerships in the region include the University of Malaya, the Universiti Teknologi Malaysia, the National University of Singapore and Nanyang Technological University.

Join us to be part of a forward-thinking institution that upholds innovation and exploration at the centre of its education; join us to forge a successful global future.

- → Our alumni community is a rich, diverse network of former students that covers the globe
- → Our world-class academics are at the cutting-edge of their disciplines, bringing a positive impact to every continent
- ➔ Our business, government and non-government organisation partners span the globe
- → We are part of the Worldwide Universities Network, a collaboration of knowledge from around the world

THE SOLAR CHALLENGE

A team of students and staff from Electronics and Computer Science designed and built a solar- and electric-powered vessel to compete in and win the annual Solar Splash World Championships in the USA.

8 ARM



STEAM POWER

One of our student design projects led to the development of a steam-powered racing car to set a new world record

PENANG DELEGATION

A delegation from Electronics and Computer Science visited high profile companies in Penang to explore future links with the electronics industry and the EEE programme.

BRITAIN'S HIGHEST-RANKING SAILOR

Admiral Sir George Zambellas, First Sea Lord and Chief of Naval Staff is an Aeronautics and Astronautics graduate and is now Britain's highest-ranking sailor and the professional head of the Royal Navy.



ROBOTIC CHALLENGE

A team of our students from Electronics and Computer Science organise the annual Student Robotics competition to encourage sixth-form and college students to design, build and test autonomous robots

190,000

graduates can be found in **180** countries Student Robotics challenge attracts participants from across Europe

We have **322** partnerships in **54 countries** around the world

GLOBAL COMPETITION

Mechanical engineering students are helping to design and build the Southampton Formula Student car, ready to race against other universities from around the world

Find out more www.southampton.ac.uk/ global

CHOOSE SOUTHAMPTON: DESIGN YOUR OWN EDUCATION

Your courses are developed and taught by world experts

Your course offers you breadth as well as depth

- ➔ Be independent and shape your course
- As well as attending lectures and seminars, you can access many lectures and learning resources on the move
- ➔ We work with you to make programmes more flexible
- Employers are actively involved in shaping your degree programme





OUR PEOPLE

Southampton people have a passion to change the world through their research and collaborations with global partners

- Our lecturers are highly qualified and push the boundaries of knowledge with their research
- You are taught differently; our research informs your education
- Studying with our world-leading academics gives you an edge
- You are involved with important research as it unfolds
- ➔ Join us and share our knowledge to gain your advantage

PROFESSOR SIR DAVID PAYNE PIONEERING OPTICAL FIBRES

Professor and graduate from Southampton, Sir David Payne, and his team developed the optical fibres that formed the basis of the internet

PROFESSOR MARK FRENCH

PROFESSOR OF MATHEMATICAL CONTROL THEORY*

MA, PhD University of Oxford University of Southampton

PROFESSOR NEIL STEPHEN

PROFESSOR OF STRUCTURAL MECHANICS*

> BTech, PhD Loughborough University of Technology University of Exeter



DR MIHAI ROTARU

ASSOCIATE PROFESSOR IN ELECTROMAGNETICS†

> BEng, MSc, PhD Technical University Cluj, Romania University of Southampton



DR PU SUAN HUI

ASSISTANT PROFESSOR

MEng, PhD Imperial College London

DR JOHN ATKINSON

READER IN ELECTRO-MECHANICAL ENGINEERING

> BSc (Hons), PhD University of Essex University of Southampton

Find out more www.southampton.ac.uk/ people Join in the conversation:

#myambition

* Associate Dean (Education), Faculty of Physical Sciences and Engineering **Head of Academic Affairs at our Malaysia Campus † Programme Leader for Electrical and Electronic Engineering at our Malaysia Campus

OUR PEOPLE CONT.

PROFESSOR DAME WENDY HALL

GLOBAL CONNECTIONS

Professor and graduate from Southampton, Wendy was one of the first scientists to carry out serious research in multimedia, hypermedia and the Web.

DR JO-HAN NG

ASSISTANT PROFESSOR BEng (Hons), PhD

University of Nottingham

DR WILLIAM CHONG

ASSISTANT PROFESSOR

BEng (Hons), MSc, PhD Cranfield University, UK



TAI JEI SEE MEng MECHANICAL ENGINEERING STUDENT

2 times recipient of prestigious Lloyd's Register Foundation scholarship



ASSOCIATE PROFESSOR IN ELECTRONIC AND SOFTWARE SYSTEMS*

BEng, PhD University of Southampton

Find out more www.southampton.ac.uk/ people Join in the conversation: #myambition

PROFESSOR JOHN SHRIMPTON

PROGRAMME DIRECTOR FOR AERONAUTICS AND ASTRONAUTICS

BEng(Hons), PhD, DSc, Chartered Engineer (C.Eng.), Fellow of I.Mech.E (F.I.Mech.E) University of Birmingham University of Manchester

*Senior Admissions Tutor for Electrical and Electronic Engineering



WHAT'S YOUR ANBITONS TO IMPROVE ISSUES FACED BY OPERATORS AND AIRLINES WORLDWIDE

Nicole Gregory

Aerospace Support Engineer, Rolls-Royce Deutschland

MEng Aeronautics and Astronautics graduate, Nicole Gregory, is now working as an Aerospace Support Engineer for Rolls-Royce Deutschland, based near Berlin in Germany.

Nicole's job involves supporting a fleet of around 5,500 aircraft engines in service with specific responsibility for a number of different engine systems and components.

Her job alters from day-to-day as she reacts to the problems faced by operators and airlines worldwide, from investigating electrical faults to looking at the aerodynamic and stress impact of foreign object damage on compressor blades.

Find out more

about Nicole's Southampton Opportunity - and the one that could be waiting for you - visit www.southampton.ac.uk/ dreamcv Join in the conversation: #myambition



WHAT'S YOUR

TO STIMULATE WORLD FIRSTS IN ELECTRONICS

Marc de Vos

BEng Electromechanical Engineering, 2013; PhD Electrical and Electronic Engineering, second year

Marc graduated with a BEng in Electromechanical Engineering and is now working towards a PhD in Electrical and Electronic Engineering, focused on light emitting smart fabrics.

Having chosen Southampton for its excellent league table position for electronic and electrical engineering, Marc says his decision to continue at the University was based on "the excellent undergraduate teaching combined with world-leading research in fields such as energy harvesting and smart fabrics".



TON?

🖙 Find out more

about Marc's Southampton Opportunity - and the one that could be waiting for you - visit www.southampton.ac.uk/ dreamcv Join in the conversation: #myambition



WHAT'S YOUR AND DOD 2 TO IMPROVE HIP IMPLANTS FOR YOUNG PEOPLE

Alex Dickinson

MEng Mechanical Engineering, 2006; PhD Biomechanics, Bioengineering Science, 2010

Alex Dickinson graduated with an MEng in Mechanical Engineering in 2006, and a PhD in Biomechanics, Bioengineering Science in 2010.

After completing his PhD, Alex managed a collaborative research 'Knowledge Transfer Partnership' in the development of novel hip replacement implants for young patients working with the University and Finsbury Orthopaedics.

Now a Senior Research and Development Engineer at Aurora Medical and a Research Fellow at the University, Alex has received a number of awards in recognition for his pioneering research.

ሱ Find out more

about Alex's Southampton Opportunity - and the one that could be waiting for you - visit www.southampton.ac.uk/ dreamcv Join in the conversation: #myambition

YOUR STUDENT EXPERIENCE

We have seven campuses – five in various locations around Southampton, one in nearby Winchester and our campus in EduCity@lskandar, Malaysia.

Malaysia

Our branch campus is set within EduCity@Iskandar, in Nusajaya, Malaysia, a dedicated hub, 1km east of the Gelang Patah Interchange on the main Second-Link Expressway.

In the heart of Malaysia's economic zone, we are 8km from the Second Crossing Bridge to Singapore.

Singapore's regional aviation hub, Changi International Airport, is a 60-minute drive away and we are just 30 minutes from Senai International Airport.

The state-of-the-art EduCity development comprises international universities, schools and colleges, including the University of Reading, Multimedia University, Management Development Institute of Singapore, Newcastle University Medicine Malaysia and Netherlands Maritime Institute of Technology as well as leisure and sports facilities.

Student life in Malaysia

We offer a wide range of facilities and services so that you can make the most out of your student life.

- Stay in modern living accommodation
- Socialise in cafés and restaurants in the local area
- Worship in the prayer room provided for Muslim students

- Study in the study space and computing suites
- Gain experience in individual teaching laboratories for thermodynamics and fluids, materials, control and structures, electrical engineering and electronic engineering
- Use the exceptional physical recreation and sports facilities at EduCity
- Join in and play a sport at the impressive sports stadium with pitches for ball sports and field events

UK

Our engineering academic activity is based at the heart of the University's Highfield Campus, which is set in green and pleasantly landscaped surroundings, just a short bus ride from the centre of Southampton.

There are a range of facilities on campus including restaurants, banks and a Post Office, as well as a chaplaincy for all faiths and a prayer room for Muslim students.



CCI joined the basketball club on campus and whenever we have free time, we will have a friendly match. It is a good opportunity to meet people.**?**

Alan Tan Kay Meng MEng Mechanical Engineering









Student life in the UK

Run by students, for students, SUSU, our Students' Association offers you a wide range of services and opportunities to get involved.

- Experience Freshers' and Welcome at the University - nearly two weeks full of activities to help you settle in
- Discover a new talent: try some of our 78 sports clubs from archery to taekwondo
- Join one of our 180 societies from cake decorating to yoga

Other University facilities available to you include:

- Use our £8.5m indoor sports complex, with a six-lane 25 metre swimming pool, 170 fitness stations and an eight-court badminton sports hall
- Play sports at our 76-acre outdoor site with 20 pitches for hockey and football, and floodlit tennis courts

- Help local people: get involved in community volunteering projects and fundraising
- Socialise with friends in one of our bars or cafés on our campuses
- Enjoy live music and comedy nights
- Catch a film in our 330-seat cinema
- Become a DJ or director at Surge Radio and SUSUtv
- Try out journalism for the Wessex Scene or The Edge magazines
- View art exhibitions at the John Hansard Gallery, watch a play at the Nuffield Theatre or listen to anything from jazz to classical music at Turner Sims, all on campus

Find out more www.southampton.ac.uk/ undergraduate/studentlife

ACCOMMODATION

We offer modern, spacious and safe living accommodation in close proximity to our campuses in Malaysia and the UK. There are a variety of options to suit your personal budget.

Guaranteed accommodation

You are guaranteed an offer of university accommodation in your first year at our campus in Malaysia, which will help you settle into university life. You are welcome to apply to remain in University accommodation for your second year while you are studying in Malaysia but we cannot guarantee a place.

You are also guaranteed an offer of University accommodation for both years spent studying in Southampton. Please note you will need to fulfil the criteria of our guarantee which includes applying in January of your first year in Southampton. Our accommodation guarantee does not extend to family accommodation, but if you are coming to the University to study as part of a couple or a family, we can still offer you support in finding accommodation in Southampton and we may be able to offer you university-owned accommodation. For more information on our guarantee visit www.southampton.ac.uk/ accommodation/apply/guarantee.html

Malaysia accommodation*

The Malaysia Campus offers self-catering accommodation in a variety of options, including en suite single bedrooms, twin bedrooms with en suite and four/five-bed accommodation with a shared bathroom, all within EduCity's International Student Village (ISV). Accommodation is split into male/female wings accordingly. Apartments are also available to book, comprising single, two and three bedrooms. These have a living area and cooking facilities.

The ISV is just a few minutes stroll from our campus and is in a safe and secure environment with CCTV surveillance and a security guard post. The ISV comprises 646 beds in total, including hostel rooms and apartment units. You will have the opportunity to mix with students from other institutions that share the EduCity campus. All rooms have an internet connection and there are kitchen facilities on each floor comprising a fridge, microwave and water dispenser as well as a cafeteria on the ground floor.

The ISV also offers impressive shared social spaces, including a sports area, general seating areas, and TV room as well as the picturesque roof terrace with views of the surrounding area. Other facilities include a launderette, cafeteria, a sundry shop, as well as a prayer room for Muslim students.

Typical room fittings and furnishings include:

- Individual bed frame and mattress; wardrobe; study table and chair
- Ceiling fan(s) and light(s)
- Window curtains
- En suite/shared
- bathroom

How to apply for accommodation

Applications for accommodation will be possible once you have received your offer letter. You will receive a University of Southampton student ID number along with your offer letter, which you will need to apply. For more information and to apply, visit www.southampton.edu.my/accommodation

You must submit your application for accommodation by the deadline of 1 August 2015 to be guaranteed accommodation. You will be given further information on how to apply for accommodation in Southampton during your second year of study.

JANUARY/ FEBRUARY 2015

Accommodation application opens and goes live online

APPLICATION

TIMELINE

1 AUGUST 2015

New students must have applied for accommodation before this date

MIDDLE OF AUGUST 2015

After A level results, allocation of rooms to all students begins

MIDDLE OF SEPTEMBER 2015

19 SEPTEMBER 2015

International students: Meet

and greet at Senai International

Airport, Johor and check-in to

accommodation

Allocation of rooms completed

22 SEPTEMBER 2015

Malaysian students: Arrival and check-in to accommodation

- Dryingyard

- Washing machine (apartments only)
- Fridge (apartments only)
- Air-conditioning
- Water heater

20



ISV Accommodation Breakdown*

Hostel

Room type	Rental p/m (RM)	Limit of electricity usage p/pax (RM)	Rental deposit p/pax (RM)	Total Initial Fee Payable (3 Months + 1 Month Deposit) (RM)
Single en suite	889	50	889	3,556
Twin sharing	681	50	681	2,724
4 sharing	474	50	474	1,896
5 sharing	589	50	589	2,356

Apartment

Room type	Rental p/m (RM)	Limit of electricity usage p/pax (RM)	Rental deposit p/pax (RM)	Total Initial Fee Payable (3 Months + 1 Month Deposit) (RM)
Single Apartment - (Twin Sharing)	1,300	50	1,300	5,200
2 Rooms Apartment - Room 1 (Twin sharing)	920	50	920	3,680
2 Rooms Apartment - Room 2 (Single)	1,360	50	1,360	5,440
3 Rooms Apartment - Room 1 or Room 2 (Twin sharing)	781	50	781	3,124
3 Rooms Apartment - Room 3 (Single)	1,000	50	1,000	4,000

Students need to pay the additional usage of electricity beyond the approved limit.

Deposits will be charged for 1 month = Type of room (Rate) + Air conditioner = RM 100, Water Heater = RM 50 Payment should be made directly into the following account: Account name: Educity Iskandar Malaysia Sdn Bhd Account Number: 8001-064774 Bank Name: CIMB Bank Berhad Swift Code No: CIBBMYKL *Accommodation details are correct at time of print. For the latest information on accommodation,

visit www.southampton.ac.uk/my/accommodation



UK ACCOMMODATION

Our UK campuses have more than 20 halls of residence available for students in safe, secure and professionally managed accommodation, including from 2014, over 1,000 new rooms in a new accommodation complex. All study bedrooms have their own telephones and high-speed internet connection. A unilink bus pass and utility costs are included in your halls fees.

In Southampton, we have a range of different room types to suit your personal budget and preferences, including catered and self-catered options. Our halls have a variety of facilities, which may include common rooms, music rooms, computer rooms, barbeque areas and gyms. All have 24-hour security and CCTV as well as launderettes. Our Residences Support Service provides an all-night service of support and advice, working alongside the Residences Team during daytime hours ensuring continuity of support every day of the year.

For the academic year 2014/15, weekly room rates for UK accommodation range from £85.89 to £141.60 (RM463 to RM764) for self-catered accommodation and from £131.32 to $\pounds 154.63$ (RM708 to RM834) for catered accommodation.

To find out more about accommodation in Southampton, visit www.southampton.ac.uk/ accommodation

Access for all

At the University of Southampton we welcome students with disabilities, sensory impairments and health conditions and we recognise that making sure you have appropriate accommodation is very important.

There is disabled access around all our UK campuses. If you have particular needs, contact our Enabling Services team who can provide support, information and advice to ensure that we provide accommodation that meets your needs.

These fees and currency conversions are valid as of June 2014

Find out more www.southampton.edu.my

T: +607-560 2560 (Malaysia) **T:** +44 (0)23 8059 9699 (UK)

E: malaysia@southampton.ac.uk

STUDENT SUPPORT

Students from more than 130 different nations currently study with us and our network of university partnerships spans the globe.

We offer a range of services through our Student Services Centre in the UK. This Centre provides information, advice and guidance on a comprehensive range of services designed to support your student experience throughout your time at the University.

Financial information and assistance

We will support you in identifying funding opportunities and also give you advice about banking in the UK for when you transfer to Southampton.

University Residences

We will support you in applying for residence at our UK halls of residence.

Enabling Services

The University of Southampton is committed to providing a range of quality services and support for students with physical or emotional disabilities and specific learning difficulties. This service will be offered to students at the Malaysia Campus and in the UK.

First Support

The team is the first point of call for students in emergency situations such as sudden illness, personal injury, bereavement or personal crisis and is available when you transfer to Southampton.

Counselling Service

The Centre runs a confidential counselling service for students with emotional issues such as homesickness, bereavement, debt crisis.

Career information

Students at the Malaysia Campus will have access to online resources and guidance material. We also offer a range of support through Career Destinations when you transfer to the UK, ranging from careers fairs, work-based learning opportunities and a range of workshops to develop your skills for graduate employment.

Meet Us

Visiting the University is a great opportunity to see the campus and find out what it's really like to live and study here. Find out when our Open Days are by visiting www.southampton.ac.uk/my/ undergraduate/open_days.page Staff from the University's

International Office make numerous visits overseas each year, including pre-departure information briefings. Face-to-face contact is the best way of getting to know the University if you can't actually visit us here. For a list of events we will be attending in the future, see www.southampton.ac.uk/ international/join_us/meetus.html

Meet and Greet

Our Meet and Greet service at Kuala Lumpur International Airport will help make your journey to our Malaysia Campus as simple and stress-free as possible. To ensure that a member of staff from the University is there to meet you, inform the University of Southampton Malaysia Office seven working days before you travel.

Transition to UK

We provide comprehensive guidance to students moving from our Malaysia Campus to our Southampton Campus for your third year of study. These include a key activities timetable to guide you through each step of your journey, a buddy scheme to help you settle into life in the UK and advice on applying for visas and opening bank accounts.

Meet and Greet

Our Meet and Greet service from London Heathrow Airport is free of charge and is designed to get you to Southampton in time for the Welcome Programme.

Welcome Programme

In September each year our Welcome Programme takes place that is designed to help students settle in to life at the University.

Pastoral support

We recognise that university life is not just about your studies. You will be assigned a personal tutor who can provide help and support on academic and personal issues.

Find out more www.southampton.edu.my

T: +607-560 2560 (Malaysia)

T: +44 (0)2380599699 (UK)

E: malaysia@southampton.ac.uk

ADRIAN NEWEY RACING ACROSS THE WORLD

Southampton graduate Adrian Newey, Chief Technical Officer at Red Bull Racing, takes his talent across the world with the Grands Prix



C ECS is the best place to develop as a student and individual, offering unrivalled support in education and providing opportunities over and above that of other schools, both in the UK and worldwide.

Josef Capindale

MEng Electronic Engineering 2013; Now part of the ExxonMobil Future Leaders Graduate Scheme

CHOOSE SOUTHAMPTON: SHAPE YOUR FUTURE

A unique tailored approach to learning: that's the Southampton Opportunity.

Our degrees are highly valued by employers and will equip you with the skills to operate globally:

- We prepare you for future challenges not yet imagined and jobs not even thought of
- We encourage you to engage actively in your professional development
- We are one of the top 30 UK universities for starting salaries according to The Sunday Times University Guide, 2014
- → We are among the top 20 UK universities targeted by the top 100 UK graduate recruiters*
- → In the most recent Destinations of Leavers from Higher Education survey, for graduates whose destinations were known, 93.4% were in employment or further study 6 months after leaving the University of Southampton**
- → Electronics and Computer Science run an annual Careers Fair (85 companies attended in 2014) and support a full programme of employer visits and student conferences. We aim to increase your awareness of career opportunities, prepare you to find the job you want, and raise your aspirations of future achievement.

We give you the opportunity to:

- Take advantage of our commercial partnerships via work placements, internships and volunteering in the UK
- Gather evidence of your achievements through our programme of personal development to complement your academic study, while in the UK
- Network with top employers at our careers events in the UK
- → Get advice from our graduates about future careers
- Specialise further with one of our postgraduate courses and gain a more in-depth knowledge of your subject, and realise your ambitions

Find out more

To learn how your Southampton Opportunity can get you ready for employment, visit www.southampton.ac.uk/dreamcv

Companies that employ our Aeronautics and Astronautics graduates:

AgustaWestland Land Rover Airbus Lockheed Martin Aston Martin OinetiO **BAE Systems Red Bull Racing** Boeing **Rolls-Royce British Airways** Siemens Dyson DSTL EADS Astrium ESA Jaguar

Companies that employ our Mechanical Engineering graduates:

Airbus UK AWE BAE Systems BP Dyson GE Aviation IAC Aviation Jaguar Johnson Matthey Lloyds TSB McLaren Racing

Mercedes-Benz MOD Qinetiq Rolls-Royce Schlumberger

ARM Audi BAE Systems BBC Bloomberg Cisco Facebook Goldman Sachs

Google

Altera

Apple

Companies that employ our Electrical and Electronic Engineering graduates:

IBM Imagination Technologies Intel Jaguar Land Rover J P Morgan McLaren Microsoft Motorola Samsung Sony

* High Fliers Research, 2014

** The Sunday Times University Guide 2014

WHY Southampton

Choose Southampton

- Southampton is in the top one per cent of universities in the world*
- We are in the top 20 UK universities** and a founding member of the Russell Group of research-intensive UK universities
- Southampton is number two in the UK for Mechanical Engineering†
- Southampton is number two in the UK for Electrical and Electronic Engineering[†]

At Southampton:

- our research directly informs your education
- our programmes are highly ranked in every major league table in the UK and worldwide
- you can expect to be taught and supervised by researchers who lead in their discipline
- you can learn about the latest world-changing research from the people who are creating it

C The best parts of my course are the world-class professors and lecturers teaching the courses, the excellent support system and plenty of opportunities to participate in activities. 20

Chew Hong Ye

MEng Mechanical Engineering

*QS World University Rankings 2013/14 **Complete University Guide 2015 †The Guardian University Guide 2015

Electronics and Computer Science (ECS)

With over 100 academic staff, ECS covers electrical power engineering, electronics and computer science. It is one of the leading places in the world to study and research electrical and electronic engineering.

- Our industry partnerships include: ARM, BAE Systems, Bloomberg, GE (General Electric), IBM, Imagination Technologies and JP Morgan
- We have an outstanding reputation for establishing spin-off companies to further develop our research findings

In the UK, you will have access to our unrivalled facilities with state-of-the-art, industry-standard equipment housed in our superb laboratories:

- The Zepler Building: contains the undergraduate teaching and project laboratory for electronics and electrical engineering together with extensive computing facilities. Our state-of-the-art electrical and electronic teaching laboratories are equipped to a professional standard for all areas of digital and analogue electronics, photonics, power engineering and robotics
- The Mountbatten Building: houses one of the world's leading cleanroom laboratory complexes for materials and device research in diverse fields ranging from electronics and MicroElectroMechanical Systems (MEMS) through photonics to bionanotechnology
- The Tony Davies High Voltage Laboratory: one of only a handful of similar facilities in Europe. It contains a full range of equipment to support research and consultancy in high voltage engineering

We are investing RM2 million in replicating our state-of-theart electrical and electronic teaching laboratory facilities in Malaysia.

Take a virtual visit to www.usmc-visit.ecs.soton.ac.uk to discover more about Electrical and Electronic Engineering within ECS.

Engineering and the Environment

We have one of the largest engineering faculties in the UK and Southampton is regarded as a top university for engineering. By working closely with industry, we ensure our students are ready to tackle tough engineering challenges.

- We have some of the world's strongest industrial links across the aerospace, automotive, defence and general engineering sectors
- Our industry partnerships include: Airbus, Rolls-Royce, Microsoft and Formula 1

In the UK you will have access to world-leading engineering facilities:

- The Southampton wind tunnel complex consists of several wind tunnels of various sizes which are available for student aerodynamics project work and for commercial use. It is the largest facility in the UK available for commercial use and has been used by most of the current Formula 1 (F1) teams, aircraft, train, cycling and high-performance car manufacturers for aerodynamic testing since the 1980s. Recent tests include working with UK Sport and the British Cycling team. We helped British Cycling win seven gold medals in the London 2012 Olympics.
- We have design studios, which include power tools, hand tools and 3D printers, where students can design and make items in wood, metal and plastics.
- Students have access to the Engineering Design and Manufacturing Centre (EDMC) which is a professional engineering workshop, staffed by qualified technicians.
- We have computer labs with fast computers where students can learn to use a range of software packages including CAD, FEA, CFD and a variety of modelling and simulation tools.
- Students are able to conduct projects within our research facilities which include:
- Transport and Structures Research Laboratory
- Biomechanics lab
- Materials characterisation facilities
- Electromechanical laboratory
- Cryogenics laboratory
- Energy storage laboratory
- g-Vis imaging facility
- Engine test cell

🕞 Find out more

www.southampton.edu.my

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T: +44 (0)23 8059 9699 (UK)

E: malaysia@southampton.ac.uk

COURSE OVERVIEW

Aeronautics and Astronautics

Choose Southampton

- Mechanical engineering, including aerospace engineering is ranked second in the UK by The Guardian University Guide 2015 and the Sunday Times Good University Guide 2014
- ➡ BAE Systems' preferred course in the UK
- MEng programmes fully meet the academic requirement for registration as a Chartered Engineer
- Flying opportunities through the Students' Association or University Air Squadron
- ➔ 91 per cent of our students are satisfied with the quality of their course, National Student Survey, 2014

90%

of students are in work or study six months after graduation DHLE, 2013



specialist themes: choose the right one for you

Test pilot your designs in our flight simulator

Aeronautics and Astronautics brings together advanced engineering across a range of disciplines with applications in air vehicle specification, design and construction.

One degree, two countries

Our four-year, split-campus degree enables you to study our MEng Aeronautics and Astronautics programme in both the UK and Malaysia. The split-campus programme is identical to that offered in the UK and provides the same format and opportunities to study. You will graduate with a degree from an internationally-recognised university, experience higher education in the UK and spend part of the time nearer to home.

Accreditation

Accredited by the Royal Aeronautical Society (RAeS) and the Institution of Mechanical Engineers (IMechE) on behalf of the Engineering Council for the purposes of fully meeting the academic requirement for registration as a Chartered Engineer.

Programme structure

The first two years of our courses provide a solid, focussed, foundation for the design and operation of air vehicles and spacecraft. You will follow a core set of modules before specialising in your chosen area in the third and fourth years.

Years one and two in Malaysia

During your first two years at our Malaysia Campus, you will concentrate on the fundamentals of engineering and gain the skills and understanding required to use information technology in an engineering context.

Years three and four in the UK

In year three, you will study a number of core modules but also have the opportunity to tailor your studies to fulfil your individual aspirations.

You will also undertake an individual project that usually takes the form of a design or research exercise, which is often sponsored by industry.

In year four, you will undertake group project activities in addition to optional subjects.

Further information

For information on modules available in Years 1 and 2, visit: www.southampton.ac.uk/my/ undergraduate/courses.page

For information on modules available in Years 3 and 4, visit: www.southampton.ac.uk/ engineering/aero

MEng Aeronautics and Astronautics

Degree | UCAS code | Duration

MEng Aeronautics and Astronautics | H400 | 4 years

This programme is aimed at students who wish to pursue technically demanding careers in the aerospace industries or research. You will study a more extensive range of aerospace subjects than in the BEng. Design, systems studies and individual/group project activities are an integral part of the course and reflect the multidisciplinary nature of aerospace engineering. In year three, you will have the opportunity to spend one semester at a partner institution in France or Sweden.

MEng Aeronautics and Astronautics /Aerodynamics | H400 | 4 years

This programme focuses on aerodynamics theory and practice for the design of vehicles, wings and propulsion systems. It provides excellent preparation for aerodynamics design and research for both the aerospace and F1 industries.

MEng Aeronautics and Astronautics / Airvehicle Systems Design | H400 | 4 years

This programme focuses on aeronautic topics, with a particular emphasis on helicopters and fixed-wing aircraft, engine design, unmanned air vehicles and avionics. Using a complete vehicle systems approach, you will also learn about modern design, search and optimisation techniques.

MEng Aeronautics and Astronautics / Computational Engineering Design | H400 | 4 years

On this degree programme, you will learn about the role of computational

methods in aeronautics and astronautics and have the opportunity to apply these cutting-edge methods to new and emerging design challenges. This programme provides an excellent preparation for many aeronautics and astronautics research areas and for a role as a professional engineer. The first two years are identical to the BEng and MEng Aeronautics and Astronautics. In years three and four, you will study specialist modules including Aircraft Design, Advanced Computational Methods, Advanced Finite Element Analysis, Applications of Computational Fluid Dynamics, Design Search and Optimisation, Systems Reliability, and Finite Element Analysis in Solid Mechanics.

MEng Aeronautics and Astronautics / Engineering Management | H400 | 4 years

This innovative programme is designed to enable professional engineers to progress quickly into key management positions in the aerospace industry. You will develop the technical skills to understand, design and manufacture new products, and the expertise to manage the process, people and finances.

MEng Aeronautics and Astronautics / Materials and Structures | H400 | 4 years

This programme focuses on the design of aerospace structures and selection of materials, demonstrating how materials behave in service and the reasons why they sometimes fail. You will have opportunities to examine a number of case studies in collaboration with our industrial partners. Specialist modules will enable you to develop your skills in the structural analysis of aircraft and spacecraft. This degree is excellent preparation for engineering design and research in this field.

MEng Aeronautics and Astronautics / Semester Abroad | H400 | 4 years

This programme enables you to study at one of our partner institutions in Europe or North America for one semester during year three. All tuition is conducted in English and you do not pay any additional tuition fees. The details of the programme depend on whether you spend semester one or two of year three abroad.

MEng Aeronautics and Astronautics /Semester in Industry | H400 | 4 years

This programme offers a significant industrial element, enhancing your awareness of the needs of the industrial sector and the technologies used and providing you with the opportunity to learn about the practical application of aerospace engineering skills. The first two years are identical to the BEng and MEng Aeronautics and Astronautics. In your third year, you will carry out an industry-themed project while undertaking a placement from July at the end of the second year to December. During this period, you will take Aerothermodynamics and Aerospace Control Systems as distance-learning modules. During the remainder of your third and fourth years, you will also study specialist modules such as Engineering Design, Aircraft Design or Concurrent Spacecraft Design, Wing Aerodynamics or Spacecraft Systems and Design, Finite Element Analysis in Solid Mechanics or Accounting and Finance for Engineers.



MEng Aeronautics and Astronautics / Spacecraft Engineering | H400 | 4 years

This degree is aimed at students who are interested in pursuing a career in the spacecraft industry or undertaking spacecraft-related research. It offers great flexibility for graduates in terms of future career options in the aerospace industry. While retaining the breadth of the MEng Aeronautics and Astronautics programme, in years three and four the emphasis is on the overall system design of spacecraft. **CCI** loved learning about the electronics involved and found the project really interesting.**??**

Anthony Lewis

MEng Aeronautics and Astronautics / Spacecraft Engineering

Typical course content

- Aerodynamics
- Aerospace and structural design
- Aircraft dynamics, propulsion and structures
- Astronautics and spacecraft engineering
- Avionics
- Materials engineering
- Mathematics
- Mechanics of flight
- Modelling and computing
- Optional modules that allow you to tailor your studies to your interests

Career opportunities

There are exciting career opportunities in some of the world's leading companies, including F1, BAE Systems, Siemens, NASA, Lockheed Martin and Rolls-Royce. Our graduates have gone on to careers in race car design, civil and military aerospace, systems engineering and research. Our degrees are also excellent preparation for careers in many non-aerospace industries, particularly the commercial sector.

Key information

Our standard offers are listed below but where we have places available, students may be admitted with slightly lower grades

A levels: A*AA in Maths, Physics (A*in either) and one other (except General Studies and Critical Thinking)

IB: 38 points overall, 18 at Higher Level, including Maths and Physics

Sijil Tinggi Persekolahan Malaysia (STPM): AA in Maths and Physics plus A in one other

Unified Examination Certificate (UEC) - Senior Middle Level:

Minimum **5 As** including Maths I and II and Physics (not including Art, Chinese, Malay)

Diploma in Mechanical Engineering (Aeronautics), Universiti Teknologi Malaysia (UTM): First year entry with minimum GPA of 3.4

Monash University Foundation

Year: Minimum of **310 overall** with 80 per cent average in Maths and Physics, and subject to attending an extended technical induction programme

English language qualifications:

IELTS 6.5 overall with at least 5.5 in each competence. For other qualifications accepted, visit www.southampton. ac.uk/admissions_language

Application process: Apply via UCAS or apply directly via our website www.southampton.ac.uk/usmc_apply

Our typical entry requirements may be subject to change. Before you apply, please visit http://www.southampton.ac.uk/ my/undergraduate/apply/entry_ requirements.page?

Find out more

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 T: +44 (0)23 8059 9699 (UK)

 E: malaysia@southampton.ac.uk

 C: To download brochure

 www.southampton.edu.my

CHANGE THE WORLD

Designing a human powered aircraft

Aeronautics and Astronautics students have designed and constructed their own human-powered aircraft for their Group Design Project. Southampton University Human Powered Aircraft (SUHPA) was designed in celebration of the 50th anniversary of the first human powered aircraft SUMPAC which was also designed by University of Southampton students.

Find out more www.southampton.ac.uk/ researchfacilities

thampton

COURSE OVERVIEW

Electrical and Electronic Engineering

Choose Southampton

- Southampton is ranked number two in the UK by The Guardian University Guide, 2015 for electrical and electronic engineering
- ➔ £110m state-of-the-art interdisciplinary clean room, high-voltage laboratory, and outstanding undergraduate lab facilities in the UK
- → 97 per cent of research deemed world class or of international standing (RAE, 2008)
- ECS students ranked 21st in the world in the IEEEXtreme global programming competition
- MEng Electrical and Electronic Engineering programme provides direct route to Chartered Engineer (CEng) status

6%

score for graduate prospects - 3rd in the UK The Times Good University Guide, 2015

TOP 3

for electrical and electronic engineering for six years running *Complete University Guide,* 2010-2015 Electrical and Electronic Engineering influences many aspects of modern life ranging from energy, healthcare, entertainment and commerce, to communications, manufacturing and the environment. Electrical and Electronic Engineering is a challenging and evolving subject that is relevant to a wide range of industries, including the power sector and the electronics industry.

At Southampton, you will gain a broad spectrum of knowledge and skills required to work in the technology sector, but also the wider range of competencies needed by today's professional engineer. This breadth of knowledge is developed using a systematic approach to most subjects - blending the core technical syllabus with ongoing design exercises that run throughout the programme. In Electronics and Computer Science (ECS), you will use some of the most advanced teaching facilities in the world, you will put the theory you have learned in lectures into practice and deliver real results.

One degree, two countries

Our four-year, split-campus degree enables you to study our MEng Electrical and Electronic Engineering programme in both the UK and Malaysia. The splitcampus programme is identical to that offered in the UK and provides the same format and opportunities to study. You will graduate with a degree from an internationally-recognised university, experience higher education in the UK and spend part of the time nearer to home.

Accreditation

Our MEng Electrical and Electronic Engineering programme is accredited by the Institution of Engineering and Technology (IET) and provides a direct route for entry to Chartered Engineer (CEng) status. This accreditation is recognised by engineering boards around the world, including the Board of Engineers Malaysia, through established international agreements, such as The Washington Accord.

Programme structure

We employ a combination of formal and special lectures, tutorials, classes, laboratory experiments, coursework and individual and group projects. Practical laboratory work forms an essential part of our degree programmes, providing opportunities to get to grips with key equipment in our world-class facilities and improve critical skills and judgement. We will also help you to develop key skills including written and oral presentation skills.

The teaching is structured on a semester pattern. The academic calendar will follow that of our UK campus and will comprise two semesters commencing at the end of September and January, with examinations at the end of January and May.

Years one and two in Malaysia

During your first two years at our Malaysia Campus, you will concentrate on the fundamentals of electrical and electronic engineering with an increasing emphasis on design as the course progresses.

Years three and four in the UK

In your third year of study, you will have the opportunity to specialise or retain a broad-based study path through a wide selection of 60 subject modules. You will also undertake an individual design or research project based in a research group in ECS. Third-year projects from ECS have led to commercialisation and to publication in journals and conferences.

In the fourth year, MEng students choose from a range of modules and work on a group design project, typically developed in conjunction with an industrial partner. The contribution of these projects is highly valued by the associated companies.

C The facilities at Southampton are first class. The laboratories are well-equipped with virtually everything you could ever need. 3D printing, PCB design tools and high frequency digital oscilloscopes are just some of the tools available.**??**

Thomas Smith

MEng Electronic Engineering with Power Systems

Further information

For information on modules available in Years 1 and 2, visit: www.southampton.ac.uk/ my/eee

For information on modules available in Years 3 and 4, visit: www.ecs.soton.ac.uk/eee

MEng Electrical and Electronic Engineering

Degree | UCAS code | Duration

MEng Electrical and Electronic Engineering | HH67 | 4 years

Course Overview

Electrical and electronic engineering drives the fundamental technologies of today's connected world. Every area of our lives, from energy supply and transmission, medicine and healthcare to industrial applications, global trade, transport, communications, entertainment and security, is dependent on electrical and electronic technology. As a result, electrical and electronic engineering is now one of the fastest growing job fields in the world and skilled electrical and electronic engineers are very much in demand.

Course Content

At Southampton, we will ensure that you have a thorough grounding in a wide range of technologies. Our project work will enable you to acquire valuable skills in teamwork, project planning, time-management and presentation, applying your learning to design and build problems, and working to a brief. All of these will stand you in good stead as you move into your career.

Programme structure

This degree develops the technical and project management skills needed to become a leader in the electrical and electronics industry. It covers topics ranging from the technologies of electrical power and control to analogue and digital electronics and computing. The first two years will cover the breadth of electrical and electronic engineering. In years three and four, you can tailor your studies according to your interests through the wide range of option modules available, examples of which are listed below.

Typical course content

- Digital systems and microprocessors
- Electronic systems
- Solid state devices
- Electrical engineering design
- Digital systems
- Power electronics and drives

MEng Electrical and Electronic Engineering pathways

In your third and fourth year of the programme, while you are studying in the UK, you will be able to follow different pathways best suited to your interests. Typical pathways and modules studied within them are shown below.

Projects and Management:

- 3rd Year Individual project
- 4th Year Group Design Project
- Individual Research Project
- Engineering Management and Law
- Any other module from the University's Broadening Horizons programme.

Mathematics:

- Advanced PDEs
- Operational Research
- Transform Methods
- Optimisation
- Numerical Methods
- Statistics for Engineering Systems

Power Systems

- Power Systems Technology
- Electromechanical Design
- Power Systems Engineering
- Application of Electrical Materials
- High Voltage Engineering
- Electrical Machines
- Materials
- Power Systems Analysis
- Power Generation: Technology and

Impact on Society

- Transmission and Distribution
- Advanced Electrical Materials
- High Voltage Insulation Systems
- Power Electronics for DC Transmission

Digital and Analogue Electronics

- Digital IC and Systems Design
- VLSI Systems Design
- System-on-Chip Electronic Design Automation
- System-on-Chip Design Techniques
- Green Electronics
- Analogue and Mixed Signal Electronics
- Advanced Electronic Systems
- Medical Electrical and Electronic Technologies
- VLSI Design Project
- Analogue and Mixed Signal CMOS design
- Digital System Synthesis
- System-on-Chip Design Project

Computer Science/Software Engineering

- Cyber Security
- Machine Learning
- Real-time Computing and Embedded Systems
- Computational Biology
- Principles and Practice of Computer Graphics
- Safety-Critical Systems
- Advanced Computer Architecture
- Computer Engineering
- Evolution of Complexity
- Software Project Management and Development
- Advanced Computer Vision
- Advanced Machine Learning
- Automated Software Verification
- Computational Finance
- Secure Systems
- Cryptography

Nanotechnology and Photonics

- Nanoelectronic Devices
- Devices
- Microfabrication
- Advanced Memory and Storage
- Introduction to MEMS
- Microfluidics and Lab-on-a-Chip
- Bionanotechnology
- Nanofabrication and Microscopy
- Quantum Devices and Technology
- MEMS Sensors and Actuators
- Practical Applications of MEMS
- Biosensors
- Photonics
- Silicon Photonics
- Photonic Materials
- Plasmonics, Metamaterials and Nanophotonics

Communications and Control

- Signal and Image Processing
- Control System Design
- Robotic Systems
- Digital Coding and Transmission
- Wireless and Optical Communications
- Digital Control System Design
 - Radio Communications Engineering
- Wireless Networks
- Biologically-Inspired Robotics
- Image Processing
- Advanced Wireless Communication Networks and Systems
- Integrated RF Transceiver Design
- Personal Multimedia Communications
- Applied Control Systems

Key information

Our standard offers are listed below but where we have places available, students may be admitted with slightly lower grades

A levels: A*AA in Maths, Physics and one other (except General Studies or Critical Thinking)

IB: 38 points overall, 18 at higher level, including Maths and Physics

Sijil Tinggi Persekolahan Malaysia (STPM): AA in Maths and Physics plus A in one other.

Unified Examination Certificate (UEC) - Senior Middle Level:

Minimum **5 As** including Maths I and II and Physics (not including Art, Chinese, Malay)

Monash University Foundation

Year: Minimum of **310 overall** with 80 per cent average in Maths and Physics, and subject to attending an extended technical induction programme

English language qualifications:

IELTS 6.5 overall with at least 5.5 in each competence. For other qualifications accepted, visit www.southampton. ac.uk/admissions_language

Application process: Apply via UCAS or apply directly via our website www.southampton.ac.uk/usmc_apply

Our typical entry requirements may be subject to change. Before you apply, please visit http://www.southampton. ac.uk/my/undergraduate/apply/entry_ requirements.page?

Core modules

Year 1	Year 2
Digital systems and microprocessors	Control and communications
Electrical materials and fields	Electrical and electronic engineering design
Electronic circuits	Electromagnetism
Electronic systems	Devices
Mathematics 1	Digital systems and signal processing
Programming	Mathematics 2
Solid state devices	Circuits and transmission
Advanced programming	Power electronics and drives

Find out more

 T: +607-560 2560 (Malaysia)

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 E: malaysia@southampton.ac.uk

 To download brochure

 www.southampton.edu.my

Key information

Career opportunities

Employability is embedded in all stages of our degrees and we strive to ensure you get the career you deserve. A panel of representatives from major employers regularly meet to ensure our graduates have the required skills in this fast moving field. The technical skills you will obtain are in high demand, as are the skills of understanding and analysing problems, together with communicating the results. Our graduates have highly exciting career opportunities in some of the most advanced and leading companies in the world such as ARM, Samsung, Siemens, BAE Systems and Boeing.

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MEng Electrical and Electronic Engineering (cont.)



Innovative teaching

Our students enhance their practical skills in digital electronics by building and using our Micro Arcana family of four processing boards: Il Matto (8-bit Atmel microcontroller), Il Bagatto (Altera CPLD), La Papessa (Xilinx FPGA), L'Imperatrice (Freescale ARM9 applications processor). These boards have been designed in-house to enhance student learning and include similar capabilities to Arduino and Raspberry Pi. Once our students have built these boards, they are theirs to keep. They will use them as part of the taught programme and can use them in their personal projects.

Engineering the future

Studying Electrical and Electronic Engineering at the University of Southampton can provide an early boost to an exceptional career:

 100% of our BEng Electrical Engineering and Electronic Engineering graduates go onto professional and managerial positions or further study. (Unistats, 2014)

- The average starting salary for our Electrical Engineering and Electronic Engineering graduates in the UK is £29,000 (RM153,000)
- Final year student Tom Bell has used skills and knowledge learned on his MEng course in Electronic
 Engineering with Mobile and Secure Systems to write and publish the book, Programming for Everyday Life

 a beginners guide to the basics of programming in Python; programming for the Web; and using technology to create applications, services and tools that transform lives.
- Professor William Webb, Electronic
 Engineering graduate and visiting professor, has been appointed
 President of the Institution of
 Engineering and Technology (IET) – the accrediting body for our EEE degree
 and one of the world's largest
 organisations for engineers and
 technicians. He says the degree was the perfect start for him on a career in
 wireless communications, and his
 entire career direction can be traced
 back to his third-year Communications

World-class facilities

Our unrivalled world-class facilities are fitted with industry-standard equipment in superb laboratories.

The Mountbatten Building in Southampton is home to the £110m (RM586m) multidisciplinary cleanroom complex, one of the world's leading research facilities for nanotechnology and photonics. Third and fourth year students may also use the Tony Davies High Voltage Laboratory – one of only a handful of similar facilities in Europe and an active centre for research into dielectric materials, insulation systems and high voltage related phenomena.

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COURSE OVERVIEW

Mechanical Engineering

Choose Southampton

- Ranked second in the UK for mechanical engineering by The Guardian University Guide, 2015
- ➔ 96 per cent student satisfaction in the National Student Survey, 2014
- Degrees accredited by the Institution of Mechanical Engineers (IMechE) in the UK
- MEng programmes provide direct route to Chartered Engineer (CEng) status
- Prof. Suleiman Sharkh, Faculty of Engineering and the Environment presented with an ExxonMobil Award in 2013 in recognition of teaching excellence



of our students are satisfied with the quality of their course *National Student Survey, 2014*

We have



specialist themes: choose the right one for you

We have invested in a new state-of-the-art facility, which includes two 3D printers that allow students to take designs from CAD workstations and print fully functional prototypes

Mechanical engineering is vital to every aspect of our daily lives – you can see it at work all around you. It is a challenging and exciting subject that covers a wide range of technical activities, including the design of machines, manufacturing processes, medical engineering and microsystems technology. Here at Southampton, you will learn the skills required to work in the technology sector, but also the wider range of competencies needed by today's professional engineer. This breadth of knowledge is developed using a systems approach to most subjects – blending the core technical syllabus with ongoing design exercises that run throughout the programme.

One degree, two countries

Our four-year, split-campus degree enables you to study our MEng Mechanical Engineering in both the UK and Malaysia. You will graduate with a degree from an internationally recognised university, experience higher education in the UK and spend part of the time nearer to home.

Accreditation

Our MEng programmes provide a direct route for entry to Chartered Engineer (CEng) status and are recognised and accredited by the Institution of Mechanical Engineers in the UK. This accreditation is recognised by engineering boards around the world, including the Board of Engineers Malaysia, through established international agreements, such as The Washington Accord.

Programme structure

We employ a combination of formal and special lectures, tutorials, example classes, laboratory experiments, coursework and individual and group projects. Practical laboratory work forms an essential part of our degree programmes, providing opportunities to get to grips with key equipment in our facilities and improve critical skills and judgement. We will also help you to develop key skills including written and oral presentation skills.

The teaching is structured on a semester pattern. The academic calendar will follow that of our UK campus and will comprise two semesters commencing at the end of September and January, with examinations at the end of January and May. Each module is a selfcontained part of the programme of study and carries a credit rating.

Years one and two in Malaysia

During your first two years at our Malaysia Campus, you will concentrate on the fundamentals of engineering and gain the skills and understanding required to use information technology in an engineering context.

Years three and four in the UK

In year three you will study a number of core modules but also have the opportunity to tailor your studies to fulfil your individual aspirations.

You will also undertake an individual project that usually takes the form of a design or research exercise – often sponsored by industry.

In year four you have the opportunity to undertake group project activities in addition to optional subjects.

For information on modules available in Years 1 and 2, visit: www.southampton.ac.uk/ my/undergraduate/courses/ mechanical_engineering.page

For information on modules available in Years 3 and 4, visit: www.southampton.ac.uk/ engineering/mech

Key information

Our standard offers are listed below but where we have places available, students may be admitted with slightly lower grades

A levels: A*AA in Maths, Physics (A* in either) and one other (except General Studies and Critical Thinking)

IB: 38 points overall, 18 at higher level, including Maths and Physics

Sijil Tinggi Persekolahan Malaysia (STPM): AA in Maths and Physics plus A in one other

Unified Examination Certificate (UEC) – Senior Middle Level: Minimum **5 As** including Maths I and II and Physics (not including Art, Chinese, Malay)

Diploma in Mechanical Engineering (Aeronautics), Universiti Teknologi Malaysia (UTM): First year entry with minimum GPA of 3.4

Monash University Foundation

Year: Minimum of **310 overall** with 80 per cent average in Maths and Physics, and subject to attending an extended technical induction programme

English language qualifications:

IELTS 6.5 overall with at least 5.5 in each competence. For other qualifications accepted, visit www.southampton. ac.uk/admissions_language

Application process: Apply via UCAS or apply directly via our website www.southampton.ac.uk/usmc_apply

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 To download brochure

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MEng Mechanical Engineering

Degree | UCAS code | Duration

MEng Mechanical Engineering

This programme covers all the traditional core subjects of mechanical engineering, with opportunities to take options that reflect your particular interests, for example automotive, engineering management, sustainable energy systems.

This degree leads to Master of Engineering, enabling you to gain the in-depth knowledge required to become a chartered engineer. All students must register on this course and can then specialise by following degree pathways as below.

MEng Mechanical Engineering/ Acoustical Engineering | H₃₀₂| 4 years

The noise and vibration performance of many engineering designs is critical to their success. For example, reducing noise is a key requirement for aircraft, trains and domestic products. Acoustic principles can also be exploited to give an enhanced acoustic experience, for example by designing the sound of a car or the acoustics of a concert hall. This programme enables you to extend a firm grounding in mechanical engineering into the area of acoustical engineering in the third and fourth years by taking acoustics courses taught by world-leading experts.

MEng Mechanical Engineering/ Advanced Materials | H302 | 4 years

This programme will help you develop an in-depth knowledge of the properties of different materials, including composites. You will learn how to identify solutions through the application of sophisticated surface coatings or materials that can adapt to their environment. You will also have the opportunity to investigate the modelling of material behaviour – an essential ingredient of engineering design at an advanced level.

MEng Mechanical Engineering/ Aerospace | H302 | 4 years

We have an international reputation in aerospace engineering and Southampton has been offering aeronautics or aerospace degree programmes since the 1930s. This programme allows you to develop an expertise in aerospace systems while maintaining the broad-based engineering background associated with mechanical engineering. The focus is on aircraft aerodynamics, propulsion, avionics and structural design.

MEng Mechanical Engineering/ Automotive | H302 | 4 years

You will specialise in parts three and four of this programme through a range of subject themes and study a number of courses covering fundamentals of vehicle design, vehicle dynamics, propulsion, structural design, automotive electronics and control. In the third and fourth parts, you will participate in individual, group and multidisciplinary projects.

MEng Mechanical Engineering/ Biomedical Engineering | H302 |

4 years

This programme provides an insight into the mechanics of the human body and introduces you to the challenges faced in the design, development and testing of medical implants and other devices. In particular, it focuses on orthopaedic biomechanics and issues related to the selection of materials and design issues as well as methods used to assess their performance. You will specialise in years three and four through a range of subject themes, and will participate in individual group and multidisciplinary projects.

continued overleaf 🕨

We have a specialist hip simulator that can test the life of hip replacements.

đ

Career opportunities

Our graduates enter a range of rewarding careers, including automotive and aerospace engineering, biomedical engineering, materials engineering, marine and off shore industry, defence and the armed forces, research and development, as well as IT and financial services.

CCI have been really keen on machinery since I was young, especially heavy machines and hydraulics systems, and this is why I chose this course. I also wanted to experience university life, as it will have a great impact on my future.**?**

Teh Giam Kat MEng Mechanical Engineering

Find out more

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 To download brochure

 www.southampton.edu.my

MEng Mechanical Engineering (cont.)

MEng Mechanical Engineering / Computational Engineering and Design | H302 | 4 years

Computational engineering and engineering design are growing fields in mechanical engineering and graduates with skills in these are in high demand in industry. This programme exploits the Faculty's excellence in this area.

MEng Mechanical Engineering/ Engineering Management | H₃₀₂ | 4 years

In this programme, you will learn about the importance of links between engineering and management, acquiring the technical skills to understand, design and manufacture new products and the expertise to manage the process, people and finances. You will specialise in parts three and four through a range of subject themes and you will participate in individual, group and multidisciplinary projects.

MEng Mechanical Engineering/ Mechatronics | H302 | 4 years

Many of the most exciting challenges for mechanical engineers lie at the interface between mechanical engineering and electronics. This programme provides you with a deeper insight into sensors and instrumentation, control and signal processing, and automation and robotics. You will specialise in parts three and four through a range of subject themes and you will participate in individual, group and multidisciplinary projects.

MEng Mechanical Engineering/ Naval Engineering | H302 | 4 years

This programme has been developed in conjunction with the Royal Navy to provide detailed understanding of marine systems engineering and design, balanced with broad-based training in the key principles of mechanical engineering. Modules in management, marine law and maritime safety will help you develop a range of skills that are particularly suitable if you are interested in naval engineering.

MEng Mechanical Engineering/ Sustainable Energy Systems | H₃02 | 4 years

Sustainable energy supply represents one of the key challenges to engineering today. This programme provides you with an overview of modern energy technologies, including renewable energy sources, fuel cells, nuclear engineering and energy economics. You will specialise in parts three and four through a range of subject themes and you will participate in individual, group and multidisciplinary projects.

Typical course content

- Engineering design
- Engineering materials
- Mechanics of solids
- Fluid mechanics and thermodynamics
- Electrical systems
- Law and management
- Automobile systems
- Orthopaedic biomechanics
- Fuel cells and photovoltaic systems
- Aircraft propulsion

For more information on optional modules and information on new courses coming soon to our Malaysia campus, visit www.southampton.edu.my



HOW TO APPLY

Wherever you are in the world, you can apply directly via our website or through the Universities and Colleges Admissions Service (UCAS).

Direct application

Step one

To download and complete the direct application form from the University of Southampton website, visit www.southampton.ac.uk/my/ undergraduate/apply/ applicationform.page

Partially completed forms cannot be processed and will lead to delays in the consideration of your application. In addition to the fully completed application form, we require the following documents to be submitted. Your application cannot be processed without these documents:

- One academic reference: this should be from your current or most recent place of study and should be on the institution's official letter head, signed by the referee and carry the institutions' official stamp
- Transcripts showing previous academic awards: these must be certified as a true copy by the awarding institution or by a University of Southampton official agent
- Your current academic transcripts or forecast result: these must be certified by your institution

- Evidence of your English Language Qualifications
- A copy of your identity card or passport biographical data page

Your completed application and documents should be emailed to admissions.malaysia@soton.ac.uk

Step two

Once we have received your application, an acknowledgement email will be sent to you from the University Admissions office.

Step three

Your application will be considered by our Admissions team and you will be notified of their decision by email.

Entry requirements

As well as A levels (as awarded in the UK secondary education system) and STPM, we will accept a wide variety of international qualifications for entry to our courses that must be accompanied by an English language qualification recognised by the University of Southampton. For a guide to some of our entry requirements please see the course pages in this brochure. For the latest information, visit

www.southampton.ac.uk/ admissions_language

UCAS application

Step one

Complete the online application form at www.ucas.com

Our code name is SOTON and our number is S27.

Applications made through the UCAS system will be subject to UCAS fees, regulations and deadlines.

Step two

Once we have received your application via UCAS, an acknowledgement email will be sent to you from the University Admissions office.

Step three

Your application will be considered by our Admissions team and you will be notified of their decision through the UCAS Track system.

SEPTEMBER 2014

Direct applications and applications through UCAS begin from mid-September

APPLICATION TIMELINE

SEPTEMBER 2014 - JUNE 2015

Ensure you reply to your offers by the deadline provided

30 JUNE 2015

Deadline for all UCAS applications and deadline for direct applications (international students only)

ACCEPTING AN OFFER

We aim to make the application process as easy and quick for you as possible. Once you have received an offer of study from us, follow the instructions below to confirm your place.

Direct application

Step one – to accept your offer to study with the University of Southampton, complete the Reply to Offer form sent to you with your offer letter and return it by email to the Admissions team at admissions.malaysia@soton.ac.uk

The form should be returned to this email address no more than 30 days after the date on your offer letter.

Step two - on receipt of your completed Reply to Offer form, an email will be sent to you from the Admissions team confirming your acceptance.

Step three – once you have accepted your unconditional offer or have met the academic conditions set out in your conditional offer to study with the University of Southampton, an invoice for a non-refundable deposit of RM1,000 will be sent to you by email. The deposit amount will be deducted from your first semester tuition fees. An official receipt will be issued to you once payment has been received. There are two ways to make your payment. Use only one of the following methods:

- by crossed cheque or bank draft made payable to USMC Sdn Bhd. This should be sent to the Admissions team, University of Southampton Malaysia Campus, Persiaran Canselor, Kota Ilmu, EduCity@Iskandar, 79200 Nusajaya, Johor, Malaysia. An official receipt will be sent to you once funds have cleared
- by telegraphic bank transfer or by over-the-counter payment direct to our HSBC account. A copy of your remittance advice or stamped over-the-counter paying in slip should be sent to the Admissions team at admissions.malaysia@ soton.ac.uk. An official receipt will then be sent to you.

Bank Name:	HSBC Bank
Malaysia Bhd	
Account No:	313-365157-101
Branch:	Johor
Swift No:	HBMBMYKL

Step four – once we have received your deposit we will send you the Accommodation Information and Application Pack. You will receive enrolment and induction information at the end of August.

UCAS application

Step one – if you made your application to study at the University of Southampton's Malaysia Campus through UCAS, you must accept your offer via the UCAS Track system. The University is not able to process acceptances through UCAS on your behalf. Your offer must be accepted by the deadlines set by UCAS.

Step two – on receipt of notification from UCAS that you have accepted your offer, an email will be sent to you from the Admissions team confirming your acceptance.

Find out more www.southampton.edu.my

T: +607-560 2560 (Malaysia) T: +44 (0)23 8059 9699 (UK) E: malaysia@southampton.ac.uk

AUGUST 2015

Results days for many qualifications

19 SEPTEMBER 2015

International students: Meet and greet at Senai International Airport, Johor and check-in to accommodation

31 AUGUST 2015

All remaining conditions of your offer must be met by this date

22 SEPTEMBER 2015

Malaysian students: Arrival and check-in to accommodation

FEES AND FUNDING

For undergraduate students the cost of obtaining an engineering degree at our University of Southampton Malaysia Campus and the UK is around 60 per cent of the cost of obtaining the same degree in the UK only.

	Fees 2015-16
Malaysian applicants	
Malaysia students (Years 1 and 2)	RM45,900 (£8,400)* per annum
UK-based portion of the programme (Years 3 and 4)	£18,010 (RM98,553)* per annum
International applicants	
International students (Years 1 and 2)	RM50,200 (£9,225)* per annum
UK-based portion of the programme (Years 3 and 4)	£18,010 (RM98,553)* per annum

Years 1 and 2 are paid in Malaysian Ringgits. Years 3 and 4 are paid in pounds sterling. Fees shown are for the 2015-16 academic year and are fixed for 2 years. The conversions are correct as of July 2014. Fees are subject to change and for more information on the latest fees, visit www.southampton.edu.my

SCHOLARSHIPS

Some applicants to the University of Southampton Malaysia Campus may be eligible for a scholarship. These are based on academic achievement and are open to both Malaysian and non-Malaysian applicants.

Top Achiever Scholarship: 100% scholarship is awarded to all students achieving a minimum of A*A*A* in A levels (must include A* in Maths and A* in Physics). This scholarship does not include living expenses. It is applicable to Year One entry students and for the first year of study only. Students must complete their degree at the University of Southampton. No separate application is needed, students are automatically considered.

High Achiever Scholarship: 25% scholarship is awarded to all students achieving a minimum of AAA grades in A levels or equivalent (must include A in Maths and A in Physics A levels). The scholarship is a reduction in tuition fees. It is applicable to Year One entry students and for the first year of study only. No separate application is needed, students are automatically considered. Transition Bursaries: 20% scholarship is awarded to all students who successfully progress from Year Two at our Malaysia Campus to Years Three and Four at our Southampton Campus. Students must pass Years One and Two in order to receive this scholarship, which is a reduction of the Year Three tuition fees.

For the most up-to-date information on scholarships, visit www.southampton.edu.my

Find out more www.southampton.edu.my

T: +607-560 2560 (Malaysia)

T: +44 (0)2380599699 (UK)

E: malaysia@southampton.ac.uk

<image>

ENGINEERING FOUNDATION YEAR

Foundation Years are designed to enhance the technical and academic skills essential for undergraduate study.

From 2015, we will expand our range of programmes by offering an Engineering Foundation Year.

The Engineering Foundation Year is the preliminary year of studies, which then leads to a four year (Master of Engineering, MEng) degree programme. If your current qualifications are insufficient for direct entry to an undergraduate degree, apply to the Foundation Year, and on successful completion you will be guaranteed a place on one of our engineering degree programmes. Our new 3 semester course (42 weeks) will provide the same world-leading education that we offer on our UK campus. The entry requirements for SPM are 5As including Mathematics and Physics. For the latest information on this new programme, visit www.southampton.edu.my

EDUCITY IN ISKANDAR MALAYSIA: A world-class education hub for Malaysia and the region

EduCity is one of the most important developments in Iskandar Malaysia. It is a pioneering concept of best-in-class education partners, including globally recognised universities like Newcastle, Southampton and Reading, all sharing international standard sporting and recreational facilities.

The development of EduCity is to promote Malaysia as a centre of educational excellence. Being in the strategically-located Iskandar Malaysia area, the education enclave will make world-class education more accessible to Malaysians. It is also poised to be a regional education hub offering world-class education within a six-hour flight radius of major Asian cities.

EduCity, which encompasses an area of 305 acres, is situated within Nusajaya, Johor. Located nearby to Medini Iskandar, which is the central business district of Nusajaya, EduCity is easily accessible via the Coastal Highway that directly links Medini with the Johor Bahru City Centre, and the Malaysia-Singapore Second Link expressway.



Shared Facilities in EduCity

EduCity Sports Complex

The exceptional physical recreation and sports facilities at EduCity include a 6,000 capacity sports stadium with a football/rugby pitch and a 400 metre athletic track that complies with the Association of Athletics Federation standards. There is also an aquatic centre with an Olympic-size swimming pool, which meets International Swimming Federation standards for water polo and synchronised swimming. A 1,500-seated indoor arena provides courts for basketball, badminton, squash, volleyball and futsal (five-a-side).

Qualified coaches and staff are available to host training sessions in a number of core sports and some extreme sports from Muay Thai to Bossaball. Regular fitness classes in pilates, yoga, combat fitness and coaching sessions in various sports from football athletic, badminton and swimming are available for both students and the public too. For more informaton about the EduCity Sports Complex, visit www.educitysport.com

Multi-Varsity Complex

The Multi-Varsity Complex comprises University of Southampton Malaysia Campus, NMIT and MMU, as well as the EduCity Student Centre. Equipped with shared facilities such as cafeterias, convenience stores and surau, the Student Centre also provides pay-peruse facilities such as lecture theatres, meeting rooms and a boardroom.

International Student Village (ISV)

ISV is a 12 and a half storey building comprising 646 beds in total, including hostel rooms and apartment units. It is located within a gated compound with 24-hour card access, CCTV and multi-tier security. Within walking distance to NUMed campus, Multi-Varsity Complex and Stadium and Sports Complex, the ISV is also equipped with cafeteria, launderette, sundry shop, surau as well as an indoor games room, outdoor badminton and basketball court.

Living in Iskandar Malaysia

Healthcare in Iskandar Malaysia

There are a large number of private hospitals located in Iskandar Malaysia; in



the event of needing medical treatment. The nearest hospital to EduCity is Columbia Asia Hospital which is within 10 minutes' driving distance, while some other private hospitals in Iskandar Malaysia are: Kempas Medical Centre, Puteri Specialist Hospital, KPJ Johor Specialist Hospital, Regency Specialist Hospital and Hospital Perling Medical Centre.

Shopping in Iskandar Malaysia

Shopping in Iskandar Malaysia is both a leisure activity as well as a tourist attraction. With the opening of Johor Premium Outlets® in 2011, you can shop for luxury goods with discounts from 25% - 65%, and more discounts during Special Sale season.

There are plenty of shopping malls in close proximity to EduCity. The nearest malls such as AEON Bukit Indah, Tesco and Giant are all within 10 minutes driving distance. You can also shop at the popular JB City Square, Sutera Mall, Plaza Angsana, Galleria Kotaraya which are easily accessible.

Leisure at Iskandar Malaysia

Theme Parks

LEGOLAND® Malaysia Resort is the sixth LEGOLAND® to be built in the world and the very first in Asia. The resort comprises a theme park, a water park and a hotel and features over 70 rides, slides, shows and attractions.

The SANRIO HELLO KITTY TOWN is the first SANRIO HELLO KITTY TOWN outside of Japan. There is also The Little Big Club with children's favourites: Thomas & Friends, Barney, Bob the Builder, Angelina Ballerina and Pingu.

Islands and Beaches

The islands off Johor are world renowned for their beauty, sparkling water and white sandy beaches. Pulau Rawa, Pulau Sibu and Pulau Aur are but a few of the beautiful islands waiting for you to explore.

Beyond Iskandar Malaysia

There are many attractions and interesting places to visit just beyond Iskandar Malaysia.

Within 1 hour's drive

- Desaru Coast with its 17km long beachfront and range of hotels and accommodation
- Mersing (quaint fishing village and main jetty for nearby islands)

Within 2 hours' drive

- Durian farms in Segamat
- Endau Rompin National Park
- Gunung Ledang

Transport links

- There are frequent ferry services to Indonesia (Batam, Bintan, Tg. Balai Karimun) and Singapore
- There are direct International flights to Bandung, Jakarta, Medan, Surabaya and Pekan Baru
- There are also direct flights via Changi International Airport (30 minutes away from Johor Bahru) to many more destinations)

HOW TO FIND US

1.1.1

Malaysia

The Malaysia Campus is located near the southwestern tip of Malaysia, about four hours' drive south of Malaysia's capital city, Kuala Lumpur.

The campus is located within the EduCity@lskandar development in a regional city called Nusajaya. A 305-acre site dedicated to education, EduCity is modelled on the Dubai Knowledge city.

Nusajaya is accessible from the North-South Expressway, which links all major cities on the West Coast of Peninsular Malaysia between Thailand and Singapore. The North-South Expressway is also connected to other major expressways including the Malaysia-Singapore Second Crossing, also known as the Second Link.

EduCity lies within 60 minutes of Singapore Changi International Airport (SCIA) and 30 minutes of Senai International Airport. Central Singapore is approximately 40 minutes' drive away. The **exceptional sports facilities** available to our students



A 305-acre site dedicated to education, **EduCity** is modelled on the Dubai Knowledge City

UK

Southampton is located just over one hour from central London, on the south coast of England. We are surrounded by areas of natural beauty including the New Forest and the Isle of Wight, and connected to the rest of the UK and Europe through superb road, rail, air and sea links.

Our Southampton campuses are well connected to the national road network. The M3 motorway links Southampton directly to London.

Southampton Airport is about 10 minutes from our Southampton campuses by bus or taxi. There is a full UK domestic service, as well as flights to mainland Europe and the Channel Islands.

We run the award winning unilink bus service that connects our Southampton campuses with all the major transport links in the city. You can buy tickets at the unilink office or on the bus.

Southampton is a cultural and commercial capital of the south coast. For more information, visit www.southampton.ac.uk/visitus/southamptoncity.html

> Coastal location offering a vast range of sport and leisure opportunities, with waterfront marinas, restaurants and bars





TERMS AND CONDITIONS

Disclaimer

The University of Southampton will use all reasonable efforts to deliver advertised programmes and other services and facilities in accordance with the descriptions set out in its prospectuses, student handbooks, welcome guides and website. It will provide students with the tuition, learning support, services and facilities so described with reasonable care and skill.

The University, therefore, reserves the right if it considers it to be necessary to alter the timetable, location, content or method of delivery of events provided such alterations are reasonable.

Financial or other losses

The University will not be held liable for any direct or indirect financial or other losses or damage arising from changes made to the timetable, location, content or method of delivery of various services and facilities set out herein.

Force majeure

The University will not be held liable for any loss, damage or expense resulting from any delay, variation or failure in the provision of services and facilities set out herein, arising from circumstances beyond the University's reasonable control, including (but not limited to) war or threat of war, riot, civil strife, terrorist activity, industrial dispute, natural or nuclear disaster, adverse weather conditions, interruption in power supplies or other services for any reason, fire, boycott and telecommunications failure.

In the event that such circumstances beyond the reasonable control of the University arise, it will use all reasonable endeavours to minimise disruption as far as it is practical to do so.

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This information can be made available, on request, in alternative formats such as electronic, large print, Braille or audio tape, and in some cases, other languages.

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www.facebook.com/MalaysiaCampusSoton (Malaysia campus) www.youtube.com/user/sotoncomms (Southampton campus)





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